Northern Health Region Community Health Assessment 2019

NORTHERN
HEALTH REGION

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A Message to the Residents of the Northern Health Region
from Helga Bryant, Chief Executive Officer

The Northern Health Region's 2019 Community Health Assessment (CHA) is the product of an intensive year of work by our Community Health Assessment Working Group, staff, physicians, community partners, and residents.

This CHA for the Northern Health Region builds on the previous assessment and depicts a true picture of the health of those living in the Northern Region. The health of our communities continues to emerge and we are excited about the direction we are heading; the information gained from the CHA enables our planning for those we serve as we strive for Healthy People, Healthy North. While we still have many health challenges facing our Region, there are some very good closer look stories submitted by our team showing the great strides we have made toward the priorities set out in our latest Strategic Plan.

A backdrop to the 2019 CHA and our planning is the system transformation underway in the province. The Provincial Clinical and Preventive Services Plan was recently released and we look forward to working with Shared Health and the Manitoba Government to determine what this plan means for health care in the North. Numerous representatives from our Region participated in the development of this plan and we remain hopeful that the unique challenges for health care in the Northern Health Region are reflected.

I would like to thank everyone who took part in the CHA process. Whether you were on our working group or participated in a closer look activity, your commitment to health in our Region is greatly appreciated.

We are looking forward to the many initiatives planned in the coming years and our continued development as a Region. We have a dedicated team of health care providers and community partners who continue to work together towards our Vision of "Healthy People; Healthy North" as we continue to deliver on the promise of our Mission. We are dedicated to providing quality, accessible and compassionate health services. Meegwetch, Ekosi, Ekosani, Masi cho!

Sincerely,

Helga Bryant RN, BScN, MScA
Chief Executive Officer

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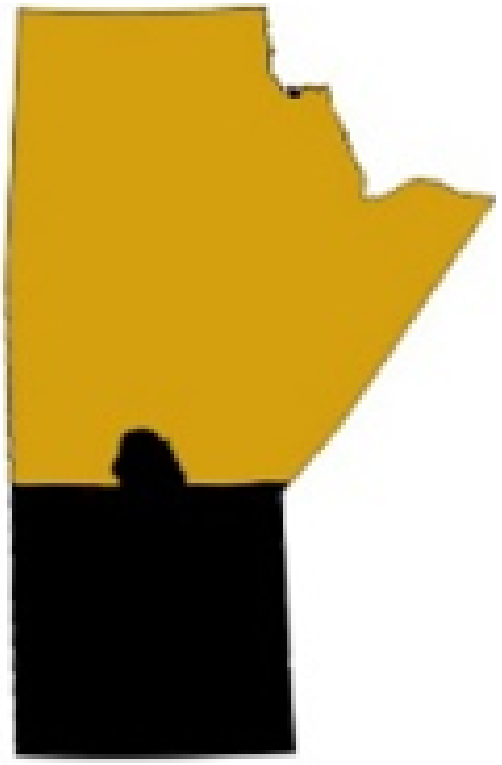
EXECUTIVE SUMMARY

This report provides the results of the comprehensive Community Health Assessment for Northern Health Region (NHR). Within this section the high-level findings are summarized.

Regional health authorities in Manitoba are responsible for assessing the health of the population on a regular basis. This Community Health Assessment includes analysis of indicators, trends and other information sources that describe who lives in the Northern Health Region, what keeps us healthy, how healthy we are and how the health system meets the needs of the population. These findings will provide the groundwork for strategic direction and program planning in Northern Health Region.

Northern Health Region has a young population, which is projected to continue to expand 12.7% from 2017 to 2030. It is predicted the 0 to 24 age group will remain the greatest percentage of the population, but the most growth will happen in the 35 to 44 age group and the 65 to 74 age group. The change in population will have an impact on the demand for health services in Northern Health Region.



Health Status is Not the Same for All

Throughout the Community Health Assessment it has been noted that there is inequity in health status across Northern Health Region, with some segments of the population suffering higher burden of illness. There was strong association between income and health, with low income residents' experiencing more illness than higher income residents. Likewise, there was a strong association among district disparity and health. Generally, residents who live in districts in zone two, the northern non-direct service zone and zone three, the northern island lake zone, experience a higher burden of illness than residents who live in districts in zone one, the northern direct service zone.

Chapter One: Who lives in Northern Health Region?

The land mass of the NHR is 396,000 square kilometers and includes all the land in Manitoba above the 53rd parallel except the town of Churchill.
The NHR includes two cities, six towns, one rural municipality, one local government district, 26 First Nations communities, 16 Northern Affairs communities and multiple hamlets and cottage settlements making up unorganized territories.
Currently there are 76,847 residents living in the region, 5.65% of Manitoba's population.
Indigenous people make up 72.6% of the NHR population.
The population density is 0.17 people per square kilometer.
There are three zones within the NHR including zone one the direct service zone (38,906 residents), zone two the non-direct service zone (29,045 residents) and zone three the northern island lake zone (8,896 residents). Within these zones there are 15 districts.
The NHR population is younger than the Manitoba population.
The birth rate is 103 live births per 1,000 females aged 15 to 45 per year; significantly higher than the Manitoba average.
Population projections are expecting continued growth in the region, estimating that our population will grow to 86,870 by 2030. This is a 12.7% increase.
English is spoken in 78% of the homes, a language other than English or French is spoken in 19% of the homes and both English and a language other than French is spoken in 3% of the homes in NHR.
Lone parent families make up 31.8% of all private households, almost double the Manitoba average.
The dependency ratio stayed the same over time at 81.8%.

Chapter Two: What Keeps us Healthy?

Areas for Growth
The NHR materials deprivation index worsened significantly from 1.20 to 1.40; it was the highest in Manitoba.
22% of tenant households versus 6% of owner households spend 30% or more of the household's income on shelter costs in the NHR.
In zone one 29.9%, in zone two 61.8% and in zone three 69.3% of the population aged 15 and over do not have a certificate, diploma or degree; these are all higher than the Manitoba average of 22%.
The labour force participation rate was 56.7%, 10% lower than the Manitoba average.
The unemployment rate was 14.2%, more than double the Manitoba average.
27.1% of children lived in low income families according to the low income measure after tax.
Families First screening results indicated that 55.5% of women being screened had three or more risk factors identified as leading to poor childhood outcomes; this is higher than the Manitoba average of 37.9%.
Substance use diagnosis was almost double the Manitoba average; significantly higher at 10.8%.
Breast cancer screening (53.3% to 51.1%) and cervical cancer screening (57.6% to 55.1%) decreased slightly over time; both significantly lower than the Manitoba average.

Good News within Northern Health Region
The social deprivation index improved significantly from -0.52 to -0.6; it was the best in Manitoba.
The median after-tax income is $60,308; similar to the provincial average.
The low income measure –after tax is 17%; similar to the provincial average.
NHR had the highest childhood immunization prevalence for measles, mumps and rubella; the same immunization prevalence for diphtheria, tetanus, pertussis; and slightly higher for HPV compared to Manitoba.
58.8% of NHR residents aged 65 and older received the immunization for pneumonia; similar to the Manitoba average.
Inadequate prenatal care decreased over time from 31.1% to 27.8%; preterm birth rate stayed the same over time at 10%; small for gestational age stayed the same over time at 6.6%; large for gestational age decreased significantly over time from 19.1% to 16.7%; breastfeeding initiation increased over time from 61.9% to 65.5%. All indicators were significantly worse than the Manitoba average.
The proportion of kindergarten children in the vulnerable percentile decreased over time in all areas of development (i.e. physical health and well-being; social competence; emotional maturity; language and thinking skills; and communication skills and general knowledge).
The teen pregnancy rate in NHR significantly decreased over time from 127.8 to 100.5 per 1,000 females aged 15 to 19 years; it was significantly higher than the Manitoba average.
Colorectal cancer screening increased over time from 19.4% to 21.2%, significantly lower than the Manitoba average.
Personal health determinants were measured through self-report data on mental health; life stress; community belonging; fruit and vegetable consumption; sleep; and cell phone use during driving. All results were similar to the Manitoba average.

Chapter Three: How Healthy are we?

Areas for Growth
The NHR has a significantly higher suicide rate (0.49 per 1,000) than the Manitoba average (0.17 per 1,000) and it increased over time.
Potential year of life lost due to suicide sits at 15.6 years lost per 1,000 residents; this is over two and one half times the Manitoba average.
In the NHR the overall cancer incidence rate increased to 525.6 per 100,000 residents.
The rate of death for breast, prostate, lung and bronchus, and colorectal cancers decreased from 278.4 to 263.5 per 100,000. It remains statistically higher than the Manitoba average.
Cancer survival for all invasive cancers increased from 45.7% to 53.9% over time; it remains significantly higher than the Manitoba average.
The stroke rate increased over time from 4.56 to 4.68 events per 1,000 residents aged 40 and older.

The prevalence of diabetes increased statistically over time to one in five residents who has a diagnosis of diabetes. Significantly higher than the Manitoba average.
There was a statistically significant decrease in antidepressant follow up and it is lower than the provincial average.
The prevalence of chronic kidney disease was 15.5%; significantly higher than the Manitoba average.
Chlamydia (2216.1 infections per 100,000), gonorrhea (1180.3 infections per 100,000), and syphilis (222.5 infections per 100,000) rates have all increased significantly over time and are all significantly higher; at least 4 times higher, than the Manitoba average.
Good News within Northern Health Region
The life expectancy rate for females in the NHR was virtually unchanged at 76.9 years and for males it increased significantly from 71.3 years to 72.7 years; both were significantly lower than the Manitoba average.
The total mortality rates decreased over time from 11.8 to 10.6 deaths per 1,000 population; significantly higher than the Manitoba average.
Infant mortality stayed the same over time and child mortality decreased over time; both are significantly higher than the Manitoba average.
The premature mortality rate decreased slightly over time (5.83 to 5.44 deaths before the age 75 per 1,000 population); it was significantly higher than the provincial rate in all three zones in the NHR in both time-periods, with injury and poisoning; cancer; and circulatory disease being the top three.
The potentially avoidable death rate significantly decreased over time from 4.22 to 3.83; it is significantly higher than the Manitoba average.
The average unintentional injury causing death rates decreased over time from 0.83 to 0.76 per 1,000 residents.
Hypertension prevalence (28%) and congestive heart failure prevalence (2.5%) remained the same over time; both significantly higher than the Manitoba average.
Prevalence of ischemic heart disease significantly decreased over time from 10.2% to 8.3%; the same as the Manitoba prevalence.
The heart attack rate decreased from 5.15 to 4.78 events per 1,000 residents aged 40 and older.
The diabetes incidence rate declined slightly over time from 1.95 to 1.88 incidence of diabetes per 100 residents. It is significantly higher than the Manitoba average.
Lower limb amputations amongst residents with diabetes statistically decreased over time from 2.99% to 1.83% and diabetes eye care examinations statistically increased over time from 33.3% to 41.4%.
14.4% of residents were diagnosed with a mood and anxiety disorder. This is statistically lower than the Manitoba average.

Chapter Four: How Well Does our Health System Meet the Population's Needs?

Areas for Growth
The number of residents receiving at least one ambulatory visit per year decreased over the two time periods from 68.8% to 65.9%; both significantly lower than the Manitoba average.
The average number of ambulatory visits per year per resident decreased from 3.5 to 3.1; both significantly lower than the Manitoba average.
Ambulatory consultations decreased slightly over time from 24.9% to 24.2%; significantly lower than the Manitoba average.
66.6% of residents reported that they had access to a regular health care provider; lower than the Manitoba average.
The most commonly reported reasons residents do not have a health care provider was "none available in area" (28.2%) closely followed by "provider left/retired" (27.8%).
NHR residents use their home NHR hospitals 57.8% of the time and use Winnipeg Regional Health Authority hospitals 40.5% of the time.
The rate of hospital days for alternate levels of care excluding newborns increased over time from 172.7 to 256.5 days per 1,000 residents; significantly higher than the Manitoba average.
The NHR had 310 residents aged 75 years and older living in personal care homes at a rate of 12.7%; similar to the Manitoba average.
The median wait times for personal care home admission from hospital increased over time and from community significantly increased over time.
Good News Within Northern Health Region
86% of residents' physician and nurse practitioner care primary care took place within the NHR.
The proportion of residents receiving more than 50% of their primary care visits from the same primary physician stayed constant over time at 65.2%; with zone rates as follows zone two had a rate of 73.9%, zone one at 63.8% and zone three at 54.3%.
The rate of hospitalization for ambulatory care sensitive conditions in NHR decreased over time from 15.7 to 14.9 hospitalizations per 1,000 residents (0-74 years of age). The zones had extreme variation, zone three had a rate of 33.9, zone two's rate was 16.0 and zone one was 9.7 hospitalizations per 1,000 residents.
The rates of community dwelling seniors aged 75+ who were prescribed benzodiazepines decreased from 14.6% to 13.7%. These rates are both significantly lower than the provincial average and the lowest in all health regions.
45.6% of residents reported the coordination of their care between health care providers as excellent or very good; very similar to the provincial average.
Hospital use stayed the same over time at 10%; zone three had the highest hospital use rate (16.6%), followed by zone two (10.7%) and zone three residents used the hospital the least at (7.8%). All are significantly higher than the Manitoba average.

The inpatient hospitalization rate decreased over time from 157.6 to 144.0 hospitalizations per 1,000 residents, accounting for 9,016 hospitalizations in the most recent year; significantly higher than the Manitoba average. The most frequent cause of hospitalizations at 25.8% was pregnancy and birth.
Hospital readmission rates decreased over time from 10.3% to 9.3%; accounting for 806 readmissions in the latest one year time period; significantly higher than the Manitoba average.
The rate of cesarean sections in the NHR was significantly lower than the Manitoba average in both time periods and it decreased over time from 17.8% to 19.2%.
The percent of vaginal births after cesarean section in the NHR are significantly higher than the Manitoba average and they increased over time from 37.3% to 41.7%.
The prevalence of home care use in the NHR for all ages was 1.7% per year; with an estimated 1,304 NHR residents who received one or more services.

Mind the Gap

The health status of Northern Health Region residents is largely driven by the social determinants of health. With the majority of indicators presented within the Community Health Assessment there is a significant relationship between income inequities, district disparity and the incidence/prevalence of mortality, diseases and health conditions. As a result the health gap continues to widen.

These Community Health Assessment findings will provide the basis for discussion and future planning within our communities, partner organizations and regional programs and services. An equity perspective is crucial to reducing the health disparities within the Northern Health Region.

INTRODUCTION

Acknowledgements

The team would like to express gratitude to those that have participated and contributed to the Community Health Assessment (CHA) process. The 2019 CHA process has been a true collaboration. We would like to thank all Community Health Assessment Network (CHAN) members from across the province, as well as, staff at Manitoba Health, Seniors and Active Living for your continued support and guidance. In addition, thanks to all the researchers at the Manitoba Centre for Health Policy and CancerCare Manitoba for providing the data and statistical support to our health region. We are truly blessed to have such commitment and dedication in Manitoba. If you wish to provide feedback on the report, please email: northernhealthregion@nrha.ca.

Community Health Assessment in Manitoba

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.[1]

Understanding the health needs and assets of the people that live in Northern Health Region is critical to effectively planning programs and services. Access to local health data supports planning for policies and programs that are responsive to communities' unique needs and will most benefit their residents.

In Manitoba, this understanding is gained through legislated CHAs. This is the 5th cycle of CHA in Manitoba. The dates of the previous CHA cycles are as follows:

- 1st CHA cycle - 1997/98
- 2nd CHA cycle - 2004
- 3rd CHA cycle - 2009
- 4th CHA cycle - 2015

"Community" can refer to all persons living in a certain region, or it might refer to groups of people with common characteristics or interests, for example: women, youth, seniors, cultural groups or those living with specific health issues.

Using a population health approach, CHAs provide baseline information about the health status, determinants of health, and health system utilization of community residents. The CHA also tracks health outcomes over time, identifies opportunities for health promotion and disease prevention, and describes the conditions that contribute to health disparities.

The CHA allows us to begin to understand ourselves: who we are, our strengths, our challenges, and how our health system responds to our needs. One of the strengths of CHA is that it presents data from several time periods to reflect health trends over time to help identify areas needing priority action.

In other jurisdictions, CHA work is captured under the term "Population and Public Health Surveillance" which is defined as "the collection, analysis, interpretation, and dissemination of data about demography, socio-economic status, health status, chronic diseases as well as their protective and risk factors". [2]

Community Health Assessment Network

CHAN enables a coordinated approach to province-wide comparability on health issues within health regions, while recognizing and respecting the diversity among them. The Community Health Assessment Network is a provincially coordinated, collaborative group comprised of representatives from:

- Manitoba Health Seniors and Active Living (MHSAL)
- Department of Education (Healthy Child MB)
- Manitoba Centre for Health Policy (MCHP)
- George & Fay Yee Centre for Healthcare Innovation
- Service Delivery Organizations:
  - Shared Health/Soins Communs (SH)
  - CancerCare Manitoba (CCMB)
  - Addictions Foundation of Manitoba (AFM)
  - Interlake-Eastern Regional Health Authority (IERHA)
  - Northern Health Region (NHR or NRHA)
  - Prairie Mountain Health (PMH)
  - Southern Health-Santé Sud (SHSS)
  - Winnipeg Regional Health Authority (WHRA)

CHAN workshop in Winnipeg, Autumn 2018

Community Health Assessment Purpose and Use

CHAs present local data and local interpretation of that data, foster community engagement and highlight community strengths and areas for improvement. This information enables the community-wide establishment of health priorities, and facilitates collaborative action planning directed at improving community health status and quality of life.

Community Health Assessments and the Manitoba Quality and Learning Framework

Manitoba is taking bold steps to improve access to care, quality of services and patient outcomes. Clinical leaders and health system experts from across the province are working on a provincial approach to the planning and delivery of better health care for Manitobans. This work is supported by clinical data and evidence, including the information presented in Manitoba's CHAs.

As the Provincial Clinical and Preventive Services Plan guides and supports decisions about human resources, investment and clinical services, the valuable information we gather in the CHAs will help ensure clinical experts have a real understanding of our population.

Ensuring positive patient outcomes and experiences is a focus and responsibility of every member of our health system. Efforts to improve quality and safety are ongoing, and will be guided going forward by a new Manitoba Quality and Learning Framework that presents a common vision and approach to quality, patient safety and accreditation.

The Framework describes the Principles and Enablers of quality health care and defines the overarching goals of our system in alignment with the Institute for Healthcare Improvement's Quadruple Aim. These four areas - Healthy

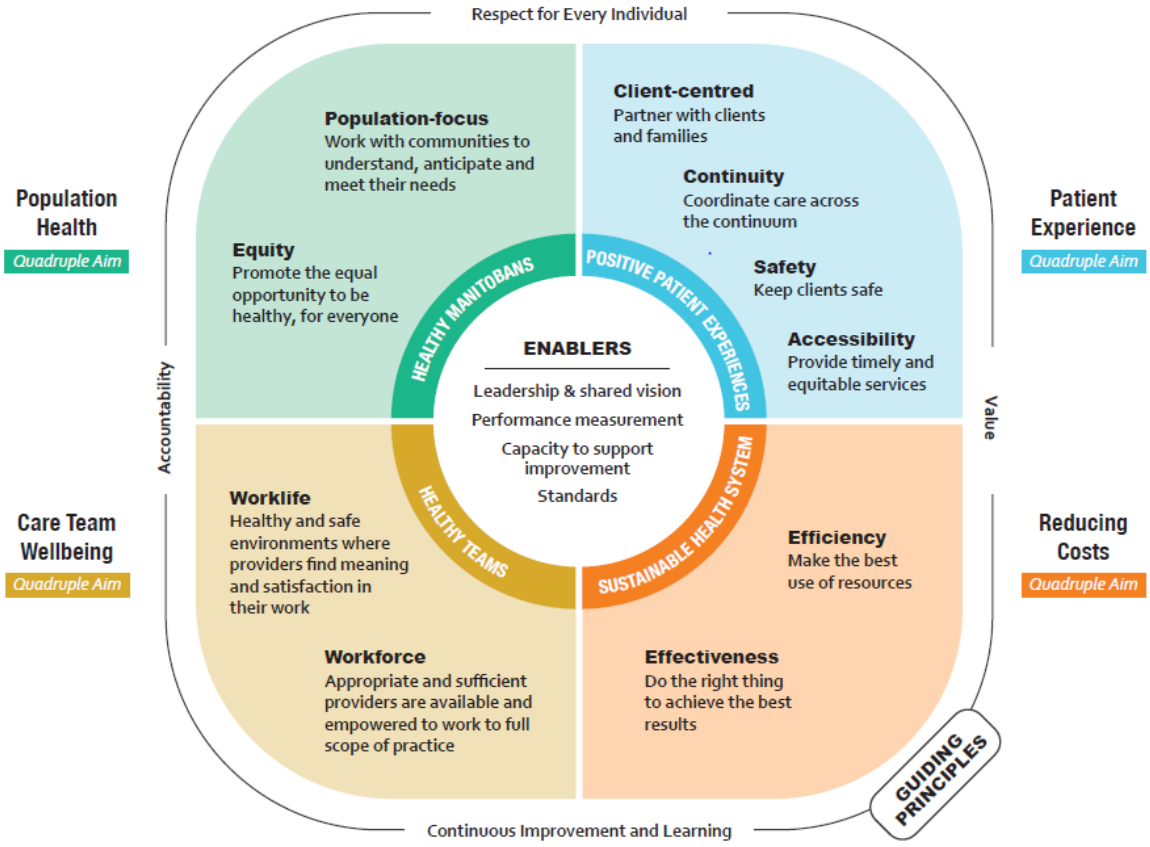
Manitobans, Positive Patient Experience, Sustainable Health System and Healthy Teams – allow service delivery organizations, patients and providers to share a common understanding of our goals.

These common goals also ensure that we are able to closely monitor progress and success, by aligning the indicators included in CHAs (population health, equity, continuity of care, accessibility) with the overarching goals of the health system. Health authorities will be able to use CHA data and the Framework together to set priorities and monitor quality performance all within a culture of continuous improvement and learning.

The Framework is intended for use across the health system, by funders, policy makers, leaders, direct service providers and patients. It applies across the continuum of care, focused on improved provincial outcomes but adaptable to local needs and experiences.

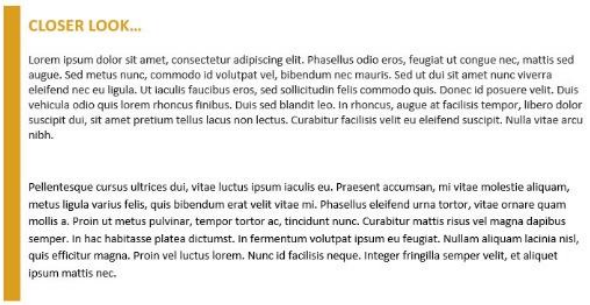
For more information on the Manitoba Quality and Learning Framework, please visit https://sharedhealthmb.ca/.

The Manitoba Quality and Learning Framework (MQLF)



Provincial Template for CHA Reports

There are five Health Regions in Manitoba, and all health regions have collaborated to produce CHA reports using a common template to allow for easier comparison of population health indicators across the province. While regional CHA reports will have a similar look, the content reflects findings unique to each health region. New to CHA reports are story boxes called "A Closer Look" which provide additional regional context.



CLOSER LOOK...

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Population Health and Health Equity

To tell the story of the health and well-being of any community or population, we do so by making comparisons. We ask ourselves how that population has stayed the same over time and how it is changing. We compare the population in our health region to that of other health regions in the province; in one district (or community area) to the neighboring one. We ask ourselves why one population is healthier than another.

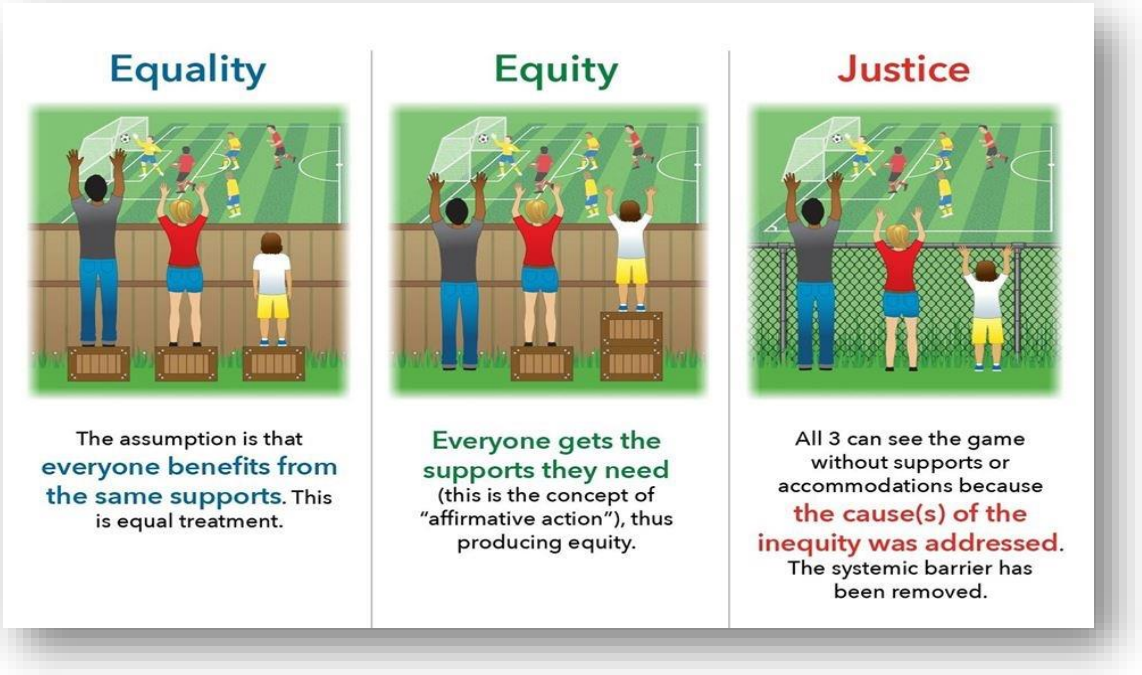
Many terms are used to describe differences in health among population groups including "disparities", "inequalities", and "inequities". Even when intending to describe ideas that mean something quite different, these terms are sometimes used interchangeably. It is important to be clear what we mean when we use these terms. [3]

What does it mean?

While **health disparities** and **health inequalities** can both be used to describe measurable differences in health status among population groups, the term health inequities should be interpreted differently.

Health inequities are *unfair* and *modifiable* because the underlying causes are largely social and economic in nature. The interventions needed go beyond health care services and supporting healthy behaviours, to the types of public policies, programs and services a society chooses. For example, decades ago, the poverty rates amongst older adults in Canada was substantially reduced by introducing a universal public pension program. Language surrounding health inequities will hopefully lead us to talk about why these differences exist and what kind of changes are likely to get at the root causes to make the biggest difference in narrowing persisting gaps among population groups.[4] Conceptual differences are illustrated on the following page.[5]

> ***"Health equity means that everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care."*** [iii]



Measuring and reporting on health inequalities has grown with each cycle of CHA. We have expanded the measurement of health inequalities when available and appropriate. In doing so, we will advance discussions and action around health equity — a growing priority for health systems and governments at all levels in Canada and internationally. This aligns with Manitoba's ***Chief Provincial Public Health Officer Position Statement on Health Equity***,[6] which discusses the importance of working to improve health equity as a key way to improve overall population health and as a health goal in and of itself.

"Social determinants of health are unequally distributed among population groups in our society" and these are influenced by "unequal and unfair social relations such as colonialism, discrimination, racism and gender inequity" as well as "structural drivers such as social policies and programs, economic arrangements and politics."[7] The Chief's position statement also recognizes that the health care system and its services influence only about 25 percent of overall health outcomes, while up to 60 percent of a population's health status is influenced by the social determinants of health and the structural drivers.[8]

Key activities in the NHR health equity statement include engaging in inter-sectoral action to influence health equity while partnering with other organizations, and advocating with government and other key stakeholders on policies, funding and best practice. The NHR invites community engagement as part of community development particularly with populations in vulnerable situations. Within, the NHR strives to build staff capacity through cultural proficiency training, promoting diversity and engaging in collaboration. The health equity lens is used to guide priorities and program direction.

To provide a comprehensive picture of the health of the people living in our communities, information regarding the social determinants of health, health status measures by health region and health status changes over time is presented throughout this report.

How are health inequalities measured?

To strengthen the measurement of health inequalities between subpopulations, Manitoba participated in a collaborative pan-Canadian expert working group to inform work by Statistics Canada and the Canadian Institute for Health Information (CIHI). The goal was to develop common equity characteristics for disaggregating health indicators. This collaborative national work resulted in recommended definitions for six equity characteristics for measuring health inequalities: age, sex, gender, income, education, and geographic location.[9]

This CHA report supports measuring health inequalities by:

- Stratifying data by geographic location
- Stratification of select indicators by age groupings and sex
- Geographic disparity ratios
- Income disparity ratios
- Presenting data graphs and tables in a new way to help identify disparities or health gaps

System Responsibility

CHAs provide a better understanding of what contributes to health inequities and what we need to address in order to advance health equity for our population.

As identified for the third round of CHA, in 2015, the evidence informs an approach to interventions to achieve more equitable population health outcomes, which address equitable access in three main areas. These include **equity of access** to:

1. **Health Care Services**

   This is the responsibility of health and social service agencies, their boards and the various levels of government, which provide funding, oversight, planning and policy support. One example is providing services universally to the whole population and supplementing them with "targeted" services for population groups experiencing persistently poorer health and social outcomes.

2. **Social Determinants of Health**

   This is the responsibility of all levels of government and the organizations to which they further delegate responsibilities, commission work and distribute funds which affects all sectors of society. Examples include approaches such as healthy community planning, inter-sectoral action on health, healthy public policy, health in all policies; health as a human right; and health among sustainable development goals.

3. **Community Participation**

   An important consideration includes collaboration with populations in vulnerable situations and more likely to experience health inequities to inform priorities, directions and decisions. This includes making space at the tables where decisions are made, for community voices.

The notion of equitable access is based on the pioneering work done by Whitehead and Dahlgren and international works related to the right to health to which Canada has made commitments to via international covenants, treaties and declarations[10].

Health regions and the province overall strive to maintain and improve the health of the entire population. To this end, we are involved in population health planning which must address what contributes to those socially and

economically influenced health differences among population groups. Future planning efforts must take these health equity gaps into consideration to improve overall population health outcomes; and would benefit from applying an equity analysis to all phases of planning and implementation.

Actions to mitigate health inequities among population groups is an important component of improving the overall health of all Manitobans. Health inequities are evident among several population groups including newcomers and refugees, visible minorities, persons with disabilities and people living in poverty or other types of economic or social marginalization. There is strong evidence that Indigenous peoples of Manitoba experience persistent health disparities resulting from historic and current traumatic experiences related to colonization and racism. A recent report ***The Health Status of and Access to Healthcare by First Nations People's in Manitoba*** and its summary ***First Nation People's Health in Manitoba,*** were released in Autumn 2019 and key highlights from them are noted below.

First Nations People's Health in Manitoba

The Manitoba Centre for Health Policy (MCHP) and the First Nations Health and Social Secretariat of Manitoba (FNHSSM) partnered to develop a comprehensive report, entitled ***The Health Status of and Access to Healthcare by Registered First Nations Peoples in Manitoba***, looking at health and healthcare use patterns of First Nations people living in Manitoba. Comparisons were made between First Nations and all other Manitobans, between on and off reserve First Nations, and regional comparisons by health regions and by Tribal Council Areas. This report will "contribute to building a dialogue that supports strategies for increased access to equitable healthcare, improving programs that support First Nations health and wellness, and supporting policy change and development".[11] It is an update to the MCHP report referred to as the 2002 First Nations Atlas.

There is a widening and unequal gap between First Nations people's health and other Manitobans.[12]

> ***"To understand why First Nations' health is worse than other Manitobans, we need to first acknowledge the history of colonization and the horrendous effects it had (and continues to have) on the First Nations (peoples and their) ways of life. As part of an effort to 'civilize' First Nation people, many children were forcibly removed from their families and communities and placed in residential schools. In being made to adopt the European way of life, they lost much of their language, their culture, and their connection to the families and communities. The trauma from this experience is still being felt today as the pain of this loss is passed down through generations."*** [xii]

The Truth and Reconciliation Commission of Canada's Calls to Actions, specifically number 19, was the impetus for this study: "to identify and close the gaps in health outcomes between Aboriginal and non-Aboriginal communities, and to publish annual progress reports and assess long-term trends. Such efforts would focus on indicators such as: infant mortality, maternal health, suicide, mental health, addictions, life expectancy, birth rates, infant and child issues, chronic diseases, illness and injury incidence, and the availability of appropriate health services."[13]

While the majority of the data available was based on illness and not wellness, the report did highlight community strengths and resilience in results from the Manitoba First Nations Regional Health Survey (RHS). Compared to all other Manitobans, some of the key findings included:

- Mortality indicators are significantly worse among First Nations peoples
- Cancer screening rates are significantly lower among First Nations peoples
- Incidence of cervical and colorectal cancer are significantly higher among First Nations peoples
- Poorer mental health is seen among First Nations peoples
- First Nations peoples have substance use disorder rates three times higher
- Rates of suicide and suicide attempts are five to six times higher among First Nations peoples
- Poor health and lower physician service use indicate barriers to First Nations peoples accessing care
- First Nations peoples have more hospital use across all indicators
- There is a dramatically higher rate of opioid dispensations for First Nations peoples
- First Nations communities highlight the importance of traditional healers
- 45 percent of RHS respondents reported they have safe drinking water on reserve
- 59 percent of RHS respondents reported their houses on reserves require repair
- One in four families living on reserve include a survivor of residential schools

The health status gap between First Nations and all other Manitobans has widened since 2002. Researchers have urged five actions to create change and improve health of the individuals, families, and communities:[14]

1. Annual reporting on progress in addressing gaps in health and access to healthcare;
2. Development of strategic initiatives for equitable access to intervention and prevention measures (including addressing racism in the health system through mandatory cultural safety training for all staff, hiring of First Nations providers, new human resource policies for safe reporting of racist incidents);
3. Development of short- and long-term plans for the training and hiring of First Nations healthcare professionals;
4. Further development of research partnerships among MCHP, Manitoba Health Seniors and Active Living (MHSAL), FNHSSM and Manitoba First Nations;
5. Setting First Nations on the path to borderless healthcare delivery by improving access to primary care that is designated and delivered through First Nations-led partnerships.

Although the explicit health profile of First Nations peoples is not summarized in the CHA report, we invite you to read The Health Status of and Access to Healthcare by Registered First Nations Peoples in Manitoba. You will find the full report at: http://umanitoba.ca/faculties/health_sciences/medicine/units/chs/departmental_units/mchp/Landing-FNAtlas.html.

Data Sources and Limitations

Data Sources

The information for this report includes multiple sources of data to provide an in-depth look into the health of our population. These are referenced throughout the document in the figures and tables and include:

1. Administrative Health and Surveillance Data (IMA MHSAL 2019), (MCHP RHA Indicators Atlas 2019), and (MCHP Mental Health Among Adult Manitobans 2018)

These data measure health status and health services utilization in the province and health regions. The majority of the administrative health and surveillance data are provided by the Manitoba Centre for Health Policy (MCHP) or Manitoba Health, Seniors and Active Living, Information Management and Analytics Branch (MHSAL IMA).

MCHP data are obtained from the Population Research Data Repository, a comprehensive collection of administrative, registry, survey, and other data about residents of Manitoba. The data come from a variety of government department administrative datasets. For more detailed information about the repository, visit MCHP http://mchp-appserv.cpe.umanitoba.ca/viewConcept.php?conceptID=1419. Data presented in this report are primarily from published reports, including The 2019 RHA Indicators Atlas: http://umanitoba.ca/faculties/health_sciences/medicine/units/chs/departmental_units/mchp/Landing-RHA2019.html and Mental Illness Among Adult Manitobans: http://mchpappserv.cpe.umanitoba.ca/reference/mh2015_Report_web.pdf. However, home care data from the MCHP are unpublished work commissioned by MHSAL.

2. Canadian Community Health Survey (Statistics Canada CCHS 2015-2016)

CCHS is a national cross-sectional self-reported survey on residents' health status, health determinants, and health care utilization. CCHS is designed to collect health data at the provincial and health region levels. Respondents who participated in the CCHS were selected to be representative of the provincial population and to provide reliable estimates at the health region level. It is typically collected by Statistics Canada every other year. The Manitoba sample size is 5,183 respondents. The data are weighted for representativeness and standardized to take into account certain demographic differences across health regions (e.g., age and sex), which can allow for more accurate comparisons between health regions in the province.

3. 2016 Census (Statistics Canada Census 2016)

The 2016 Census data are used to describe population and community characteristics. The Census data provide high-quality information for communities across the province and are used to support planning for employment, education and health care services. It is typically collected by Statistics Canada every five years.

To ensure confidentiality, Statistics Canada randomly rounds up the values, including totals, either up or down to a multiple of '5' or '10.' As a result, when these data are summed or grouped, the total value may not match the individual values since totals and sub-totals are independently rounded. Similarly, percentages, which are calculated on rounded data, may not necessarily add up to 100 percent.

4. Healthy Child Manitoba (HCMO 2019)

Data on the Early Development Instrument (EDI) and Family First risk factors are provided by the Healthy Child Manitoba Office. For more details about the EDI program in Manitoba and other provincial reports on child health, please visit: http://www.gov.mb.ca/healthychild/edi/.

5. CancerCare Manitoba (CancerCare Manitoba 2019)

Cancer screening, incidence and mortality data are provided by CancerCare Manitoba from the Manitoba Cancer Registry, Screening Programs and Radiation Oncology Program. Please visit https://www.cancercare.mb.ca/About-Us/corporate-publications.

6. Canadian Patient Experiences Survey – Inpatient Care (CPES-IC)

The 2017/18 Canadian Patient Experiences Survey is a standardized survey patients use to provide feedback about the quality of care they received during their most recent stay in a Canadian acute care hospital. It was created by the Canadian Institute for Health Information (CIHI) and has been endorsed by Accreditation Canada to meet the accreditation requirements for patient experience surveying. The results of the survey were analyzed by the Information Management and Analytics Branch of MHSAL. The CPES-IC has been collected across all regional health authorities in Manitoba since 2017.

Data Limitations

We acknowledge that there are limitations that should be taken into consideration when interpreting the data presented in this report. A challenge of drafting large population surveillance reports using multiple data sources is the availability of the most up-to-date data. The most current data available have been used for this report; however, for some indicators (e.g., dementia prevalence, mood and anxiety disorders) the most recent data can be several years old.

Although many of the indicators are representative of the population, the information in this report may not reflect the health status and needs of Indigenous peoples living in Manitoba due to data limitations. For more information on the Health Status of First Nations people in Manitoba, please see the previous section (The Health Status of and Access to Healthcare by Registered First Nations Peoples in Manitoba).

Some indicators (e.g., cancer-related) are not available at the zone or district level. For some indicators, statistical testing was not available to test the differences compared to the Manitoba average (e.g., Census) or the changes over time (e.g., Canadian Community Health Survey). Although differences may be noted, the statistical significance of these differences should not be inferred. Similarly, statistically significant differences were not tested across health regions, zones, and districts.

1. Administrative Health and Surveillance Data

The majority of the administrative health and surveillance data (e.g., provided by the Manitoba Centre for Health Policy or MHSAL IMA) rely on medical claims data. Some health providers (e.g., physicians, nurse practitioners) working in rural areas are covered under alternate payment methods (e.g., salaried), and they submit claims (shadow billings) for administrative purposes only. This may result in under-reported health services in those areas. This is particularly true for many Northern districts because much of the primary care for residents in some communities is provided by nurses and not coded into medical claims data.

In addition, some useful demographic factors such as race and ethnicity are not captured in the administrative health data repository; we also cannot assess the differences of health status and health care utilizations across these groups.

2. Canadian Community Health Survey (CCHS)

Due to the self-reported nature of the CCHS, recall and self-serving biases may have particular impact on certain survey questions. For example, respondents were asked about events (e.g., physical activity, fruit and vegetable consumption) occurring during the last month, and their ability to remember accurately may affect the data. In addition, respondents may choose to alter their responses in a more positive light to questions that may be perceived as more sensitive (e.g., alcohol consumption).

Respondents who participated in the CCHS were selected to be representative of the provincial population and to provide reliable estimates at the health region level. However, due to the small number of respondents, caution is needed when interpreting some response categories and smaller geographic areas.

Since 2015, considerable changes were made to the CCHS (e.g., sample selection procedures, content, etc.). Therefore, the 2015-2016 data cannot be combined with previous cycles to examine data at smaller area levels (i.e., community areas, zones, and districts). For certain indicators deemed important to report, data used in previous cycles of the CCHS was not available this cycle.

Although the CCHS survey is representative of 98 percent of the total population, it is missing information from the other two percent of the population is (e.g., the homeless, persons living on-reserve and other Indigenous settlements, full-time members of the Canadian Armed Forces, the institutionalized population and children aged 12 to 17 years old living in foster care). These groups may differ in risk for a wide range of health issues and may have different health service needs.

3. Census Data

In 2011, Statistics Canada's mandatory long-form census was abolished and replaced with a voluntary National Household Survey (NHS). The response rate to the NHS was much lower than the mandatory long-form census. Therefore, comparisons between the 2016 census data, presented in this report, and the previous 2011 NHS cannot be made, as well as, trends since 2011 cannot be noted.

Data Presentation and Interpretation

Most indicators in this report are presented using a population–based approach. This means that the rates or prevalence shown are based upon virtually every person living in Manitoba and excludes only those in federal penitentiaries, members of the Canadian Armed Forces, and the RCMP.

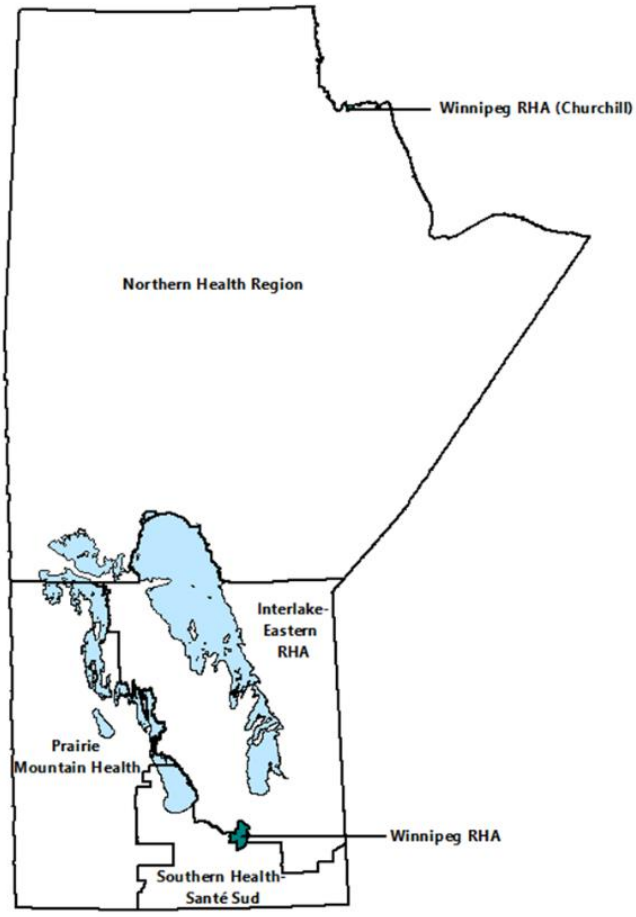
The indicators in this report are based upon where people live, not where they received services, with a few exceptions. For example, a person living in Northern Health Region (NHR) may be hospitalized in Winnipeg, but the hospitalization is attributed back to the rate for NHR. Thus, the results show the health and healthcare use patterns of the population living in NHR, no matter where they receive their care.

In all cases, the latest available information is presented. Visual representations of data have been labelled and ordered in a consistent fashion throughout the report with sources clearly defined.

In this report where the term 'Indigenous' is used, it is referring to only those residents who have self-identified as being of either First Nations, Métis or Inuit. When NHR is used alone it refers to all residents of the health region, including those identifying as First Nations or Métis.

Geographic Boundaries

In the majority of cases, the quantitative data is presented for the five regional health authorities of Manitoba.



Rates and Prevalence

In the majority of visual representations, data are presented as a rate or prevalence. Prevalence refers to the proportion of the population that has a certain condition, either at a given point in time (point prevalence) or over a period of time (period prevalence). It is an indication of how common the condition is, and therefore, has implications for the provision of services. Most indicators in this report use the concept of period prevalence over a one year, three year, or five year period.

In contrast, a rate refers to a change in state over time and is used to express the frequency of events during a given period. Many health-related events can happen to a given person more than once. For example, the physician visit rate shows how often residents visit physicians each year. Where an indicator covers a period longer than one year, the rate is annualized— that is, given as an annual average.

Adjusted Rates and Crude Values

The indicator tables and figures in this report are labelled as 'age and sex adjusted' rates when results have been statistically adjusted to account for the different age and sex composition of the populations living in different areas. This adjustment allows for fair comparisons among areas with different population characteristics. Adjusted rates show what that area's rate would have been if the area's population had the same age and sex composition as the Manitoba population.

In some cases 'crude values' are presented in order to indicate the actual number of events that occurred (e.g., residents living with a particular condition) within the health region and to represent the possible burden of illness to NHR in particular.

When reading this report, if the narrative referring to an indicator suggests that a difference is 'significant' then you know the difference is considered statistically significant (*p-value* <.05) and not likely to be an annual or period fluctuation or due to chance. When a difference is not described as 'significant', the rate should be considered similar to the provincial average and/or the previous time period. Statistical significance was only tested for the difference compared to the provincial average and/or changes over time. There were no statistical tests completed for differences between regions, zones, and districts.

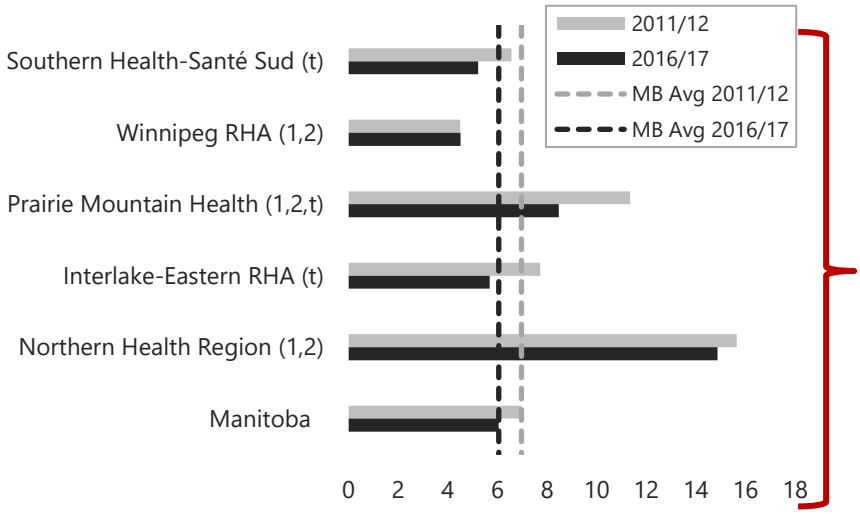
Visualization of Data

The 2019 CHA introduces a new method of visualizing data to describe regional differences and changes over time. It captures all the components of the previously used Manitoba Centre for Health Policy multiple year bar charts (on the next page) but in a more condensed format.

The ORIGINAL bar graph from MCHP:

Hospitalization Rate Ambulatory Care Sensitive Conditions by Health Region, 2016/17 (T2) and 2011/12 (T1)

Age- and sex-adjusted per 1,000 residents aged 0-74



1 indicates area's rate was statistically different from Manitoba average in first time period
2 indicates area's rate was statistically different from Manitoba average in second time period
t indicates change over time was statistically significant for that area
s indicates data suppressed due to small numbers

In the CHA reports the bar charts here are collapsed and visualized below.

For each time period, the range in values (lowest to highest) are shown on either end

The regions are ordered from lowest to highest (based on T2 for table)

T2 = recent time period
T1 = earlier time period

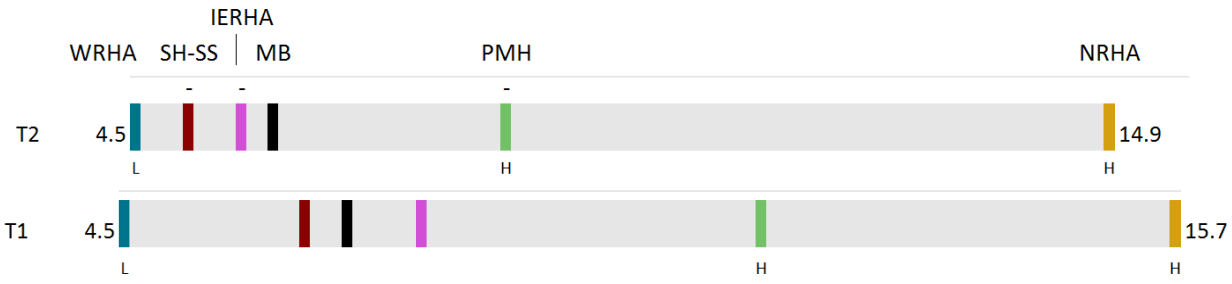
Data tables with actual values and crude counts

MCHP RHA Indicators Atlas 2019

The NEW look in CHA reports:

Hospitalization Rate Ambulatory Care Sensitive Conditions by Health Region, 2016/17 (T2) and 2011/12 (T1)

Age- and sex-adjusted per 1,000 residents aged 0-74



H/L Significantly higher or lower than the MB average for that time period.
+/- A significant increase (+) or decrease (-) since the first time period

	WRHA		SH-SS		IERHA		MB		PMH		NRHA	
T2 COUNT	3,467		1,010		861		8,023		1,522		995	
T2 RATE	4.5	L	5.2	-	5.7	-	6.1		8.5	H-	14.9	H
T1 RATE	4.5	L	6.6		7.7		7.0		11.4	H	15.7	H

MCHP RHA Indicators Atlas 2019

Graphing the two time periods:

- The line bars are stacked one on top of the other with the most recent time period on top and the earlier time period below.
- The earlier or first time period is labeled "T1" and the second or more recent time period is labeled "T2". These labels are positioned at the extreme left end of the line bars.

Understanding the sliding scale:

Identifying regional data

- Bars on the sliding scale correspond to the regional values in the MCHP bar chart. To easily identify regional position, each health region and Manitoba has been assigned a specific colour.

The range of values

- The T2 bar reflects only the range in values from the lowest regional value (WRHA 4.5) to the highest (14.9 NRHA). The horizontal bar does not show the entire scale from 0.
- The T1 bar reflects the data in the earlier time period (or in some cases, the only time period available). In the example above, the lowest value is the same for both time periods (WRHA 4.5) but the highest value extends the scale to the right (NRHA 15.7). The scale has been extended to reflect the full range of values for both time periods.
- The bookends (lowest and highest values) easily identify whether values have increased, decreased, or remained similar across the province. This is a quick way to see whether the regional disparity has widened or narrowed.

Statistical significance (statistical significance of $p<.05$)

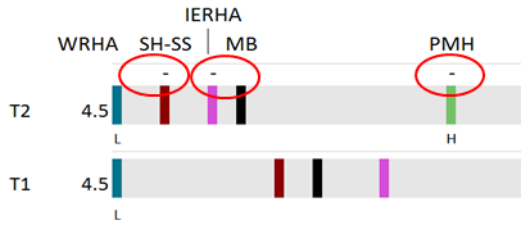
- Significant differences from the Manitoba average are shown below the health region marker as either H (higher) or L (lower). This replaces MCHP's symbols "1" or "2" for indicating statistical differences from the Manitoba average by time period.
- Significant changes over time are shown above the health region marker as + (increasing) or - (decreasing). This replaces MCHP's symbols "t" for indicating if the change over time was statistically significant for that area.

Data table below sliding scales

- A data table follows each set of line bars showing the actual values for every health region.
- T2 COUNT reflects the crude count for only the recent time period (e.g., residents, hospitalizations, visits, etc.)
- T2 RATE presents the regional data reflected in T2 sliding scale
- T1 RATE presents the regional data reflected in T1 sliding scale
- Statistically significant notations as described above
- Values are ordered from left to right, lowest to highest according to the T2 rate

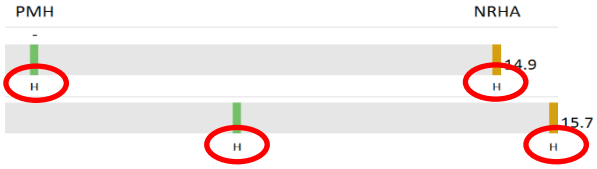
Interpreting the Data

Significant increases or decreases (statistical significance of $p<.05$) in a health region's value over time (from T1 to T2) are notated by either a + (increase) or – (decrease) above the health region marker on the T2 bar and repeated in the accompanying table.



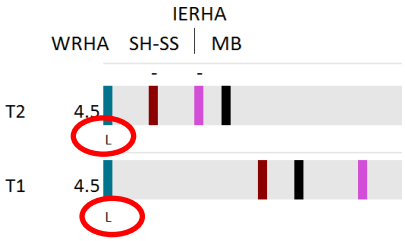
Southern Health Santé Sud, Interlake Eastern Regional Health Authority and Prairie Mountain Health have all shown a significant decrease in hospitalizations for Ambulatory Care Sensitive conditions between T1 and T2.

Values that are significantly different from the Manitoba average for that time period are notated by either an H (higher) or L (lower) underneath the health region marker on both the T1 and T2 bars and repeated in the accompanying table.



Prairie Mountain Health and Northern Health Region have significantly higher rates of hospitalization for ambulatory care sensitive conditions than the province as a whole in both time periods.

Winnipeg RHA has significantly lower rates of hospitalization for ambulatory care sensitive conditions than the province as a whole in both time periods.



NHR	
995	
14.9	H
15.7	H

Northern Health Region had an ambulatory care sensitive condition rate of 15.7/1,000 in the first time period (2011/12) which was significantly higher than the provincial average of 7.0/1,000. This value has decreased to 14.9/1,000 in the second time period (2016/17) but remains significantly higher than the T2 provincial average of 6.1/1,000.

Disparity Measures

There are two disparity measures shown in the report; income disparity and district disparity.

Income disparity is provided at a provincial level and is represented by the following visual for inadequate prenatal care:

Rural Quintiles	
T1	*4.1x*
T2	*4.2x*
Change	*0.1 ↑*

Manitobans are split into urban and rural with urban being just the cities of Winnipeg and Brandon and rural being everyone else. In the NHR report, any income information is reported provincially but for rural quintile only, which includes all of NHR and its cities.

Within each group the population is divided into five groups of approximately equal population, according to the average household income (as determined by the Census small dissemination area) called income quintiles.

- The disparity measure is reported only where there is a statistically significant linear trend between income and the indicator results, and the nature of the increases or decreases are stepwise.
- The disparity is the relative difference between those in the highest income quintile and those in the lowest income quintile.

Understanding the income disparity information:

- The example above indicates that in urban settings, in the second time period (T2), the lowest income residents are 3.1 times as likely to receive inadequate prenatal care as those in the highest income quintile. The gap between the income levels has shrunk markedly over time.
- In a rural setting, the lowest income residents are 4.2 times as likely to receive inadequate prenatal care as those in the highest income quintile. The gap between the income levels has increased slightly over time.
- The direction of change is indicated by the arrows and the colour indicates whether the gap is narrowing (green) or widening (red).

District Disparity is shown at a regional level and is represented in the NHR district disparity ratio table by the following visual for inadequate prenatal care:

NHR District Disparity Ratio		
	T1 Disparity	***6.7***
	T2 Disparity	***10.6***
	Change	***3.9 ↑***

The disparity is measured between the district with the best value for the indicator and the district with the worst value. In this example, the district with the lower value is actually better, but in other indicators the reverse may be true.

Understanding the district disparity information:

- In the example on the previous page, the disparity measure in T1 indicates that the district with the highest value Shamattawa First Nation, York Factory First Nation and Tataskweyak (Split Lake) Cree Nation are 6.7 times more likely to receive 'inadequate prenatal care' than the district with the lowest value, Gilliam and Fox Lake Cree Nation. Similarly, the T2 reflects that the district Shamattawa First Nation, York Factory First Nation and Tataskweyak (Split Lake) Cree with the highest value are 10.6 times more likely to receive 'inadequate prenatal care' than Gillam and Fox Lake Cree Nation, the district with the lowest value.
- Note that the districts with the highest and lowest values may vary from T1 to T2.
- The red/green highlighted value in the district disparity indicates the change between the two time periods. The arrow pointing up/down and the red/green font colour indicate that the disparity or gap has widened/narrowed over time. In the example on the previous page, the red 3.9 with the up arrow indicates the district disparity has widened by 3.9 from T1 to T2.
- Within the district tables throughout the report the highest and lowest rates are also in red and green in both T1 and T2.

Zone and District Tables

Whenever available and appropriate, zone and district level data are presented in tables.

- When two time periods are available, the counts and rates or percentages of the most recent time period (labeled T2) are presented first, followed by the rates or percentages of the earlier time period (labeled T1)

- The district order varies between tables as they are ordered from best to worse, when appropriate.

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[11] Katz, A., Kinew, K.A., Star, L., Taylor, C., Koseva, I., Lavoie, J., et al. (2019). The Health Status of and Access to Healthcare by Registered Frist Nations Peoples in Manitoba, http://mchp-appserv.cpe.umanitoba.ca/reference//FN_Report_web.pdf

[12] Enns, J. (2019). First Nations People's Health in Manitoba: A Summary of the Report "The Health Status of and Access to Healthcare by Registered First Nations Peoples in Manitoba. Accessed November 25, 2019. http://mchp-appserv.cpe.umanitoba.ca/reference//FN_Summary_web.pdf

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[14] Katz, A., Kinew, K.A., Star, L., Taylor, C., Koseva, I., Lavoie, J., et al. (2019). The health status of and access to healthcare by registered First Nations peoples in Manitoba. Accessed November 25, 2019. http://mchp-appserv.cpe.umanitoba.ca/reference//FN_Report_web.pdf

CHAPTER ONE: WHO LIVES IN NORTHERN HEALTH REGION?

Chapter One Table of Contents

Chapter One Tables and Figures

At a Glance: Who Lives in Northern Health Region?

Population

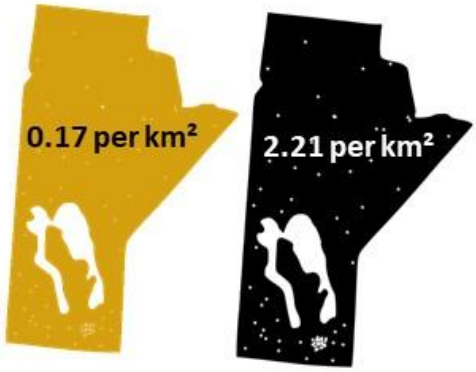
76,847 1,360,518

Birth Rate per 1,000 females

Population Projection for 2030

86,870 1,649,070

Population Density



Indigenous Population

72.6% 18.0%

Chapter One Key Findings

Northern Health Region

- The NHR is spread over 396,000 square kilometers and includes all of the land in Manitoba above the 53rd parallel, except the town of Churchill.
- The NHR is divided into three zones including zone one the northern direct service zone, zone two the northern non-direct service zone, and zone three the northern island lake zone. Within the three zones there are 15 districts.
- The NHR endeavors to be sustainable and innovative in the delivery of accessible, quality health services through programs and services delivered in the region.
- The NHR has 76,847 residents living within its geographical area. This is 5.65% of the Manitoba population.
- Zone one has a population of 38,906, zone two has a population of 29,045 and zone three has a population of 8,896.
- The NHR birth rate of 103 is almost double that of Manitoba at 55.5 births per 1,000 females.
- 10.4% of NHR residents live in a different city, town, village or First Nations Reserve within Canada compared to five years earlier.
- The NHR has the least dense population of all health regions at 0.17 people per square kilometer.
- The NHR's population increased by 2,116 people over five years; a total increase of 2.8%.
- According to population projections to 2030, the NHR is projected to have a population of 86,870, which represents a 12.7% increase.
- Almost three out of four NHR residents is an Indigenous person.
- 3.2% of the residents within the NHR self identify as a visible minority other than an Indigenous person.
- In the NHR, 78% of the time the English language is spoken in the home and 19% of the time a language other than English or French is spoken in the home.
- 6.9% of NHR residents living in zone one identify as an immigrant.
- In NHR zone one, 51.7% of the immigrant population is born in Asia and 25.6% is born in Europe.
- 31.8% of NHR families are lone parent families; the Manitoba rate is 17%.
- In the NHR the dependency ratio is 81.8%.

Why is Chapter One Important?

- This chapter outlines the geography of the region as well as demographic features of our population. The unique characteristics of our region influence the factors that determine how healthy we are and have a significant impact on the need for appropriate services.
- The information in this chapter is foundational to forecast future issues that will require dedicated strategies in both the short and long-term.
- Population health surveillance is essential to healthcare planning and resource allocation to ensure we develop equitable and sustainable programs and services.

Geographic Boundaries

The Northern Health Region is geographically the largest of the five Regional Health Authorities in the Province of Manitoba. It is spread over 396,000 square kilometers. The Northern Health Region includes all of the land in Manitoba above the 53rd parallel except for the town of Churchill. There are two cities (Thompson and Flin Flon), six towns (The Pas, Gillam, Grand Rapids, Leaf Rapids, Lynn Lake, Snow Lake), one rural municipality (Kelsey), one local government district (Mystery Lake), 26 First Nations communities, 16 Northern Affairs communities and multiple hamlets and cottage settlements making up unorganized territories. The Northern Health Region acknowledges that it is within Treaty number five and Treaty number four land. In addition, the Northern Health Region acknowledges Treaty number six and Treaty number ten.

The land of the Northern Health Region is a mixture of Canadian Shield with many lakes and rivers, as well as permafrost with a sub-arctic climate. The boreal forest has a diverse mix of trees including balsam, fir, tamarack, white spruce and black spruce. Deciduous trees such as white birch, aspen, and poplar are found more in the southern portions of the region. The permafrost in the Taiga shield is located in the north-western part of the region has small, slow growing coniferous trees. It is transitional area between the boreal forest in the south and the tundra further north. The Northern Health Region is an area rich in natural resources which is reflected in the economy. Hydroelectricity, fishing, mining, and tourism are key economic sectors.

Figure 1 Map of Northern Health Region

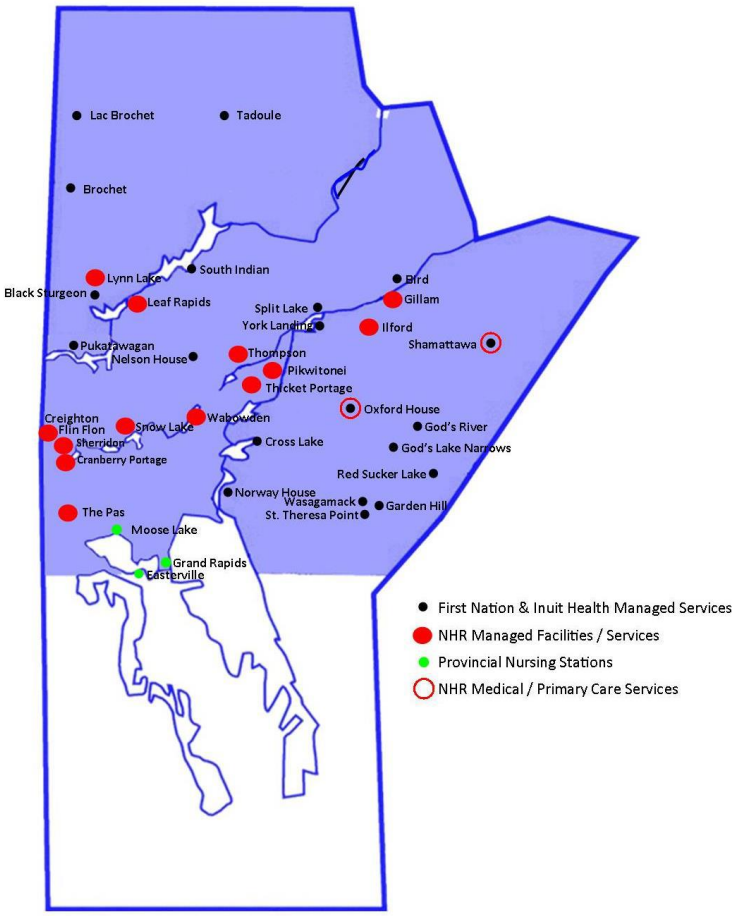
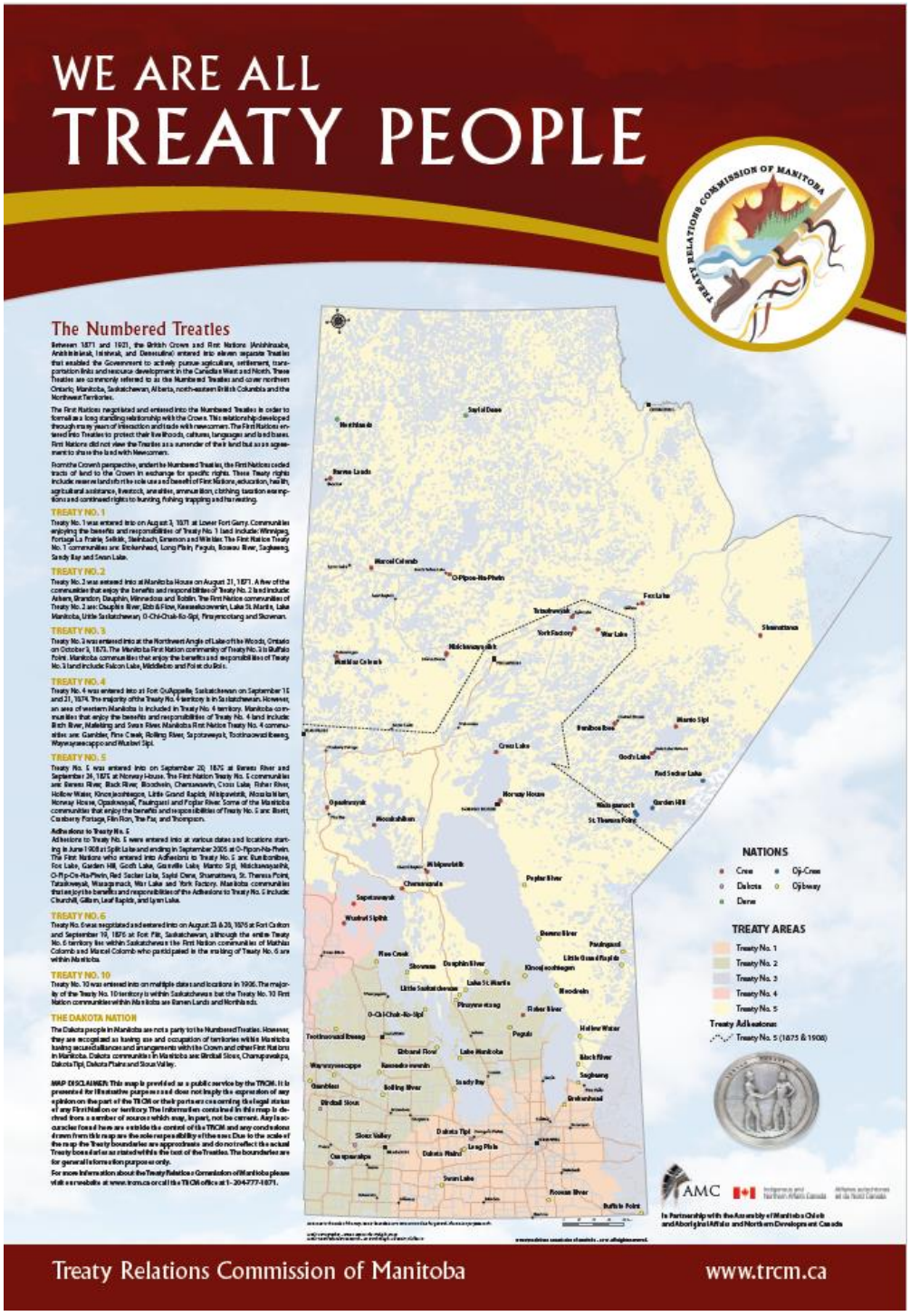


Figure 2 We Are All Treaty People Map



Treaty Relations Commission of Manitoba, (2017)[1]

[1] *We Are All Treaty People Map accessed from: http://www.trcm.ca/treaties/treaties-in-manitoba/view-pdf-interactive-map-of-numbered-treaties-trcm-july-20-entry/*

The Northern Health Region has been divided into three zones and 15 districts. These zones and districts were organized to facilitate and coordinate the planning and provision of health services and programs throughout the region.

Figure 3 Northern Health Region Zone and District Map

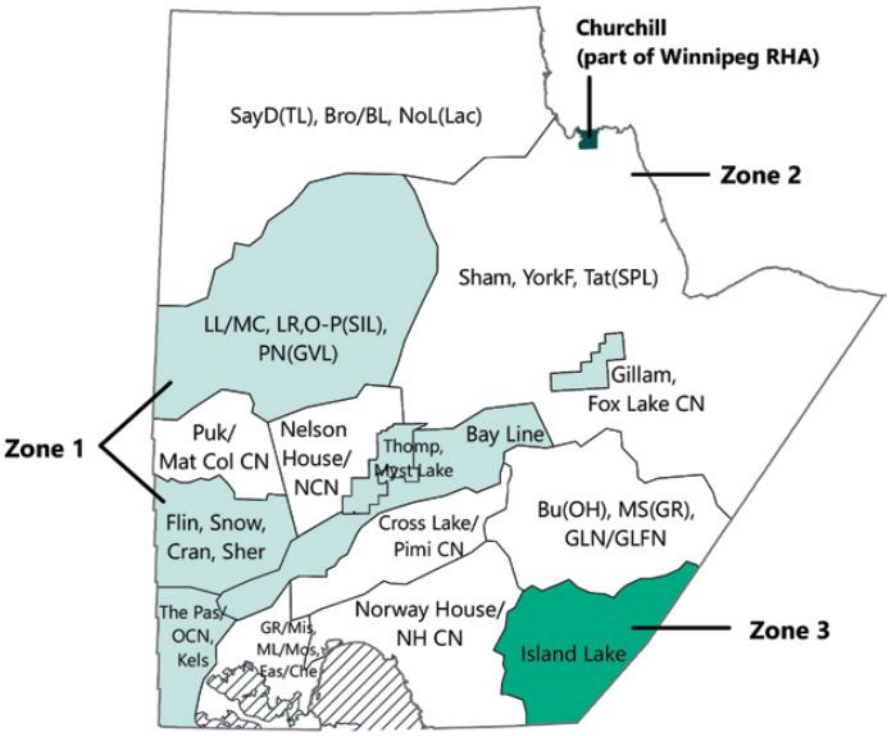


Table 1 Northern Health Region Zones, Districts and Communities

Zone 1	Northern Direct Service Zone
Thompson, Myst Lake	Thompson LGD of Mystery Lake
Flin, Snow, Cran, Sher	Flin Flon Snow Lake Cranberry Portage Sherridon/Cold Lake
The Pas/OCN, Kels	The Pas Opaskawayak Cree Nation RM of Kelsey
Gillam Fox	Gillam Fox Lake Cree Nation
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	Lynn Lake Leaf Rapids South Indian Lake O-Pipon-Na-Piwin (South Indian Lake) Cree Nation Granville Lake Marcel Colomb First Nation
Thick, Pik, Wab, Ilf/WLFN, Corm (district also known as Bay Line)	Thicket Portage Pikwitonei Wabowden Ilford War Lake First Nation Cormorant

Zone 2	Northern Non-Direct Service Zone
GR/MisCN, ML/MosCN, Eas/CheCN	Grand Rapids Misipawistik Cree Nation Moose Lake Mosakahiken Cree Nation Easterville Chemawawin Cree Nation Unorganized Territory
Puk/Mat Col CN	Pukatawagan Mathias Colomb Cree Nation
SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	Churchill/Sayisi Dene (Tadoule Lake) First Nation Barren Lands (Brochet) First Nation Brochet Northlands (Lac Brochet) First Nation
Nelson House/NCN	Nisichawayasihk (Nelson House) Cree Nation Incorporated Community of Nelson House
Sham, YorkFN, TatCN(SPL)	Shamattawa First Nation York Factory First Nation Tataskweyak (Split Lake) Cree Nation
Bu(OH)CN, MS(GR)CN, GLN/GLFN	Bunibonibee (Oxford House) Cree Nation Manto Sipi (God's River) Cree Nation God's Lake First Nation God's Lake Narrows Oxford House
Cross Lake/Cross Lake FN	Pimicikamak (Cross Lake) Cree Nation Incorporated Community of Cross Lake
Norway House/NH CN	Norway House Noway House Cree Nation

Zone 3	Northern Island Lake Zone
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	Garden Hill First Nation Red Sucker Lake First Nation St. Theresa Point First Nation Wasagamack First Nation Island Lake Red Sucker Lake

Programs and Services

In collaboration with the community and partners, the Northern Health Region endeavors to be sustainable and innovative in the delivery of accessible, quality health services through the programs and services delivered in the region. We strive to deliver a seamless continuum of care that supports our residents at every stage of their lives.

Table 2 Northern Health Region Programs and Services

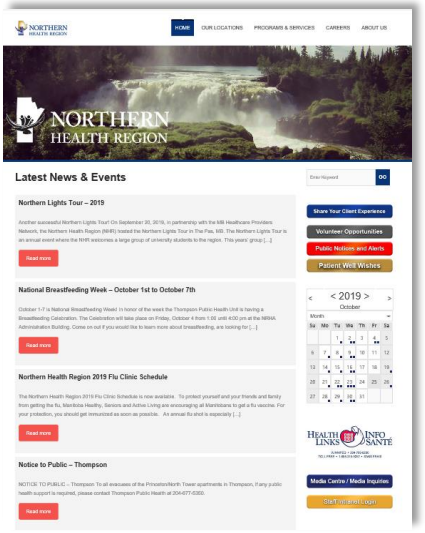
Programs and Services	
Addiction Services	Home Care
Hope North Recovery Centre for Youth	Adult Day Program
Rapid Access to Addictions Medicine (RAAM) Clinic	Meals on Wheels
Rosaire House Addictions Centre	Nursing Care
Audiology	Occupational Therapy Care
Clinical Services/Acute Care	Personal Care at Home
Chemotherapy	Respite Care
Dialysis/Renal Care	Senior Supports in Group Living (SSGL)
Emergency Care	Services to Seniors/Congregate Meal Program
Extended Treatment/Rehabilitation	Supportive Housing
Medical Care	Medical Officer of Health
Obstetrical Care	Mental Health
Outpatient Services	Acute Brain Injury House
Pharmacy	Adult Services
Special Care Unit	Adult Inpatient Psychiatric Treatment
Surgery/Surgical Care	Child & Adolescent Services
Community Cancer Care Program	Crisis Services
Cancer Navigation Services	Intensive Case Management Services
Oncology Community Engagement	Mental Health Promotion, Housing and Supports
Psychosocial Oncology Counselling	Psychiatry Services
Health Promotion and Community Health Development	Seniors Consultation Team
Chronic Disease, Care, Management and Support	Midwifery
Community Dietician	Palliative Care Services
Community Health Development	Personal Care Homes
Diabetes Education	Primary Care Clinics
Eye Care Outreach/Retinal Screening	Family Doctor Finder
Family Support Programs	Northern Consultation Clinic
Get Better Together	Primary Care Clinics
Health Promotion	Thompson Pain Clinic
Mental Health Promotion	
School Health	
Tobacco Reduction	

Programs and Services continued	
Public Health	Communications Coordination
Sexually Transmitted Infection Prevention	Disaster Management
Adolescent Health and Education	Finance
Communicable Disease Prevention	Health Information Services
Early Childhood Development & Parenting	Human Resources
Insight Mentoring	Indigenous Liaison Services (including Interpreter Services)
International Travel	Infection Prevention and Control
Prenatal, Postpartum & Breastfeeding Support	Maintenance
Primary Health Care Centres	Materials Management and Logistics
Regional Youth /Teen Clinic	Northern Patient Transportation (NPTP)
Reproductive Health and Harm Reduction	Organization and Staff Development
Tuberculosis Prevention	Patient Safety
Fetal Alcohol Spectrum Disorder Program	Patient Safety and Quality Improvement
Rehabilitation	Patient Experience and Public Involvement
Occupational Therapy	Privacy and Access
Physiotherapy	Risk Management
Speech Language Therapy	Support Services
Respiratory Services	Telehealth

Shared Health Services
Diagnostic Services
Cardiac stress testing
Computed Tomography (CT Scans)
Electrocardiogram (ECG)
Laboratory
Mammography
Ultrasound
X-ray
Emergency Medical Services
Information Technology
Medical Assistance in Dying (MAID)

To learn more about the care in your community and hospital please visit the Northern Health Region webpage:

https://northernhealthregion.com



A CLOSER LOOK…NORTHERN HEALTH REGION

Population

Definition

The total number of residents living within a geographic area over a one-year time period based on a resident's current address on their Manitoba Health Card, which is updated on June 1st of every year.

Regional Key Findings

- According to Manitoba Health Seniors and Active Living the 2018 Northern Health Region population was 76,847. This is 5.65% of the Manitoba population.
- Zone one, which is the northern direct service zone, makes up the largest percentage of the NHR population at 51%. Zone two, which is the northern non-direct service zone, makes up 38% of the NHR population. Lastly, zone three, which is the northern island lake service zone, makes up 11% of the NHR population.

Table 3 NHR Population by Zone and District, 2018

	Population	Percentage of NHR
Manitoba	**1,360,518**	
NHR	**76,847**	
Zone One: Northern Direct Service Zone	**38,906**	**51%**
Flin,Snow,Cran,Sher	7,706	10%
The Pas/OCN,Kels	11,161	15%
LL/MC,LR,O-P(SIL),PN(GVL)	2,449	3%
Thomp,Myst Lake	14,935	19%
Thick, Pik, Wab, Ilf/WLFN, Corm	1,222	2%
Gillam Fox	1,433	2%
Zone Two: Northern Non-Direct Service Zone	**29,045**	**38%**
GR/Mis,ML/Mos,Eas/Che	4,175	5%
Puk/Mat Col CN	1,907	2%
SayD(TL),Bro/BL,NoL(Lac)	1,602	2%
Nelson House/NCN	2,623	3%
Sham,YorkF,Tat(SPL)	3,440	4%
Bu(OH),MS(GR),GLN/GLFN	4,254	6%
Cross Lake/Pimi CN	5,298	7%
Norway House/NH CN	5,746	7%
Zone Three: Northern Island Lake Zone	**8,896**	**11%**
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	8,896	11%

Source: IMA MHSAL 2019

Population Pyramids

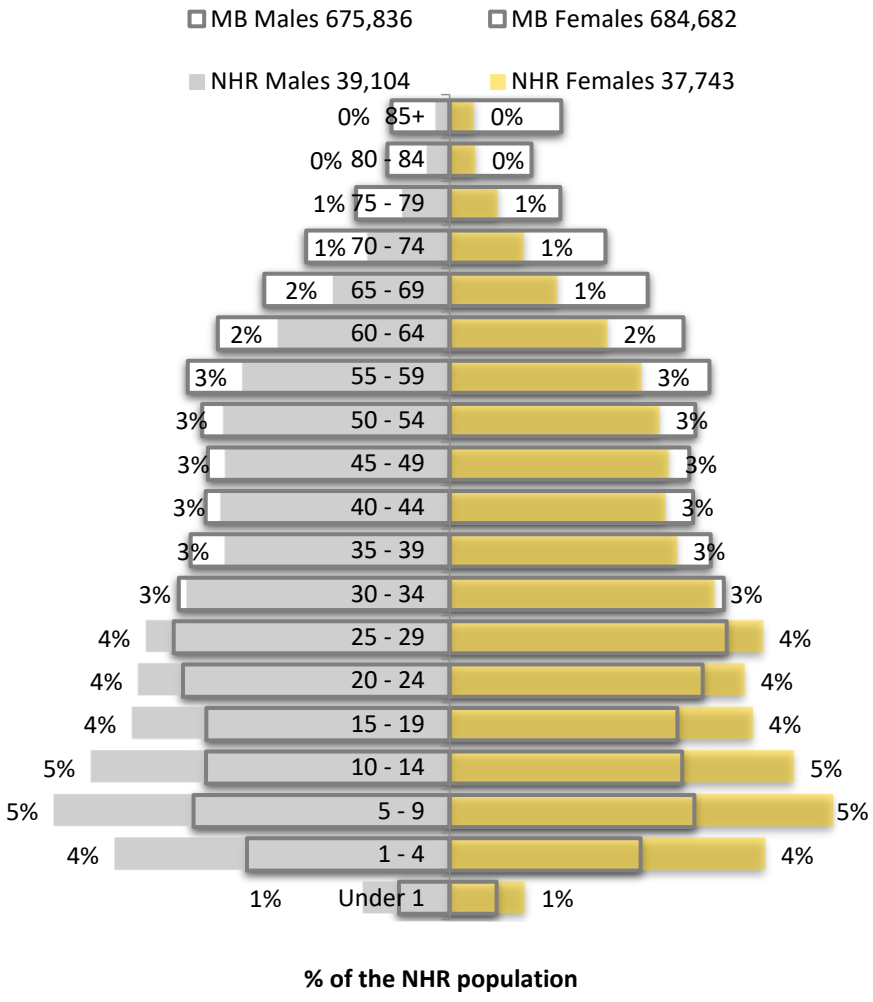
Definition

The age and sex distribution of a population living in a geographic area for a one-year time period.

Regional Key Findings

- NHR has a very different profile (pyramid shape) to Manitoba overall.
- Starting at under age one up to age 29, NHR (54%) has a larger percentage of residents living within those age categories compared to Manitoba (39%).
- NHR (46%) has a smaller proportion of the population from age 30 up to age 85+ when compared to Manitoba (61%) population data.
- Overall, the NHR population is younger than the Manitoba population.
- Manitoba has 684,682 females and 675,836 males, whereas NHR has 37,743 females and 39,104 males.

Figure 4 Population Pyramid with Manitoba and NHR, 2018



Source: IMA MHSAL 2019

Birth Rate

Definition

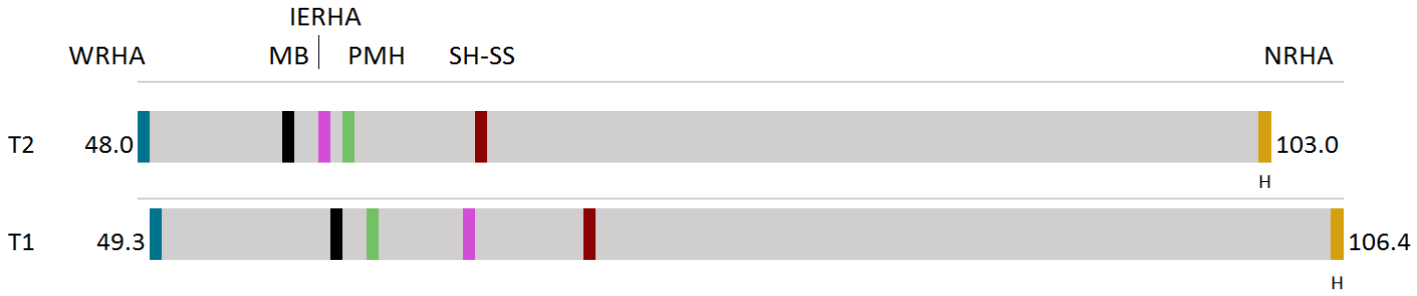
The rate of live births per 1,000 females aged 15 to 45, for a one-year time period.

Provincial Key Findings

- The annual birth rate in Manitoba decreased slightly, but not significantly, over time.
- NHR has a birth rate significantly higher than the Manitoba average.

Figure 5 Birth Rate by RHA, 2011/12 (T1) and 2016/17 (T2)

Age adjusted rate of live births per 1,000 females aged 15-45



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WHRA		MB		IERHA		PMH		SH-SS		NHR	
T2 COUNT	8,021		16,027		1,360		2,080		2,882		1,669	
T2 RATE	48.0		55.5		57.4		58.8		65.1		103.0	H
T1 RATE	49.3		58.1		64.3		59.6		70.2		106.4	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- In the NHR the birth rate decreased slightly from 106.4 to 103.0 live births per 1,000 females from 2011/12 to 2016/17; both of these birth rates are significantly higher than the Manitoba average.
- Zone two had the highest birth rate at 135.6, followed by zone three at 130.5 and zone one was the lowest at 75.8 live births per 1,000 females in 2016/17.
- According to the NHR district disparity ratio in 2016/17 female residents in Lynn Lake, Leaf Rapids, South Indian Lake, O-Pipon-Na-Piwin Cree Nation, Granville Lake and Marcel Colomb First Nation had birth rates 3.2 times higher than female residents in Flin Flon, Snow Lake, Cranberry Portage and Sherridon/Cold Lake.

Table 4 Birth Rate Rate by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age adjusted rate of live births per 1,000 females aged 15-45

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**16,027**	**55.5**		**58.1**		**Northern Health Region**	**1,669**	**103.0**	**H**	**106.4**	**H**
Zone 1	**621**	**75.8**	**H**	**74.3**		**Zone 2**	**810**	**135.6**	**H**	**138.2**	**H**
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	66	180.6	H	102.6		Puk/Mat Col CN	63	159.1	H	164.6	H
Thick, Pik, Wab, Ilf/WLFN, Corm	28	107.2		66.8		Sham, YorkFN, TatCN(SPL)	94	156.3	H	130.9	H
The Pas/OCN, Kels	180	76.7		81.3		GR/MisCN, ML/MosCN, Eas/CheCN	129	154.6	H	144.1	H
Thompson, Myst Lake	244	69.8		76.5		Cross Lake/Cross Lake FN	147	132.8	H	137.3	H
Gillam Fox	23	63.0		72.9		Nelson House/NCN	84	124.8	H	126.4	H
Flin, Snow, Cran, Sher	80	56.5		55.8		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	41	120.5		71.2	
NHR District Disparity Ratio T1 Disparity ***3.0*** T2 Disparity ***3.2*** Change ***0.2 ↑*** *Disparity with a value of "0" suggest no inequities exist.* *Change over time informs whether or not disparity is widening or narrowing between districts.*						Norway House/NHCN	143	117.7	H	136.8	H
						Bu(OH)CN, MS(GR)CN, GLN/GLFN	109	112.8	H	135.6	H
						Zone 3	**238**	**130.5**	**H**	**158.8**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	238	132.8	H	166.8	H

L/H Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Internal Migrant Mobility

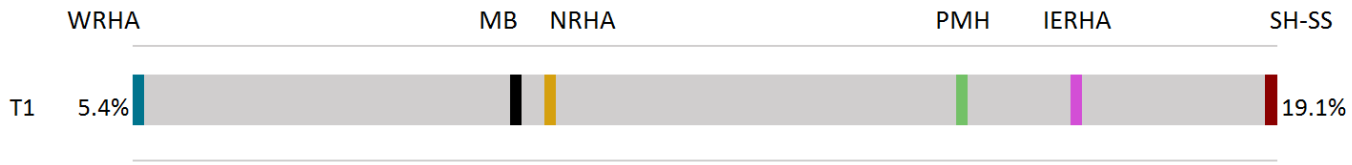
Definition

The percentage of the population that is currently living in a different city, town, township, village or First Nations Reserve within Canada compared to five years earlier.

Provincial Key Findings

- The provincial 5-year mobility rate decreased slightly from the 2011 Census value where 10.5% of Manitoban's had moved compared to 10.1% in the 2016 Census.
- The rate of 5-year mobility is highest in Southern Health-Santé Sud at close to one fifth of all residents having moved in a five year time period.
- Winnipeg Regional Health Authority has the lowest internal migrant mobility at around one half that of any other region at 5.4%.

Figure 6 Five-Year Internal Migration Mobility by RHA, 2016 Census



	WRHA	MB	NHR	PMH	IERHA	SH-SS
T1 COUNT	36,160	117,145	6,625	22,735	19,435	32,190
T1 RATE	5.4%	10.1%	10.4%	15.4%	16.8%	19.1%

Source: Statistics Canada Census 2016

Regional Key Findings

- The NHR has the same percentage of internal mobility as Manitoba, with 10.4% of NHR residents living in a different place within Canada compared to five years earlier according to available data. Residents within the NHR do have significant transience but no change in address, therefore the percent is likely higher than reported in the Canadian Census. This is known through the programs and services provided in NHR.
- Internal migrant mobility at the zone level ranges from as high as 15% of residents (zone one) to as low as 5% (zone two) and 6% (zone three).

Table 5 Five-Year Internal Migration Mobility by NHR Zone and District, 2016 Census

	Total Mobility Status 5 Years Ago	Internal Migrants	%
Manitoba	**1,161,240**	**117,145**	**10%**
NHR	**63,420**	**6,625**	**10%**
Zone 1	**32,915**	**4,935**	**15%**
Flin,Snow,Cran,Sher	6,770	925	14%
The Pas/OCN,Kels	9,305	1,210	13%
LL/MC,LR,O-P(SIL),PN(GVL)	1,610	180	11%
Thomp,Myst Lake	12,285	2,165	18%
Thick, Pik, Wab, Ilf/WLFN, Corm	1,655	170	10%
Gillam Fox	1,290	285	22%
Zone 2	**23,375**	**1,285**	**5%**
GR/Mis,ML/Mos,Eas/Che	3,225	230	7%
Puk/Mat Col CN	1,590	130	8%
SayD(TL),Bro/BL,NoL(Lac)	1,465	145	10%
Nelson House/NCN	2,385	145	6%
Sham,YorkF,Tat(SPL)	2,705	150	6%
Bu(OH),MS(GR),GLN/GLFN	3,360	200	6%
Cross Lake/Pimi CN	4,050	135	3%
Norway House/NH CN	4,595	150	3%
Zone 3	**7,115**	**410**	**6%**
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	7,115	410	6%

Source: Statistics Canada Census 2016

Population Density

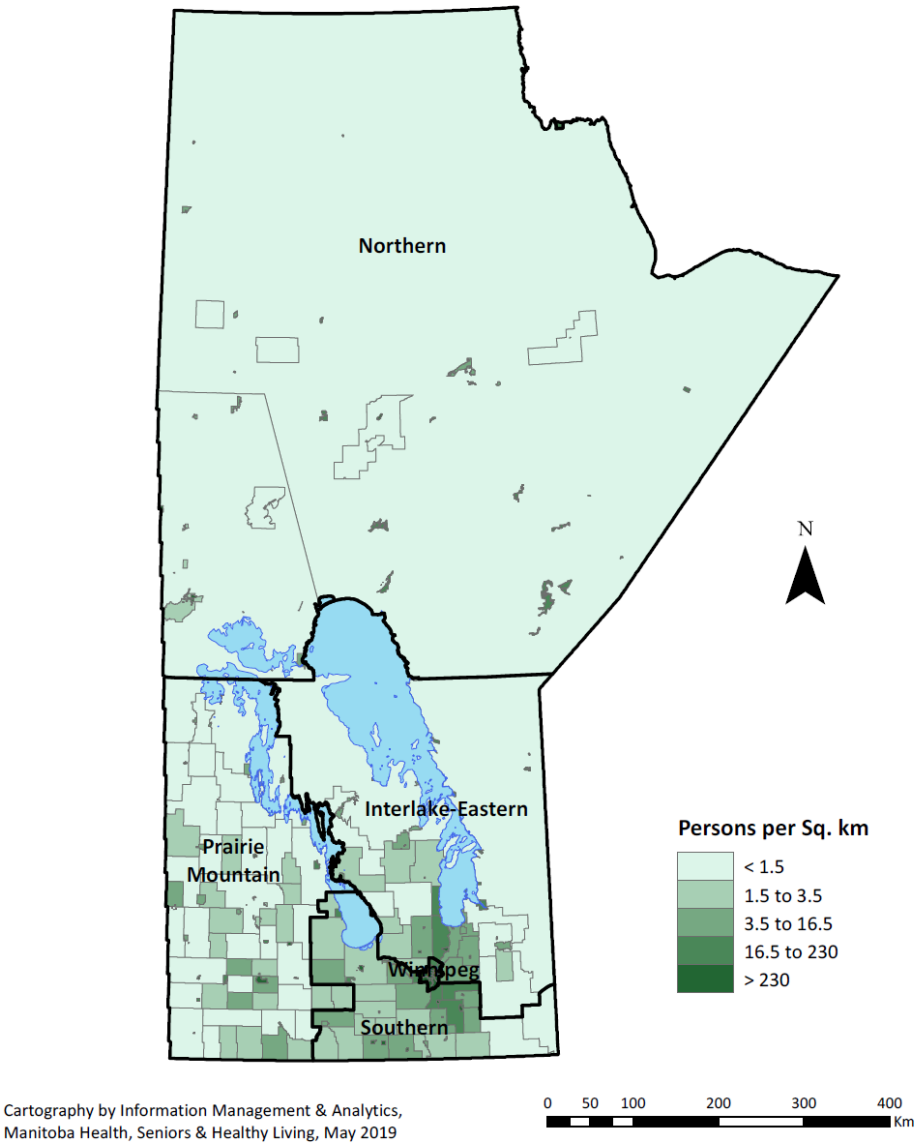
Definition

The number of people per-square kilometer based on the population divided by the total land area for a one-year time period.

Provincial Key Findings

- The Winnipeg Regional Health Authority is the most densely populated health authority in Manitoba with 1,158.22 people per square kilometer. Southern Health-Santé Sud comes in second with 7.44 people per square kilometer. Prairie Mountain has 2.48 people per square kilometer and Interlake Eastern has 1.67 people living per square kilometer. The NHR is the least dense with 0.17 people living per square kilometer.

Figure 7 Manitoba Population Density by Municipality, 2018

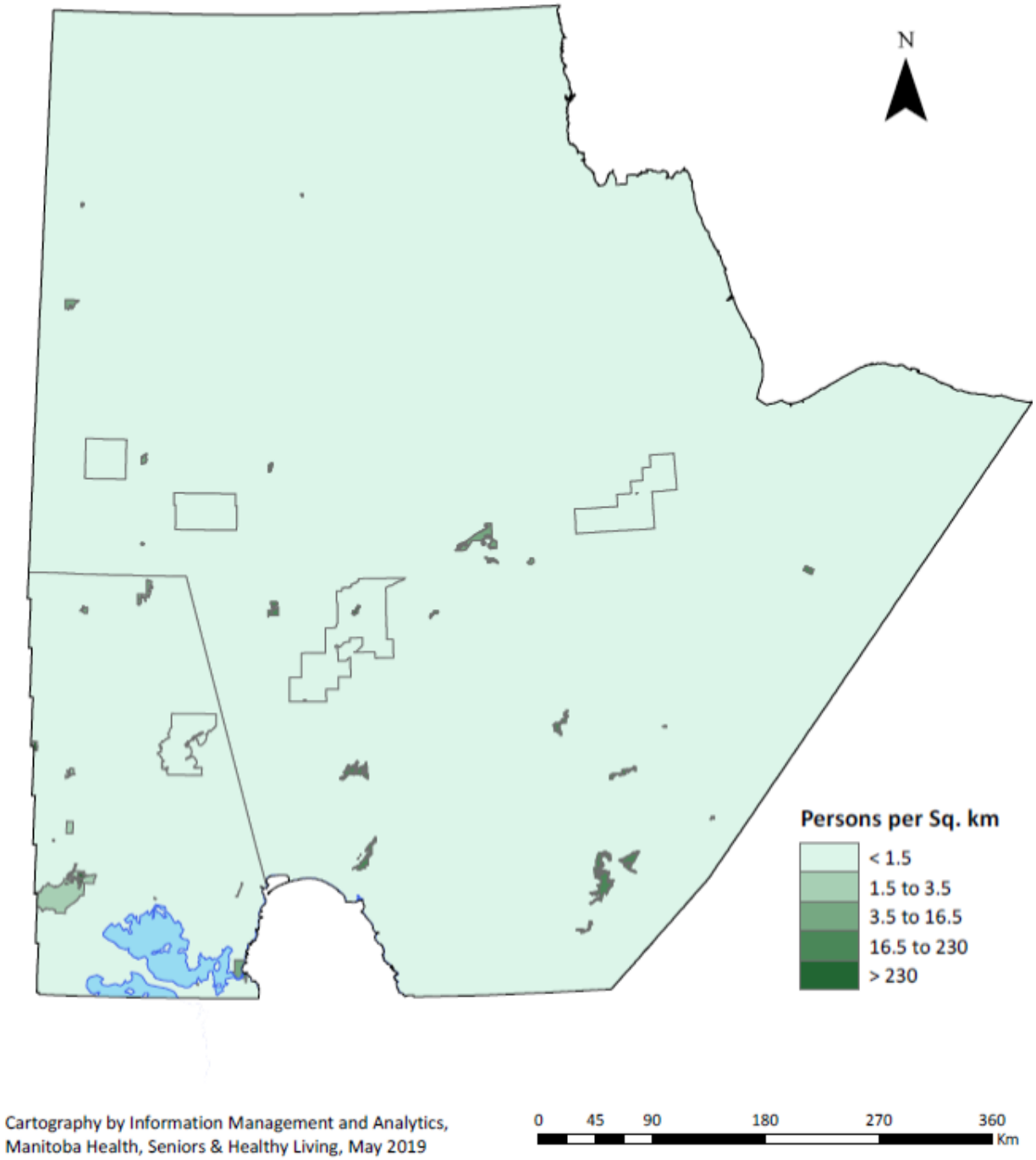


Source: IMA MHSAL 2019

Regional Key Findings

- NHR's total population density is 0.17 people per square kilometer based on 2018 population data.
- Density ranges from less than 0.02 residents to greater than 3.99 residents per square kilometer across the districts within the region.

Figure 8 NHR Population Density by Municipality, 2018



Source: IMA MHSAL 2019

Population Change over Time

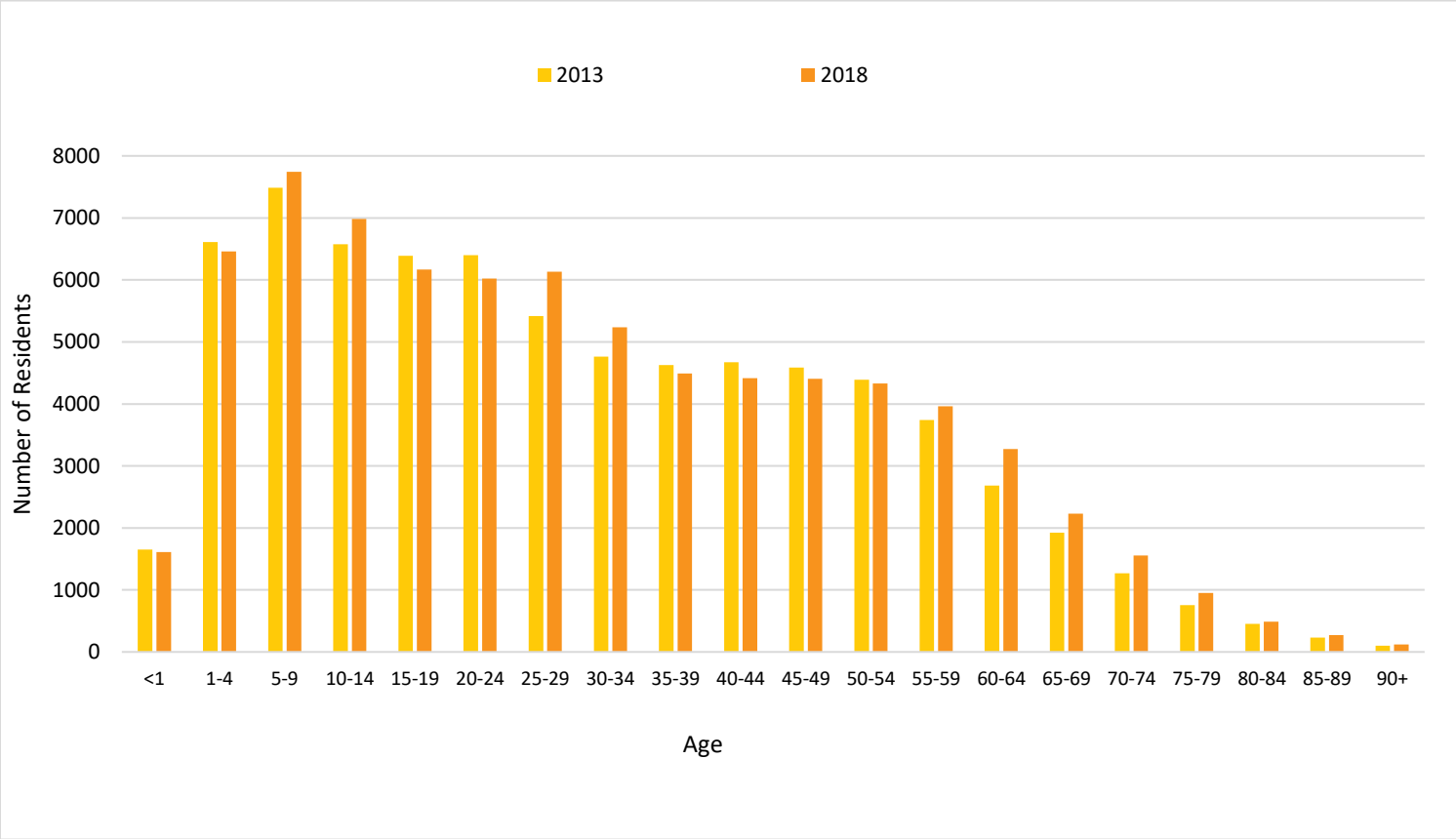
Definition

The change in the number of people who live in a defined area over a five-year time period.

Regional Key Findings

- NHR's population increased by 2,116 residents from 2013 to 2018, which represents a 2.8% increase over the five years.
- The most noticeable change over the five-year time period, was a decrease in residents between age 15-24 and an increase in residents aged 25 to 34 and 55 and older.

Figure 9 Population Change over Time in the NHR, 2013 and 2018



Source: IMA MHSAL 2019

Population Projections

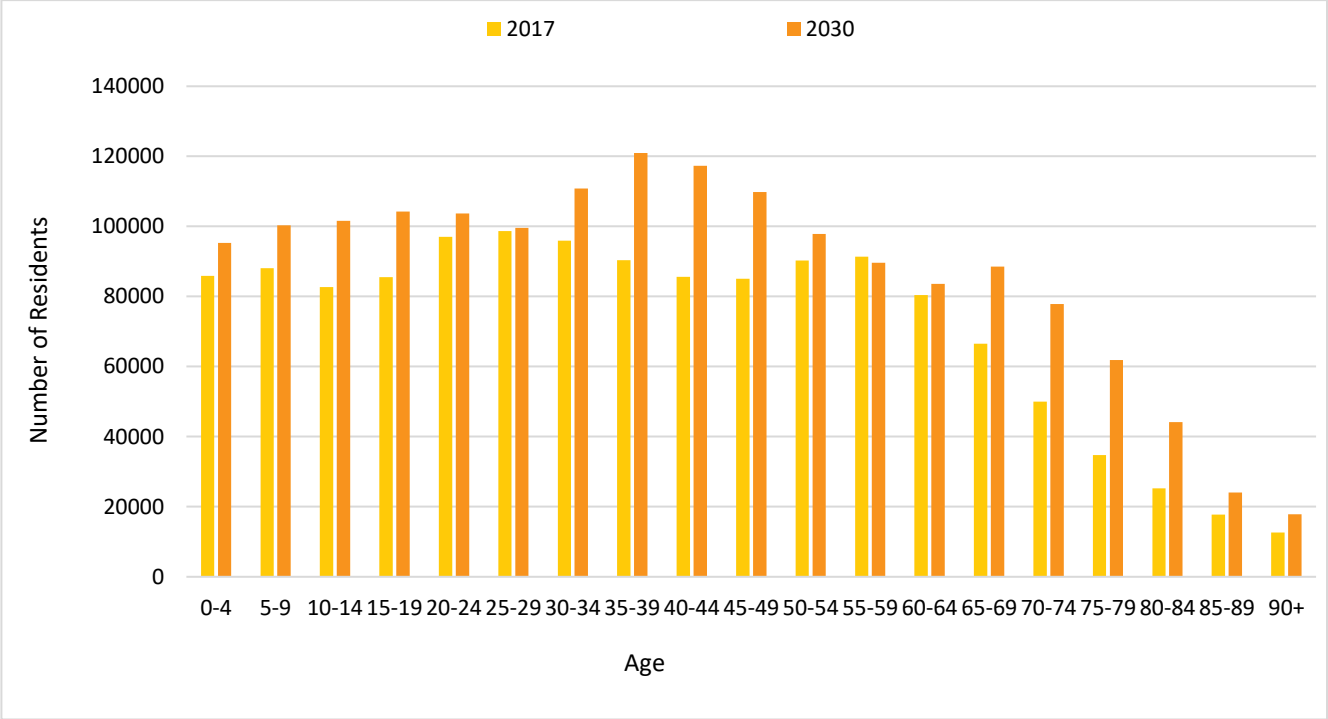
Definition

An estimate of population growth expected by 2030, based on medium forecasts of birth, death and migration rates.

Provincial Key Findings

- Manitoba's total population in 2017 was 1,360,518.
- Manitoba's projected total population by 2030 will be 1,649,070, a 21% increase over the 13-year time period.
- Below the Manitoba population was broke down into five-year age categories, and the most noticeable change among the Manitoba population will be the higher counts of residents 35 to 49 and 65 to 84 years of age.

Figure 10 Manitoba Population Projections, 2017 to 2030

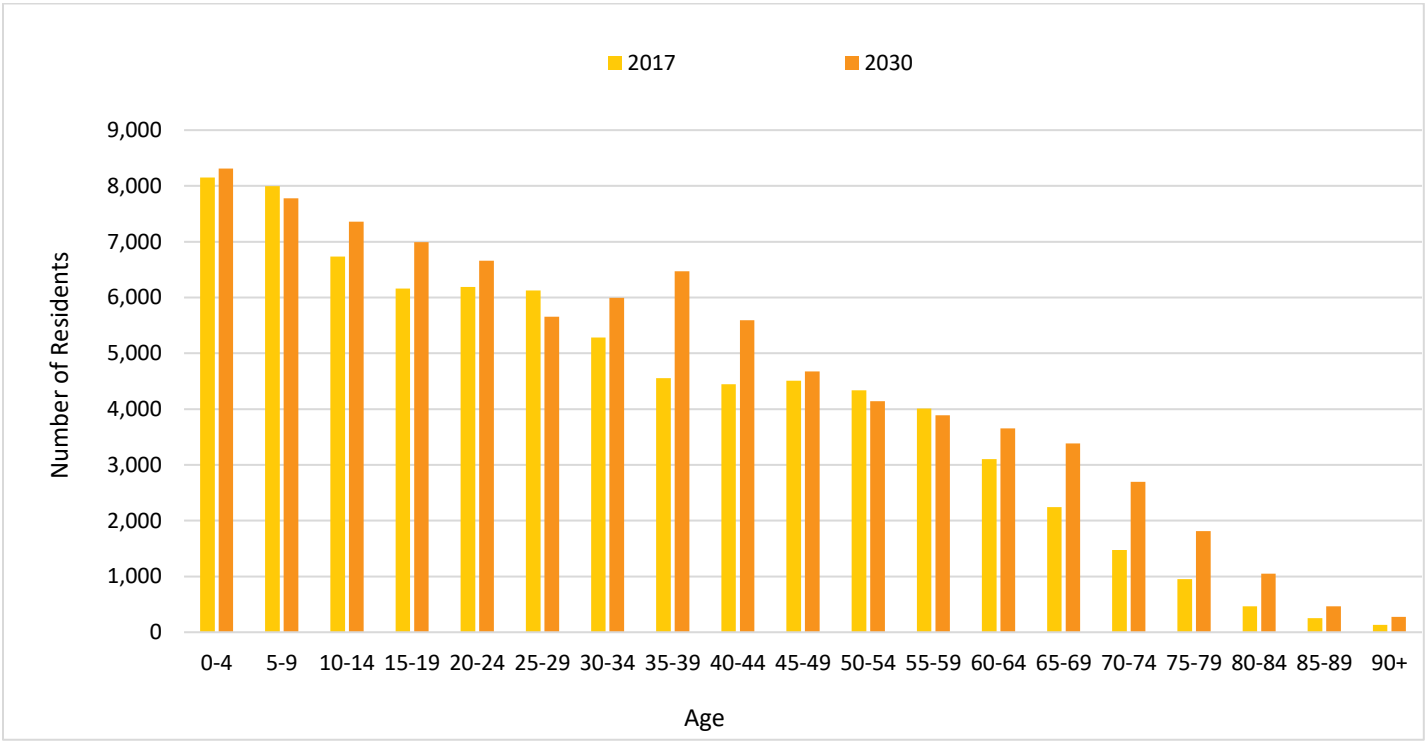


Source: IMA MHSAL 2019

Regional Key Findings

- According to population projections to 2030, the NHR is projected to have a population of 86,870 which represents a total increase of 12.7%.
- The NHR population was broke down into five-year age categories and the most noticeable change among NHR residents will be the higher counts of residents 35 to 44 and 65 to 79 year of age.

Figure 11 Northern Health Region Population Projections, 2017 to 2030



Source: IMA MHSAL 2019

Indigenous Population

Definition

An estimate of the Indigenous population based on self-reported 'Aboriginal identity' which includes persons who are First Nations (North American Indian), Métis or Inuk (Inuit) and/or those who are Registered or Treaty Indians (that is, registered under the Indian Act of Canada), and/or those who have membership in a First Nation or Indian band.

Provincial Key Findings

- Approximately one out five Manitoba residents self-identify as Indigenous.
- Indigenous populations vary across all health regions in Manitoba, with Winnipeg Regional Health Authority having the smallest percentage and NHR having the highest.

Figure 12 Indigenous Population by RHA, 2016

	WRHA	SH-SS	PMH	MB	IERHA	NHR
T1 RATE	12.2%	13.4%	17.5%	18.0%	27.3%	72.6%

Source: Statistics Canada Census 2016

Regional Key Findings

- According to the 2016 Census, a total of 51,620 NHR residents self-identified as Indigenous, which represented 72.6% of all NHR residents.
- Indigenous populations vary between the three NHR zones from 98.3% in zone three, 98.0% in zone two and 47.6% in zone one.

Table 6 Indigenous Population by NHR Zone and District, 2016

	Total Number of Residents	Count of Indigenous Population	Percent of Indigenous Population
Manitoba	**1,240,700**	**223,310**	**18.0%**
NHR	**71,060**	**51,620**	**72.6%**
Zone 1	**35,930**	**17,095**	**47.6%**
Flin,Snow,Cran,Sher	7,175	1,670	23.3%
The Pas/OCN,Kels	10,200	5,860	57.5%
LL/MC,LR,O-P(SIL),PN(GVL)	1,815	1,545	85.1%
Thomp,Myst Lake	13,475	5,870	43.6%
Thick, Pik, Wab, Ilf/WLFN, Corm	1,845	1,420	77.0%
Gillam Fox	1,420	730	51.4%
Zone 2	**26,875**	**26,340**	**98.0%**
GR/Mis,ML/Mos,Eas/Che	3,730	3,625	97.2%
Puk/Mat Col CN	1,855	1,825	98.4%
SayD(TL),Bro/BL,NoL(Lac)	1,675	1,645	98.2%
Nelson House/NCN	2,700	2,530	93.7%
Sham,YorkF,Tat(SPL)	3,125	3,100	99.2%
Bu(OH),MS(GR),GLN/GLFN	3,875	3,825	98.7%
Cross Lake/Pimi CN	4,645	4,615	99.4%
Norway House/NH CN	5,270	5,175	98.2%
Zone 3	**3,715**	**3,650**	**98.3%**
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	8,265	8,175	98.3%

Source: Statistics Canada Census 2016

To learn more about First Nations People's Health in Manitoba visit: http://umanitoba.ca/faculties/health_sciences/medicine/units/chs/departmental_units/mchp/Landing-FNAtlas.html

Visible Minority Population

Definition

An estimate of the visible minority population, defined as persons, other than Indigenous people, who are non-Caucasian in race or non-white in colour.

Provincial Key Findings

- Approximately one out five Manitoba residents self-identify as visible minority.
- Visible minority populations vary across all health regions in Manitoba, with Interlake-Eastern having the lowest population and Winnipeg Regional Health Authority having the highest.

Figure 13 Visible Minority Population by RHA, 2016

	IERHA	NHR	SH-SS	PMH	MB	WRHA
T1 RATE	1.8%	3.2%	3.6%	7.4%	17.5%	27.5%

Source: Statistics Canada Census 2016

Regional Key Findings

- In the 2016 Census, a total of 2,305 NHR residents self-identified as a visible minority.
- Three in 50 residents in the NHR zone one identify as a visible minority. Zone two and three had zero residents self-identify as a visible minority.
- In zone one, visible minority populations were highest in Thompson and Mystery Lake (12.5%) followed by Gilliam and Fox Lake (6.7%), The Pas, Opaskawayak Cree Nation and the RM of Kelsey (2.5%), Flin Flon, Snow Lake, Cranberry Portage and Sherridon/Cold Lake (2.4%) and Lynn Lake, Leaf Rapids, South Indian Lake, O-Pipon-Na Piwin Cree Nation, Granville Lake and Marcel Colomb First Nation and Thichet Portage, Pikwitonei, Wabowden, Ilford, War Lake First Nation and Cormorant were both the lowest (less than 1%).

Table 7 Visible Minority Population by NHR Zone and District, 2016

	Total Number of Residents	Count of People of Visible Minority	Percent of Visible Minority
Manitoba	**1,240,700**	**216,855**	**17.5%**
NHR	**71,065**	**2,305**	**3.2%**
Zone 1	**35,945**	**2,230**	**6.0%**
Flin,Snow,Cran,Sher	7,175	170	2.4%
The Pas/OCN,Kels	10,200	255	2.5%
LL/MC,LR,O-P(SIL),PN(GVL)	1,815	10	0.6%
Thomp,Myst Lake	13,480	1,690	12.5%
Thick, Pik, Wab, Ilf/WLFN, Corm	1,850	10	0.5%
Gillam Fox	1,425	95	6.7%
Zone 2	**26,880**	**75**	**0.0%**
GR/Mis,ML/Mos,Eas/Che	3,730	0	0%
Puk/Mat Col CN	1,855	10	0.5%
SayD(TL),Bro/BL,NoL(Lac)	1,675	10	0.6%
Nelson House/NCN	2,705	10	0.4%
Sham,YorkF,Tat(SPL)	3,130	10	0.3%
Bu(OH),MS(GR),GLN/GLFN	3,875	10	0.3%
Cross Lake/Pimi CN	4,645	10	0.2%
Norway House/NH CN	5,265	15	0.3%
Zone 3	**8,260**	**10**	**0.0%**
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	8,260	10	0.1%

Source: Statistics Canada Census 2016

Language Most Often Spoken at Home

Definition

Languages spoken most often at home within a population. A person can report more than one language if they are spoken equally as often.

Regional Key Findings

- Compared to the rest of Manitoba (83%), the NHR (78%) sees a smaller percentage of residents speaking "English" most often at home.
- 78% of residents in the NHR indicated they speak "English" most often at home followed by 19% who indicated they speak languages other than English and French most often at home. Three percent indicated they speak two languages in the home; one being "English" and a language other than French. Only 1% of the population indicated that they speak "French" most often at home.

Table 8 Language Spoken Most Often at Home by Manitoba and NHR, 2016

	Manitoba		NHR	
	Number	**%**	**Number**	**%**
Detailed language spoken most often at home - Total population excluding residents in institutions	**1,240,705**		**71,065**	
English	1,025,880	83%	55,640	78%
French	16,005	1%	125	0%
Languages other than English or French	135,665	11%	13,235	19%
English and French	3,125	0%	10	0%
English and a language other than French	58,835	5%	1,985	3%
French and a language other than English	430	0%	30	0%
English, French and another language	765	0%	35	0%

Source: Statistics Canada Census 2016

Knowledge of English and French

Definition

Whether the person can conduct a conversation in English only, French only, in both or in neither language.

Regional Key Findings

- According to the 2016 Census data a total of 1,780 NHR residents indicated they have knowledge of "French only or English and French"; this represents 3% of the NHR population.
- Additionally, in the 2016 Census 380 residents indicated they cannot conduct a conversation in English or French; this represents 1% of the NHR population.

Table 9 Knowledge of English and French Languages by NRH Zone, 2016

	Total - Knowledge of English and French in private households - 25% sample data	French Only or English and French		Neither English nor French	
		Number	%	Number	%
Manitoba	**1,240,700**	**108,575**	**9%**	**15,715**	**1%**
NHR	**122,875**	**1,780**	**3%**	**380**	**1%**
Zone 1	9,530	1,670	5%	150	0%
Zone 2	57,125	90	0%	135	1%
Zone 3	20,495	20	0%	95	1%

Source: Statistics Canada Census 2016

Immigrant Status in Private Households

Definition

Immigrant status refers to whether the person is a non-immigrant, an immigrant, or a non-permanent resident and applies to each member of a household.

Regional Key Findings

- 19% of private households in Manitoba had a person with immigrant status. Data was suppressed for the NHR.
- Zone one in the NHR had 6.9% of private households with immigrant status totaling, 2,350 people.
- The district of Thompson and Mystery Lake had the highest with 11.8% of households with immigrant status.

Table 10 Immigrant Status in Private Households by Manitoba and NHR Zones, 2016

	Total - Immigrant status and period of immigration for the population in private households - 25% sample data	Non-immigrants	Immigrants		Non-permanent residents
Manitoba	**11,169,640**	**928,390**	**225,005**	**19.2%**	**16,245**
NHR	**s**	**s**	**s**	**s**	**s**
Zone 1	**34,115**	**31,640**	**2,350**	**6.9%**	**125**
Flin, Snow, Cran, Sher	7,175	6,860	290	4.0%	20
The Pas/OCN, Kels	10,195	9,845	345	3.4%	10
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	s	s	s	s	s
Thompson, Myst Lake	13,480	11,790	1,595	11.8%	95
Thick, Pik, Wab, Ilf/WLFN, Corm	1,845	1,795	50	2.7%	0
Gillam Fox	1,420	1,350	70	4.9%	0
Zone 2	**s**	**s**	**s**	**s**	**s**
Zone 3	**s**	**s**	**s**	**s**	**s**

s – data suppressed

Source: Statistics Canada Census 2016

Immigration by Place of Birth

Definition

This indicator measures any person who has ever been, a landed immigrant or permanent resident by place of birth.

Provincial Key Findings

- Provincially, Asia makes up over 50% of place of birth for immigrants or permanent residents followed by Europe at 25%.
- There is variability and uniqueness among all health regions for immigration by place of birth.

Table 11 Immigration by Place of Birth by RHA, 2016

	Total - Selected places of birth for the immigrant population in private households - 25% sample data	Americas	United States	Europe	Africa	Asia
Manitoba	**225,000**	**14.1%**	**3.1%**	**24.9%**	**7.9%**	**52.9%**
NHR	**s**	**s**	**s**	**s**	**s**	**s**
WRHA	178,100	9.2%	2.3%	21.2%	9.0%	60.4%
PMH	14,085	22.3%	5.5%	30.8%	7.5%	39.2%
IERHA	7,100	22.7%	8.9%	61.3%	2.4%	13.3%
SH-SS	25,705	40.5%	5.3%	37.7%	2.3%	19.3%

s – data suppressed

Source: Statistics Canada Census 2016

Regional Key Findings

- The NHR top place of birth for immigrant or permanent resident data is suppressed. However, the top place of birth for immigrants or permanent residents in the NHR zone one was Asia (51.7%) followed by Europe (24.9%).
- Among all NHR zone one districts, Thompson and Mystery Lake had the highest number of immigrants and permanent residents at 1,595 with 61.8% born in Asia.

Table 12 Immigration by Place of Birth by NHR Zone One, 2016

	Total - Selected places of birth for the immigrant population in private households - 25% sample data	Americas	United States	Europe	Africa	Asia
Manitoba	**224,995**	**14.1%**	**3.1%**	**24.9%**	**7.9%**	**52.9%**
NHR	**s**	**s**	**s**	**s**	**s**	**s**
Zone 1	**2,360**	**13.3%**	**5.7%**	**25.6%**	**7.8%**	**51.7%**
Flin, Snow, Cran, Sher	295	25.4%	15.3%	54.2%	3.4%	16.9%
The Pas/OCN, Kels	345	11.6%	8.7%	31.9%	15.9%	40.6%
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	s	s	s	s	s	s
Thompson, Myst Lake	1,595	11.3%	3.1%	18.5%	7.5%	61.8%
Thick, Pik, Wab, Ilf/WLFN, Corm	50	0%	0%	80.0%	0%	0%
Gillam Fox	75	26.7%	13.3%	0%	0%	60.0%
Zone 2	**s**	**s**	**s**	**s**	**s**	**s**
Zone 3	**s**	**s**	**s**	**s**	**s**	**s**

s – data suppressed

Source: Statistics Canada Census 2016

Lone Parent Families

Definition

The percentage of census families[1] composed of only one parent of any marital status (e.g., divorced, separated, widowed or never-married) living with at least one child in the same dwelling.

Provincial Key Findings

- In Manitoba, there was a total of 58,865 lone parent families, which totals 17% of all private households.
- Southern Health Santé Sud had the lowest percentage of families with only one parent at 10.9% and the NHR had the highest at 31.8%.

Figure 14 Lone Parent Families, Manitoba and RHAs, 2016

	SH-SS	IERHA	PMH	MB	WRHA	NRHA
T1 RATE	10.9%	14.3%	14.8%	17.0%	18.3%	31.8%

Source: Statistics Canada Census 2016

Regional Key Findings

- In the NHR, there was a total of 5,800 lone parent families, which totals 31.8% of all private households.
- Almost half (45.5%) of zone two private households were lone-parent families. Likewise, approximately one out of three (33.1%) private households in zone three were lone-parent families.

[1] ***A census family is defined as "a married couple and the children, if any, of either and/or both spouses; a couple living common law and the children, if any, of either and/or both partners; or a lone parent of any marital status with at least one child living in the same dwelling and that child or those children. All members of a particular census family live in the same dwelling. A couple may be of opposite or same sex. Children may be children by birth, marriage, common-law union or adoption regardless of their age or marital status as long as they live in the dwelling and do not have their own married spouse, common-law partner or child living in the dwelling. Grandchildren living with their grandparent(s) but with no parents present also constitute a census family." (Statistics Canada. 2017. Dictionary, Census of Population, 2016)***

Table 13 Lone Parent Families by NHR Zone, 2016

	Total number of census families in private households - 25% sample data	Total lone-parent families	Percentage
Manitoba	**346,130**	**58,865**	**17.0%**
NHR	**18,245**	**5,800**	**31.8%**
Zone 1	10,050	2,305	22.9%
Zone 2	6,280	2,860	45.5%
Zone 3	1,905	630	33.1%

Source: Statistics Canada Census 2016

Dependency Ratio

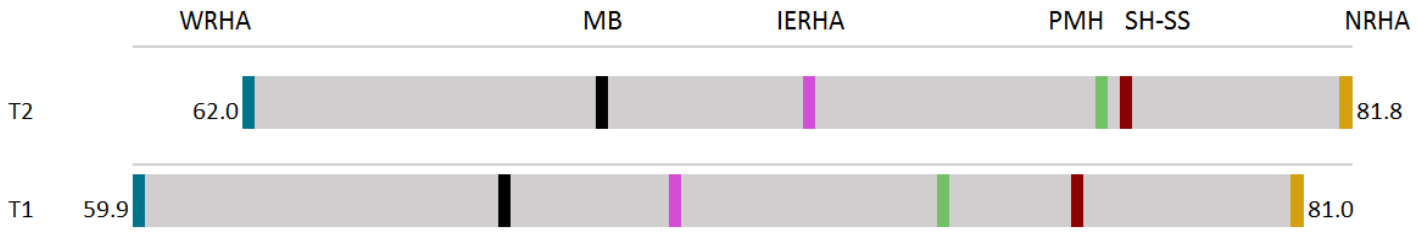
Definition

The ratio of the combined youth population (aged 19 and younger) and elderly population (aged 65 and older) to the working age population (aged 20-64).

Provincial Key Findings

- Those aged 0-19 and 65+ are more likely to socially and/or economically depend on working age residents and these age groups may put additional demands on health services.
- Dependency ratios vary across all health regions, with the provincial average being 68.5%.
- NHR has the highest dependency ratio (81.8%), suggesting there is a smaller percentage of working age residents to support child, youth and senior populations.

Figure 15 Dependency Ratio, by MB and RHA, 2013 (T1) and 2018 (T2)



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA	MB	IERHA	PMH	SH-SS	NRHA
T2 COUNT	295,339	552,950	54,570	74,595	89,385	34,562
T2 RATE	62.0	68.5	72.1	77.5	77.8	81.8
T1 RATE	59.9	66.6	69.8	74.5	77.1	81.0

Source: IMA MHSAL 2019

Regional Key Findings

- NHR's dependency ratio has stayed stable around 81.8% from 2013 to 2018.
- Zone three had the highest dependency ratio in 2018 at 110.0% and zone one had the lowest dependency ratio at 68.1%.
- The 2018 dependency ratios range within the districts ranges from 62.6% in Thompson and Mystery Lake to 111.9% in Pukatawagan and Mathias Colomb Cree Nation.
- All districts have more children and youth dependents than elderly dependents.

Table 14 Dependency Ratio by NHR Zone and District, 2013 (T1) and 2018 (T2)

	Total - Age groups of the population in private households in T2	Number age 0-19 and age 65+ in T2	Percentage in T2	Percentage in T1
Manitoba	**807,568**	**552,950**	**68.5%**	**66.6%**
NHR	**42,247**	**34,562**	**81.8%**	**81.0%**
Zone 1	**15,750**	**23,118**	**68.1%**	**65.0%**
Gillam Fox	552	881	62.7%	66.4%
Flin, Snow, Cran, Sher	4,721	6,431	73.4%	71.7%
Thompson, Myst Lake	5,741	9,166	62.6%	57.7%
The Pas/OCN, Kels	2,989	4,716	63.4%	57.9%
Thick, Pik, Wab, Ilf/WLFN, Corm	557	665	83.8%	85.3%
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	1,190	1,259	94.5%	99.2%
Zone 2	**14,152**	**14,893**	**95.0%**	**99.4%**
SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	709	893	79.4%	83.3%
Cross Lake/Cross Lake FN	2,601	2,697	96.4%	97.6%
GR/MisCN, ML/MosCN, Eas/CheCN	2,102	2,073	101.4%	105.7%
Norway House/NH CN	2,666	3,080	86.6%	83.0%
Bu(OH)CN, MS(GR)CN, GLN/GLFN	2,090	2,164	96.6%	104.9%
Nelson House/NCN	1,269	1,354	93.7%	108.1%
Puk/Mat Col CN	1,007	900	111.9%	125.5%
Sham, YorkFN, TatCN(SPL)	1,732	1,708	98.6%	106.7%
Zone 3	**4,660**	**4,236**	**110.0%**	**112.9%**
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	4,660	4,236	110.0%	112.9%

Source: IMA MHSAL 2019

A CLOSER LOOK…NORTHERN HEALTH REGION

CHAPTER TWO: WHAT KEEPS US HEALTHY?

Chapter Two Table of Contents

Chapter Two Tables and Figures

At a Glance: What Keeps us Healthy?

Unemployment Rate

14.2% 6.8%

Education – no certificate, diploma, or degree

44.6% 22.0%

Inadequate Prenatal Care

27.8% 10.3%

Substance Use Disorder

10.8% 5.9%

Very or Somewhat Strong Community Belonging

72.9% 68.9%

Chapter Two Key Findings

Social Determinants of Health in Northern Health Region

- The NHR social deprivation index was the highest (best) in the province and it improved from -0.52 to -0.60.
- The NHR experienced a shift in a negative direction on the materials deprivation index with more residents who had worse status from 1.2 to 1.4 and it was the lowest (worst) in the province.
- The median after-tax income of one person households in the NHR is $37,374, which is above the provincial average; whereas the NHR median after-tax income of two person households is $68,394, which is below the provincial average.
- Within the NHR, it is estimated that 17% of all households are considered to be low-income based on the low income measure after tax. This is higher than the provincial average of 15%.
- NHR residents reported the same prevalence of food insecurity as Manitoba at 9%.
- In the NHR, 22% of tenant households spend more than 30 percent of household income on shelter costs, while only 6% of owner households spend more than 30 percent of household income on shelter costs.
- In the NHR, educational attainment ranged from 44.6% with no certificate, diploma or degree, 23.4% with secondary (high) school diploma or equivalency certificate, to 32% with post-secondary certificate, diploma or degree.
- A total of 28,045 residents in NHR were in the labour force, which represents 56.7% of the NHR population aged 15 years and older.
- Rates of unemployment in NHR are the highest in the province at 14.2% with 3,975 residents unemployed.
- The top three industry sectors in the NHR include sales and service; the second is education, law and social, community and government service; and the last is trades, transport, equipment operators, and related occupations.
- Overall, NHR work stress was comparable to other regional and provincial findings with 25.1% of residents who reported perceived work stress as not very or not at all stressful.

Healthy Child Development

- Approximately 3 out of 10 women in NHR received inadequate prenatal care.
- In the NHR 10% of all live births were infants born preterm.
- NHR rates for small for gestational age have remained stable over time at 6.6%.
- Rates for large for gestational age have decreased significantly from 19.1% down to 16.7% in the NHR.
- Breastfeeding initiation rates vary considerably between zones and districts, with the highest rate in zone one at 84.0% and the lowest at 49.6% in zone three.
- Between the ages of 0 to 17, 27.1% of children live in low income households in the NHR.
- Family First screening data indicates maternal alcohol use and smoking during pregnancy, and mother with less than grade 12 education declined between time periods.

- In the NHR, the percentage of kindergarten children that were vulnerable or struggling in all five domains of the early development instrument (i.e. physical health and well-being; social competence; emotional maturity; language thinking and communication skills; and general knowledge) decreased over the two time periods.
- NHR children under the age of six had a dental extraction surgery rate of 66.1 per 1,000; significantly higher than the Manitoba average.
- Among youth ages 17 years living in the NHR, 71.9% received all recommended doses for diphtheria and tetanus, 70.2% received all recommended doses for pertussis, 88.6% received all recommended doses for measles and 88.2% received all recommended doses for measles, 96.6% received all recommended doses for rubella, and 66.9% of female youth aged 17 years received all recommended doses for HPV.
- The NHR teen pregnancy rate has significantly decreased over time from 127.8 to 100.5 per 1,000 females aged 15 to 19.

Personal Health Determinants

- 18% of NHR respondents reported their general health was excellent, 31.6% as very good, 36.5% as good and 13.8% as poor or fair.
- 31% of NHR respondents reported their mental health was excellent, 35.2% as very good, 23.9% as good and 7.6% as poor or fair.
- 40.4% of NHR respondents responded most days life was not at all or not very stressful, 41.3% as a bit stressful and 18.9% as quite a bit or extremely stressful.
- Within the NHR 20.9% of respondents reported that their sense of community belonging was very strong, 48% as somewhat strong and 26.5% as somewhat/very weak.
- 54.5% of NHR residents indicated they to improve their health.
- One in ten NHR residents aged 18 and older were diagnosed with a substance use disorder over the reported five years time period.
- The most common reported method of drug use was smoking at 33.2%
- 34.6% of NHR respondents reported being a regular drinker, 32.6% as an occasional drinker and 31.2% reported they had no drinks in one year.
- The NHR had a significantly higher rate of current smoker at 26.7% and a significantly lower rate of lifetime abstainer at 34.4%, compared to the rest of Manitoba.
- The NHR had the highest reported rates for second hand smoke exposure in the home, 14.7%, in the vehicle, 11.2%, and public places, 13.8%.
- 53.3% of NHR residents reported being physically active.
- 42.5% of NHR residents reported they never required help with activities of daily living.
- Among the health regions, NHR is very close to the provincial average with 25.7% of respondents who reported they consumed five or more servings of fruit and vegetables per day.
- Within the NHR, about on third of residents report being obese, one third being overweight and one third being under or normal weight.
- 50% of residents report 6-7 hours of sleep and 26.7% report 8-9 hours of sleep in 24 hours.
- Over 70% of NHR respondents reported they never use a cell phone while driving; 8% reported they often/sometimes use a cell phone while driving.
- NHR respondents were more likely to report wearing a helmet while using an all terrain vehicle often/mostly, 55.0%, and less likely to report rarely/never, 31.9%, wearing a helmet.

Use of Preventative Services

- There was varying uptake of the influenza vaccine for residents 65 plus across NHR zones. Zone one had the highest uptake at 48.2%, zone three at 44.7% and zone two at 28.1%.
- 58.8% of NHR residents aged 65 and older received the immunization for pneumonia.
- Colorectal screening increased in NHR residents from 19.4% to 21.2%.
- 51.1% of eligible women in the NHR received a mammography and 55.1% of eligible women participated in cervical cancer screening.
- Over three quarters of NHR respondents reported having dental insurance.
- In the NHR, 40.3% of respondents reported one dental visit and 59.4% reported two or more visits; almost the same as the provincial rates.

What Influences How Healthy our Population is?

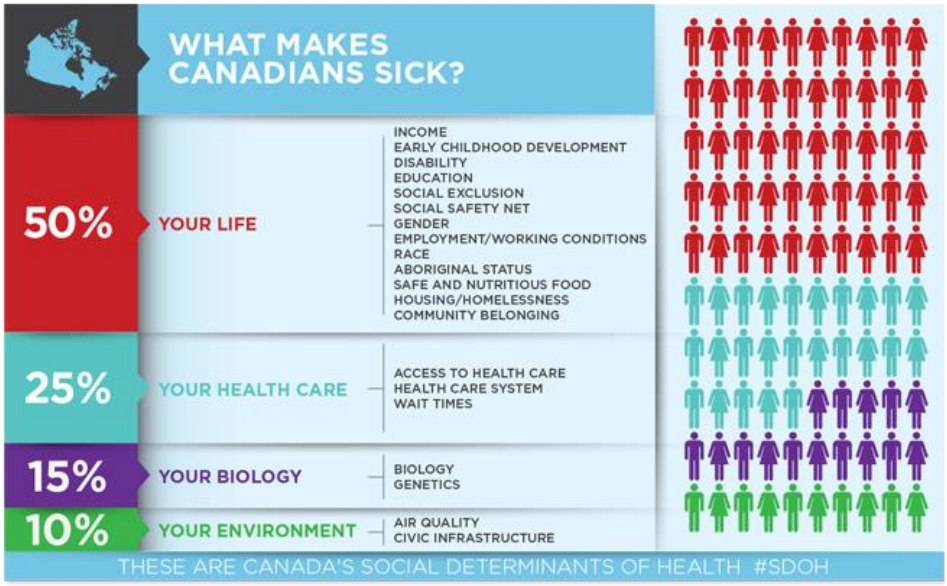
This chapter presents information regarding the social determinants of health and health status measures by geographic area in order to provide a comprehensive picture of the health of residents of the Northern Health Region.

Interactions between the determinants of health result in differences in health status between individuals living in different geographic areas of the region and the province. Wherever possible, the report presents the health status of the population overall, and identifies population groups that experience poorer health outcomes. These comparisons are essential to assess whether gaps are widening or narrowing among population groups (based on income and geographic location). Future planning efforts must take these health gaps into consideration to improve overall population health outcomes.

According to the Canadian Medical Association (CMA), social determinants of health "are systematic social and economic conditions that influence a person's health. They include income, housing, education, gender and race, and have a greater impact on individual and population health than biological and environmental conditions. Their impact can be even greater than that of the health care system itself."[i] In 2013, the CMA published the results of the National Dialogue on Health Care Transformation.[ii] The dialogue took place online as well as in six town halls conducted across the country. Participants identified four social determinants of health (income, housing, nutrition and food security, and early childhood development) as having equal, if not more important, roles in determining health than the healthcare system. Other social determinants of health that were mentioned by participants as being important to health included: culture, the environment, education and health literacy.[ii]

As participants in the National Dialogue on Health Care Transformation expressed, some determinants of health impact an individual's health more than others (see Figure 1). According to the CMA, about 50 percent of an individual's health is determined by their life experiences (e.g., income, early childhood development, disability, etc.). Only 25 percent of an individual's health is determined by the health care they receive (e.g., access to health care, the healthcare system, wait times, etc.) and 15 percent is determined by an individual's biology (e.g., genetics). Finally, the environment determines about ten percent of an individual's health (e.g., air quality, civic infrastructure, etc.).

Figure 1 Social Determinants of Health



Canadian Medical Association, n.d., cited in South East Local Health Integration Network, 2014.[1]

In an attempt to answer the question of what keeps Northern Health Region residents healthy, this chapter will look at indicators related to:

- Income;
- Food Security;
- Employment/Working Conditions;
- Personal Health Determinants;
- Use of Preventive Services
- Housing;
- Education;
- Healthy Child Development;
- Health Behaviours; and

The indicators in this chapter relate to the social determinants of health. However, while all determinants of health are important, data are not currently available for all social determinants at the provincial and regional levels. Not all determinants of health can be reasonably addressed by the Region (e.g., determinants related to biology and genetics). It is also important to note that all factors that affect a person's health cannot be addressed solely by the healthcare system.

Note: The Statistics Canada Canadian Community Health Survey does not include zone or district data.

[1] Social Determinants of Health Infographic Accessed November 29, 2019. http://www.southeastlhin.on.ca/Priorities/Planning/HealthLinks/HealthLinkCareCoordinationLearningProgram/ServingVulnerablePopulations/SVP102/SVP102-page2.aspx

Social Determinants of Health

Social Deprivation Index

Definition

A composite score which includes the proportion of the population, aged 15 years and older, who are separated, divorced, or widowed, the proportion of the population that lives alone, and the proportion of the population that has moved at least once in the past five years.

Why is this indicator important?

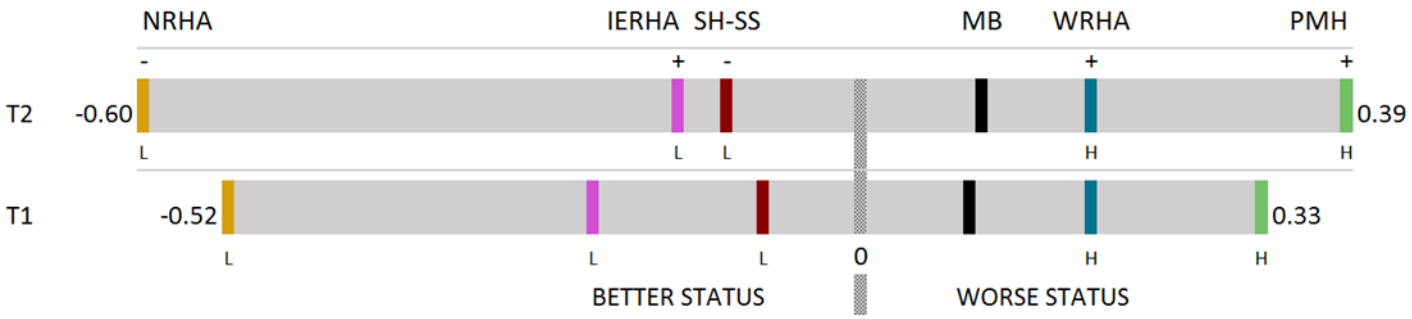
It reflects the status of relationships among individuals in the family, workplace, and the community. Scores on these indices range from -5 to +5; lower scores indicate better status or less deprivation, while higher scores indicate worse status or more deprivation.

Provincial Key Findings

- The provincial Manitoba social deprivation index has remained stable during both 2011 and 2012, showing no significant increases or decreases.
- Findings suggest that those living in NHR, Interlake Eastern, and Southern Health Santé Sud have a better relationship in the family, workplace, and community based on their scores falling below zero.
- Both Prairie Mountain and Winnipeg RHA were found to have the worst social deprivation scores.

Figure 2 Mean Social Deprivation by RHA, Canadian Census 2011 (T1) and 2016 (T2)

Score on MCHP's Social Deprivation Index. Lower values indicate better status



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		IERHA		SH-SS		MB		WRHA		PMH	
T2 COUNT	77,068		128,240		198,809		1,351,359		770,185		170,521	
T2 RATE	-0.60	L-	-0.15	L+	-0.11	L-	0.09	+	0.19	H+	0.39	H+
T1 RATE	-0.52	L	-0.22	L	-0.08	L	0.08		0.18	H	0.33	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The NHR social deprivation significantly improved from -0.52 to -0.60 from 2011 to 2016.
- In all districts except Flin Flon, Snow Lake, Cranberry Portage and Sherridon/Cold Lake the social deprivation scores were lower than the Manitoba scores. This indicates that the residents in the NHR had a better status in regards to better relationship in the family, workplace, and community than the provincial average.

Table 1 Social Deprivation Index by NHR District, 2011 (T1) and 2016 (T2)

Lower values indicate better status

	2016		2011
Manitoba	**0.09**		**0.08**
NHR	**-0.60**	**L-**	**-0.52**
Zone 1			
Thompson,Myst Lake	-0.20	L	-0.20
The Pas/OCN,Kels	0.03	L+	-0.02
Flin,Snow,Cran,Sher	0.30	H+	0.33
Gillam, Fox Lake CN	-0.99	L-	-0.66
Thick, Pik, Wab, Ilf/WLFN, Corm	-0.91	L-	-0.48
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	-0.35	L-	-0.30
Zone 2			
Nelson House/NCN	-1.17	L+	-1.23
GR/MisCN, ML/MosCN, Eas/CheCN	-1.13	L+	-1.19
Norway House/NH CN	-1.17	L-	-0.41
Cross Lake/Cross Lake FN	-1.65	L-	-1.23
SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	-0.95	L+	-1.11
Sham, YorkFN, TatCN(SPL)	-1.42	L-	-1.28
Bu(OH)CN, MS(GR)CN, GLN/GLFN	-0.69	L+	-0.86
Puk/Mat Col CN	-1.00	L+	-1.04
Zone 3			
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	-0.87	L+	-0.96

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Material Deprivation Index

Definition

A composite score which includes average household income, unemployment rate for ages 15 years and older, and proportion of the population aged 15 and older without high school graduation.

Why is this indicator important?

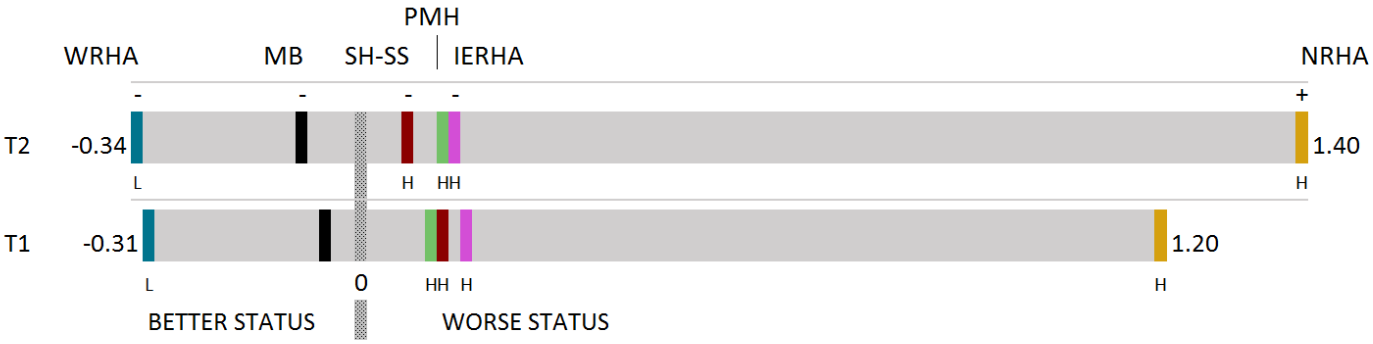
It reflects the status of wealth, goods and conveniences. Scores on these indices range from -5 to +5; lower scores indicate better status or less deprivation, while higher scores indicate worse status or more deprivation.

Provincial Key Findings

- Provincially, Manitoba has experienced a shift in a positive direction with more residents having better status and less material deprivation.
- The only region, who falls below "0" for having better material index score is Winnipeg RHA, this may be driven by higher incomes or more employment opportunities.
- Southern Health Santé Sud, Prairie Mountain Health, Interlake-Eastern and NHR had material deprivation indexes that were significantly higher or worse than the provincial average.
- These regions found to have "worse status" may experience less job opportunities for salary increases, fewer employment opportunities and a have a higher proportion of residents who did not complete high school.

Figure 3 Mean Material Deprivation Index by RHA, Canadian Census 2011 (T1) and 2016 (T2)

Score on MCHP's Material Deprivation Index. Lower values indicate better status



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		MB		SH-SS		PMH		IERHA		NHR	
T2 POP	770,185		1,351,359		198,809		170,521		128,240		77,068	
T2 RATE	-0.34	L-	-0.07	-	0.08	H-	0.14	H	0.14	H-	1.40	H+
T1 RATE	-0.31	L	-0.05		0.14	H	0.13	H	0.17	H	1.20	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The NHR experienced a shift in a negative direction on the materials deprivation index with more residents who had worse status from 1.2 to 1.4 from 2011 to 2016.
- Thompson, LGD of Mystery Lake and Gillam and Fox Lake Cree Nation had material deprivation index scores that were significantly lower than the provincial average; this means they had less material deprivation.
- The Pas, Opaskawayak Cree Nation and the RM of Kelsey had slightly higher material deprivation index scores than the province and all the other districts had material deprivation index scores that were significantly higher than the Manitoba average; this means they had more material deprivation.

Table 2 Material Deprivation Index by NHR District, Canadian Census 2011 (T1) and 2016 (T2)

	T2		T1
Manitoba	**-0.07**	**-**	**-0.05**
NHR	**1.4**	**H+**	**1.2**
Zone 1			
Thompson,Myst Lake	-0.01	L+	-0.21
The Pas/OCN,Kels	-0.08	+	0.16
Flin,Snow,Cran,Sher	0.03	H+	-0.1
Gillam, Fox Lake CN	-0.01	L+	-1.06
Thick, Pik, Wab, Ilf/WLFN, Corm	1.65	H+	1.35
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	1.23	H+	1.18
Zone 2			
Nelson House/NCN	2.86	H+	2.63
GR/MisCN, ML/MosCN, Eas/CheCN	2.77	H-	3.27
Norway House/NH CN	2.09	H+	1.23
Cross Lake/Cross Lake FN	3.27	H-	2.65
SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	3.17	H-	3.38
Sham, YorkFN, TatCN(SPL)	3.59	H+	3.08
Bu(OH)CN, MS(GR)CN, GLN/GLFN	2.37	H+	1.89
Puk/Mat Col CN	2.47	H-	2.78
Zone 3			
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	2.54	H-	2.59

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Income and Social Status

Median Household Income—After-Tax

Definition

The median combined total income (after-tax, post transfer) of all members of household, aged 15 years and older, who reported income. Median household income is the amount which divides income size distribution, ranked by size of income, into two halves. That is, the incomes of the first half of the households are below the median, while those of the second half are above the median.

Why is this indicator important?

Median household income is an important measure of income inequality that exists in communities. It is an effective measure because health regions with smaller differences between the top and bottom ends generally experience better health status than those with more disparate incomes.

Provincial Key Findings

- Median household income (after tax) in Manitoba is $59,093.
- Median household income ranges among all health regions, with Prairie Mountain having the lowest at $54,014 and Interlake-Eastern the highest at $61,555.
- All regions have experienced increased median household incomes since the 2011 Census.

Figure 4 Median Household Income (after-tax, post transfer), 2015

	PMH	MB	WRHA	NHR	SH-SS	IERHA
T1 INCOME	$54,014	$59,093	$59,510	$60,308	$60,802	$61,155

Source: Statistics Canada Census 2016

Regional Key Findings

- In the NHR overall, the median after-tax income of one-person households ($37,374) was above the provincial average ($31,538) whereas the NHR median after-tax income of two-person households ($68,394) was below the provincial average ($72,688) in 2015.
- There was variability in the median household incomes between NHR districts; generally, the highest median after-tax income are in zone one followed by zone two and zone three.

Table 3 Median Household Income (After-Tax), by NHR District, 2015

	Median after-tax income of households in 2015 ($)	Median after-tax income of one-person households in 2015 ($)	Median after-tax income of two-or-more person households in 2015 ($)
Manitoba	**$59,093**	**$31,538**	**$72,688**
NHR	**$60,308**	**$37,374**	**$68,394**
Zone 1			
Flin, Snow, Cran, Sher	$67,106	$39,199	$85,280
The Pas/OCN, Kels	$66,586	$34,810	$78,322
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	$52,686	$23,350	$55,390
Thompson, Myst Lake	$79,134	$47,111	$91,998
Thick, Pik, Wab, Ilf/WLFN, Corm	$64,366	$28,165	$70,812
Gillam Fox	$106,113	$53,589	$119,417
Zone 2			
GR/MisCN, ML/MosCN, Eas/CheCN	$41,968	$18,463	$43,941
Puk/Mat Col CN	$34,656	$22,208	$37,824
SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	$33,408	$17,178	$37,888
Nelson House/NCN	$53,382	$46,161	$53,690
Sham, YorkFN, TatCN(SPL)	$55,339	$54,400	$55,381
Bu(OH)CN, MS(GR)CN, GLN/GLFN	$35,114	$17,888	$36,977
Cross Lake/Cross Lake FN	$45,816	$20,913	$50,186
Norway House/NH CN	$46,785	$23,631	$48,903
Zone 3			
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	$38,997	$17,248	$41,067

Source: Statistics Canada Census 2016

Low Income Measure – After-Tax (LIM-AT)

Definition

In Canada, it is set at 50% of the median income after tax, adjusted for family size and composition.

Why is this indicator important?

It is used internationally as a relative measure of poverty.

Provincial Key Findings

- The overall prevalence of low income among the Manitoba population is 15%.
- Low income measure remains relatively consistent among all five health regions, with Interlake-Eastern having the lowest prevalence and Prairie Mountain having the highest.

Figure 5 Prevalence of low income based on the Low-income measure, after tax (LIM-AT) (%), 2015

	IERHA	SH-SS	MB	WRHA	NHR	PMH
LIM-AT	12%	15%	15%	16%	17%	17%

Source: Statistics Canada Census 2016

Regional Key Findings

- Households are considered to be “low income” when the income of the household falls below the threshold applicable to the household size.
- Within the NHR in 2015, it was estimated that 17% of all households are considered to be low-income based on the LIM-AT; this was higher than the provincial average of 15%.
- Within the NHR, the largest percentage of low income households includes those with children zero to five years of age.
- There are four NHR districts where the prevalence of low income households was 50% or greater; this is more than three times the provincial average.
- Generally, districts in zone two and three have the highest prevalence of low income households in all age categories.

Table 4 Prevalence of low income based on the Low-income measure, after tax (LIM-AT), by NHR District

	Prevalence of low income based on the Low-income measure, after tax (LIM-AT) (%)	0 to 17 years	0 to 5 years	18 to 64 years	65 years and over
Manitoba	**15%**	**22%**	**25%**	**13%**	**14%**
NHR	**17%**	**27%**	**30%**	**13%**	**12%**
Zone 1					
Flin, Snow, Cran, Sher	12%	21%	23%	11%	7%
The Pas/OCN, Kels	14%	25%	30%	10%	10%
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	41%	68%	61%	26%	38%
Thompson, Myst Lake	14%	21%	24%	10%	15%
Thick, Pik, Wab, Ilf/WLFN, Corm	26%	43%	52%	20%	13%
Gillam Fox	7%	5%	8%	7%	22%
Zone 2					
GR/MisCN, ML/MosCN, Eas/CheCN	40%	53%	39%	33%	40%
Puk/Mat Col CN	67%	80%	67%	60%	0%
SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	42%	53%	50%	33%	67%
Nelson House/NCN	8%	0%	0%	21%	0%
Sham, YorkFN, TatCN(SPL)	46%	80%	100%	43%	0%
Bu(OH)CN, MS(GR)CN, GLN/GLFN	56%	64%	63%	48%	43%
Cross Lake/Cross Lake FN	50%	74%	75%	36%	0%
Norway House/NH CN	35%	35%	56%	32%	50%
Zone 3					
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	64%	70%	64%	54%	100%

Source: Statistics Canada Census 2016

Household Food Insecurity

Definition

The proportion of the population who reported being unable to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so.

Why is this indicator important?

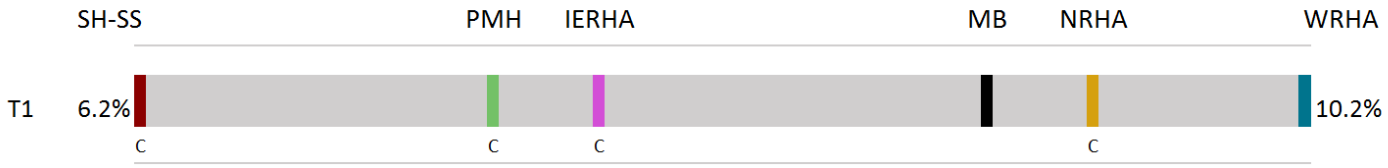
It is an important health equity indicator because it is often associated with a household's financial ability to access food.

Regional Key Findings

- In 2015-2016 the NHR had essentially the same prevalence of food insecurity at 9.4% compared to Manitoba at 9.1%. NHR percentage to be used with caution due to sample size. In addition, Statistics Canada Canadian Community Health Survey data does not include people living on reserve land.

Figure 6 Reported being 'Moderately/Severely Food Insecure'

Age and sex adjusted proportion (%) of weighted sample CCHS 2015-2016



H/L Significantly higher or lower than the MB average for that time period C – estimate displayed with caution

	SH-SS		PMH		IERHA		MB		NHR		WRHA	
T1 RATE	6.2%	C	7.4%	C	7.8%	C	9.1%		9.4%	C	10.2%	

Source: Statistics Canada CCHS 2015-2016

Housing Affordability

Definition

The percentage of people in households that spend 30 percent or more of total household income on shelter expenses (e.g., electricity, water, municipal services, rent, monthly mortgage payments, property taxes, condo fees).

Why is this indicator important?

Housing is a critical component of a person's environment. Living in poor housing conditions has been linked to respiratory conditions, lead poisoning, injuries and decreased mental health.

Provincial Key Findings

- In Manitoba, tenant households are more likely to spend 30% or more of household income on shelter compared to owner households.
- There is a larger percentage of the population in Winnipeg RHA spending more on shelter expenses compared to the other health regions.

Table 5 Housing Affordability by RHA, 2016

Percent of Households Spending 30% or more of the Household's Income on Shelter Costs

	Tenant Households	Owner Households
Manitoba	**37%**	**11%**
NHR	**22%**	**6%**
WRHA	40%	12%
PMH	30%	10%
IERHA	32%	11%
SH-SS	34%	11%

Source: Statistics Canada Census 2016

Regional Key Findings

- In the NHR, 22% of tenant households spend more than 30 percent of household income on shelter costs, while 6% of owner households spend more than 30 percent of household income on shelter costs.
- In zone two and zone three, most of the residents do not spend any income on shelter costs according to the Statistics Canada Census.

Table 6 Housing Affordability by NHR, 2016

Percent of Households Spending 30% or more of the Household's Income on Shelter Costs

	Tenant Households	Owner Households
Manitoba	**37%**	**11%**
NHR	**22%**	**6%**
Zone 1		
Flin, Snow, Cran, Sher	25%	7%
The Pas/OCN, Kels	25%	6%
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	0%	22%
Thompson, Myst Lake	25%	4%
Thick, Pik, Wab, Ilf/WLFN, Corm	26%	3%
Gillam Fox	5%	0%
Zone 2		
GR/MisCN, ML/MosCN, Eas/CheCN	0%	0%
Puk/Mat Col CN	0%	0%
SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	0%	0%
Nelson House/NCN	0%	0%
Sham, YorkFN, TatCN(SPL)	0%	0%
Bu(OH)CN, MS(GR)CN, GLN/GLFN	0%	0%
Cross Lake/Cross Lake FN	0%	0%
Norway House/NH CN	36%	0%
Zone 3		
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	0%	0%

Source: Statistics Canada Census 2016

Education

Educational Attainment

Definition

The proportion of the population, aged 15 years and older, by the highest level of education attained.

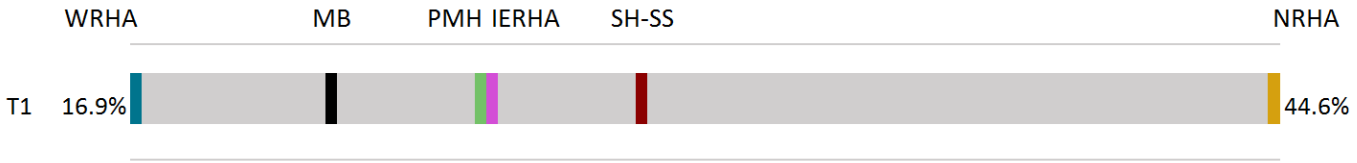
Why is this indicator important?

Educational attainment is widely acknowledged as a key component of socioeconomic status and is positively associated with health. Higher levels of education improve ability to access and understand information to stay healthy. Understanding levels of education is important for health planning.

Provincial Key Findings

- According to 2016 Census data, 22% of Manitoba residents have no certificate, diploma or degree.
- The proportion of the population with no certificate, diploma or degree varies among health regions, with NHR having the highest and Winnipeg RHA having the lowest.

Figure 7 Percentage of Population Aged 15+ with No Certificate, Diploma or Degree



	WRHA	MB	PMH	IERHA	SH-SS	NHR
T1 RATE	16.9%	22.0%	25.7%	25.7%	29.4%	44.6%

Source: Statistics Canada Census 2016

Regional Key Findings

- A total of 44.6% (22,035) NHR residents age 15 and over do not have a certificate, diploma or degree.
- Of the 22,035 residents males make up the larger percentage, 47.4% (11,780) compared with 41.8% (10,255) of females.
- In the NHR zone one, 29.4% of NHR residents age 15 and over do not have a certificate, diploma or degree whereas in zone three, 69.3% of NHR residents 15 and over do not have a certificate, diploma or degree.
- 23.3% of residents age 15 and over in Flin Flon, Snow Lake, Cranberry Portage, and Sherridon/Cold Lake do not have a certificate, diploma or degree whereas 70.2% of residents age 15 and over in Bunibonibee (Oxford House) Cree Nation, Manto Sipi (God's River) Cree Nation, God's Lake First Nation, God's Lake Narrows and Oxford House do not have a certificate, diploma or degree.
- According to the 2016 census, educational attainment in the NHR ranges from 44.6% without a certificate, diploma or degree to 0.8% with a university certificate or diploma above bachelor level.

Table 7 Percentage of Population Aged 15+ with No Certificate, Diploma or Degree, by NHR District

	Count	Prevalence with no Certificate, Diploma or Degree
Manitoba	**220,395**	**22.0%**
NHR	**22,035**	**44.6%**
Zone 1	**8,025**	**29.4%**
Flin, Snow, Cran, Sher	1,400	23.3%
The Pas/OCN, Kels	2,245	29.2%
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	640	51.8%
Thompson, Myst Lake	2,835	28.3%
Thick, Pik, Wab, Ilf/WLFN, Corm	565	41.9%
Gillam Fox	340	33.2%
Zone 2	**10,595**	**61.8%**
GR/MisCN, ML/MosCN, Eas/CheCN	1,390	60.3%
Puk/Mat Col CN	770	68.1%
SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	725	63.0%
Nelson House/NCN	1,075	58.9%
Sham, YorkFN, TatCN(SPL)	1,300	69.7%
Bu(OH)CN, MS(GR)CN, GLN/GLFN	1,730	70.2%
Cross Lake/Cross Lake FN	1,685	56.7%
Norway House/NH CN	1,920	55.7%
Zone 3	**3,415**	**69.3%**
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	3,415	69.3%

Source: Statistics Canada Census 2016

Table 8 Educational Attainment by Manitoba and NHR

	MB	NHR
No certificate, diploma or degree	**22.0%**	**44.6%**
Secondary (high) school diploma or equivalency certificate	**29.6%**	**23.4%**
Postsecondary certificate, diploma or degree	**48.4%**	**32.0%**
Apprenticeship or trades certificate or diploma	7.7%	7.5%
College, CEGEP or other non-university certificate or diploma	17.7%	12.7%
University certificate or diploma below bachelor level	2.9%	2.6%
University certificate, diploma or degree at bachelor level or above	20.1%	9.3%
Bachelor's degree	14.4%	7.1%
University certificate or diploma above bachelor level	1.6%	0.8%

Source: Statistics Canada Census 2016

Employment and Working Conditions

Labour Force Participation

Definition

The percentage of the population, aged 15 years and older, who reported being in the labour force.

Why is this indicator important?

Those that are employed generally have higher levels of social inclusion, as they feel they are contributing to the overall well-being of the community around them.

Regional Key Findings

- Labour force participation varies between health regions, with the lowest being in NHR and the highest in Southern Health-Sante Sud.
- Based on the 2016 Census, a total of 28,045 residents in NHR were in the labour force, which represents 56.7% of the NHR population aged 15 years and older.

Table 9 Labour Force Participation, RHA Findings

	Total - Population aged 15 years and over by labour force status - 25% sample data	Number in the labour force	Labour force participation rate
Manitoba	**1,001,300**	**662,150**	**66.1%**
NHR	**49,430**	**28,045**	**56.7%**
WRHA	584,490	392,120	67.1%
PMH	127,385	84,155	66.1%
IERHA	100,485	62,670	62.4%
SH-SS	139,510	95,160	68.2%

Source: Statistics Canada Census 2016

Unemployment Rates

Definition

The percentage of the population, aged 15 years and older, who reported being unemployed expressed as a percentage of the labour force.

Why is this indicator important?

Unemployment is a significant risk factor for poor physical and mental health and therefore a major determinant of health inequality. It may be associated with increasingly difficult living conditions, low socioeconomic status and health and social problems.

Regional Key Findings

- Based on 2016 Census, 6.7% of the Manitoba population was unemployed.
- Rates of unemployment in NHR were the highest in the province at 14.2% with 3,975 unemployed.
- NHR unemployment rates were higher for males (16.3%) than for females (11.8%).

Figure 8 Unemployment Rate, 2016

Percentage of the labour force aged 15+ identified as unemployed in the first week of May 2016

	SH-SS	WRHA	PMH	MB	IERHA	NHR
T1 RATE	5.3%	6.5%	6.6%	6.8%	7.5%	14.2%

Source: Statistics Canada Census 2016

Table 10 Number in Labour Force, Number Unemployed, Unemployment Rate

	Number in the labour force	Number unemployed	Unemployment rate
Manitoba	**662,150**	**44,685**	**6.7%**
NHR	**28,045**	**3,975**	**14.2%**
WRHA	392,120	25,425	6.5%
PMH	84,155	5,535	6.6%
IERHA	62,670	4,720	7.5%
SH-SS	95,160	5,030	5.3%

Source: Statistics Canada Census 2016

Industry Sectors

Definition

The percentage of the population, aged 15 years and older, by their kind of work and the description of the main activities in their job.

Why is this indicator important?

The type of employment, irrespective of income level, may carry with it greater health risks due to exposure to harmful substances or potential risk of injuries.

Regional Key Findings

- The top three industry sectors in the NHR included sales and service (23.3%); education, law and social, community and government service (20.1%); and trades, transport and equipment operators and related occupations (18.1%).
- Likewise, in the NHR, the leading industry sector among men was trades, transport and equipment operators and related occupations (32.7%); whereas among females it was education, law and social, community and government service (30.3%).

Table 11 Industry Sectors, NHR and Manitoba Findings

	Manitoba			NHR		
	Total	Male	Female	**Total**	Male	Female
Management	**11.0%**	13.5%	8.3%	**7.5%**	8.1%	6.8%
Business, finance and administration	**14.8%**	8.1%	22.2%	**11.3%**	4.0%	19.6%
Natural and applies sciences and related occupations	**5.3%**	7.9%	2.4%	**3.5%**	5.3%	1.4%
Health occupations	**8.0%**	3.2%	13.5%	**6.2%**	1.9%	11.1%
Education, law and social, community and government service	**13.2%**	8.0%	19.0%	**20.1%**	11.2%	30.3%
Art, culture recreation and sport	**2.2%**	1.8%	2.7%	**1.1%**	0.7%	1.5%
Sales and service	**22.2%**	18.4%	26.5%	**23.3%**	20.7%	26.3%
Trades, transport and equipment operators and related occupations	**15.8%**	28.5%	1.7%	**18.1%**	32.7%	1.6%
Natural resources, agriculture and related production occupations	**2.8%**	4.2%	1.3%	**6.3%**	11.0%	1.1%
Manufacturing and utilities	**4.6%**	6.5%	2.4%	**2.6%**	4.4%	0.5%

Source: Statistics Canada Census 2016

Work Stress

Definition

The proportion of residents, aged 15 to 75 years, who reported most days at their main job or business to be quite a bit/extremely stressful, a bit stressful or not at all/ not very stressful.

Why is this indicator important?

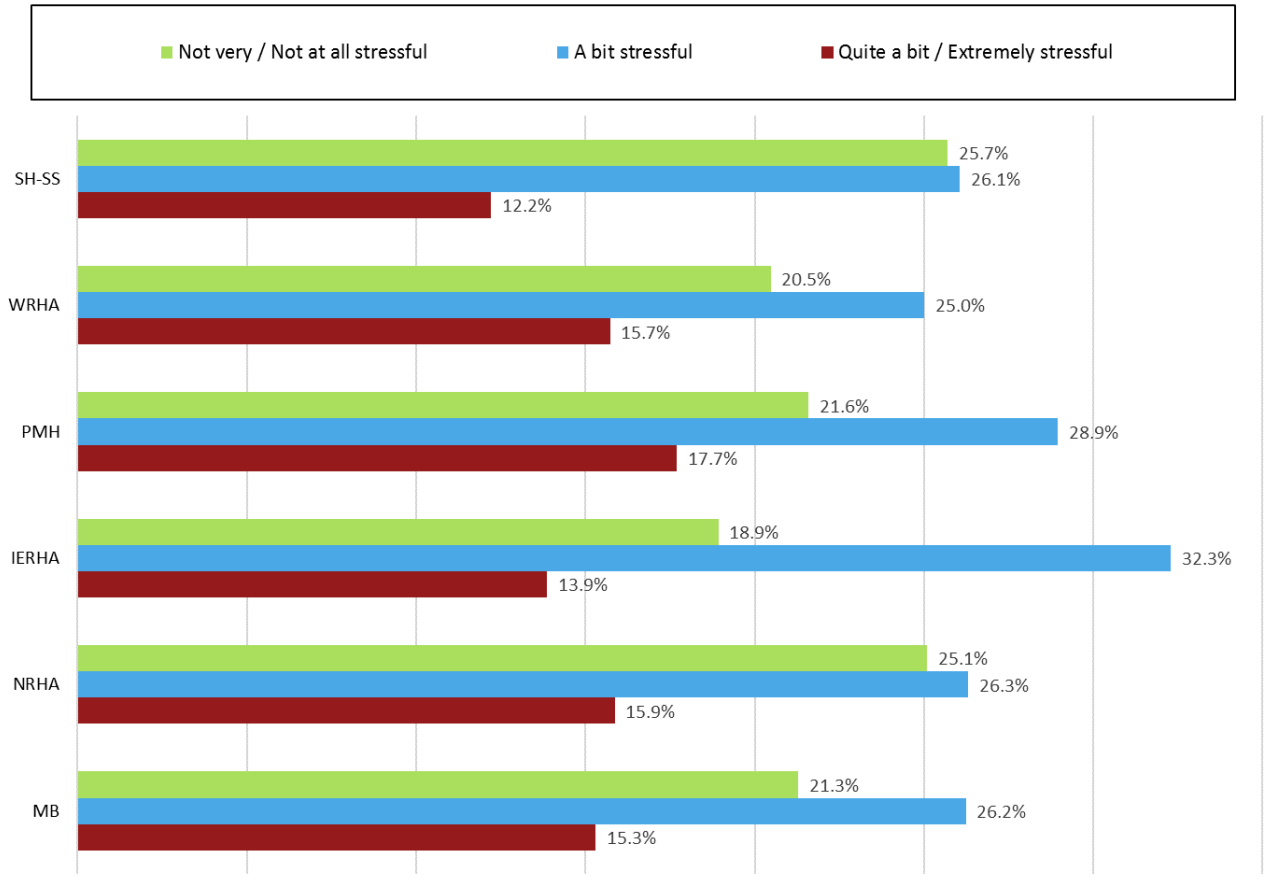
Work stress is one of the most common forms of stress, which can lead to poor health and injuries.

Regional Key Findings

- Overall, work stress levels among residents of NHR were comparable to other regional and provincial findings.

Figure 9 Perceived Work Stress by RHA 2016, Aged 15-75

Age and Sex adjusted proportion (%) of weighted sample



Source: Statistics Canada CCHS 2015-2016

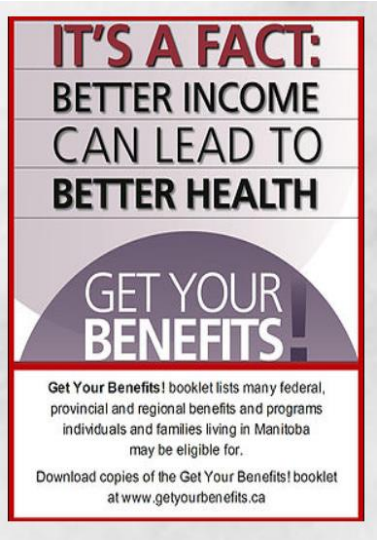
A CLOSER LOOK… GET YOUR BENEFITS

Higher household income leads to better health. This means that having a higher household income provides an individual with more opportunities to afford the things that contribute to health such as stable housing, nutritious foods, attending school, and reducing the financial stressors of everyday life. Low income should be treated like any other major health risk.

Get Your Benefits is a Manitoba movement to help those with low income access federal, provincial, and regional benefits which they are entitled to, through tax returns, learning bonds and other sources, thereby increasing their income. Recently the NHR has initiated a Get Your Benefits approach in Thompson, The Pas, and Flin Flon. The NHR partners with various local agencies, the Canada Revenue Agency, and the federal **Community Volunteer Income Tax Program** (CVITP) to **increase awareness of benefits** and increase the number of local CVITP programs in communities where people with low incomes can have **free tax returns** done. Tax returns are required to access many government benefits such as the GST credit, Canada child benefit, Disability tax credit, working income tax benefit, property tax credit, and Canada Learning Bonds. Household income levels rise with these benefits. The CVIT Program eliminates the barrier of cost for filing income tax returns and thereby helps people access the financial benefits they are entitled to. Being a rather new approach, the NHR recently has:

- Held Get Your Benefits and CVITP awareness session in the Town of The Pas, Opaskwayak Cree Nation, RM of Kelsey, Thompson and Flin Flon for various agencies and the public.
- Hosted in-person CVITP Training for volunteers of the CVIT Program in Thompson.
- With partners created two new CVIT Program locations for free income tax preparation in Thompson and two in Flin Flon.
- Representatives from the Canadian Revenue Agency were in The Pas to share their expertise at the Friendship Centre's International Senior's Day "How to be a Senior 101" workshop.

For more informatn visit Get Your Benefits at: https://www.gov.mb.ca/health/primarycare/providers/getyourbenefits.html



Healthy Child Development

Inadequate Prenatal Care

Definition

The proportion of women with a single, live, in-hospital birth receiving no or inadequate prenatal care, over a five-year time period.

Why is this indicator important?

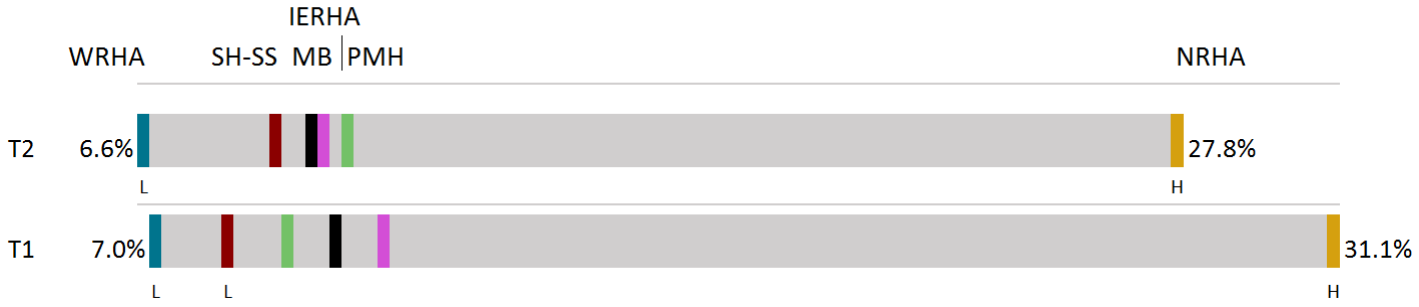
Women who access prenatal care and receive regular prenatal visits are more likely to experience better health outcomes including a lower risk for low birth weight infant compared to women who receive no prenatal care. Inadequate prenatal care is more likely to be found in women who had less than a Grade 12 education or were younger (less than 25), living in lower income areas, on income assistance, a lone parent, socially isolated, or multiple pregnancies[iii].

Provincial Key Findings

- Between 2013 and 2017 an estimated 7,300 women received inadequate prenatal care in Manitoba.
- Winnipeg RHA women were least likely to experience in adequate prenatal care at 6.6%, significantly lower than the provincial average of 10.3%.
- Although the rate of inadequate prenatal care has declined in NHR, rates are still significantly higher than the provincial average.

Figure 10 Inadequate Prenatal Care Rate by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Maternal age adjusted average annual percent of singleton live in-hospital births



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		SH-SS		MB		IERHA		PMH		NHR	
T2 COUNT	2,117		1,139		7,300		665		971		2,391	
T2 RATE	6.6%	L	9.4%		10.3%		10.6%		10.9%		27.8%	H
T1 RATE	7.0%	L	8.6%	L	10.8%		11.8%		9.7%		31.1%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- Approximately three out of ten women in NHR received inadequate prenatal care.
- All of the zone rates were significantly higher than the provincial average for inadequate prenatal care ranging from 15.5% in zone three to 40.6% in zone two in 2012/13-2016/17.
- Based on the district disparity presented, women living in Shamattawa First Nation, York Factory First Nation, and Tataskweyak (Split Lake) Cree Nation were 10.6 times more likely to experience inadequate prenatal care than those in Gillam and Fox Lake Cree Nation and this disparity increased by 3.9 over time.

Table 12 Inadequate Prenatal Care by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Maternal age adjusted average annual percent of singleton live in-hospital births

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**7,300**	**10.3%**		**10.8%**		**Northern Health Region**	**2,391**	**27.8%**	**H**	**31.1%**	**H**
Zone 1	**519**	**17.0%**	**H**	**19.6%**	**H**	**Zone 2**	**1,646**	**40.6%**	**H**	**43.5%**	**H**
Gillam Fox	6	5.3%		8.2%		Norway House/NHCN	141	19.4%	H-	27.0%	H
Flin, Snow, Cran, Sher	31	9.4%		15.2%		GR/MisCN, ML/MosCN, Eas/CheCN	212	37.4%	H-	50.7%	H
Thompson, Myst Lake	123	10.4%	-	14.5%		Puk/Mat Col CN	121	41.3%	H	45.7%	H
Thick, Pik, Wab, Ilf/WLFN, Corm	19	14.5%		23.1%	H	SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	93	45.5%	H	36.4%	H
The Pas/OCN, Kels	239	26.1%	H	28.6%	H	Nelson House/NCN	185	46.5%	H	44.2%	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	101	31.8%	H	29.3%	H	Cross Lake/Cross Lake FN	310	46.6%	H	48.9%	H
NHR District Disparity Ratio						Bu(OH)CN, MS(GR)CN, GLN/GLFN	294	47.1%	H	42.7%	H
T1 Disparity				***6.7***		Sham, YorkFN, TatCN(SPL)	290	56.1%	H	54.6%	H
T2 Disparity				***10.6***							
Change				***3.9 ↑***		**Zone 3**	**226**	**15.5%**	**H**	**17.4%**	**H**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	226	16.2%	H	18.3%	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Preterm Birth Rate

Definition

The proportion of live births with a gestational age of less than 37 weeks, based on a five-year time period.

Why is this indicator important?

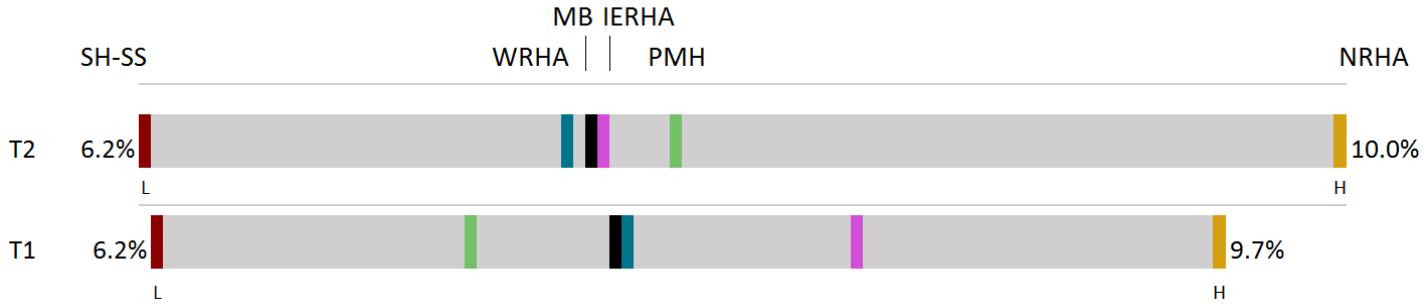
Preterm births are the leading cause of infant mortality. Preterm infants can have both short and long term health issues, including developmental disabilities, mental illnesses and respiratory conditions[iv].

Provincial Key Findings

- In Manitoba, pre-term birth rates have remained stable over time, with 7.6% of infants born prior to 37 weeks' gestation.
- NHR was found to have a pre-term birth rate significantly higher than the Manitoba average, while Southern Health Santé Sud had significantly lower rates.

Figure 11 Preterm Birth Rate by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Maternal age adjusted average annual percent of singleton live in-hospital births



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		MB		IERHA		PMH		NHR	
T2 COUNT	877		3,105		6,089		528		781		782	
T2 RATE	6.2%	L	7.6%		7.6%		7.7%		7.9%		10.0%	H
T1 RATE	6.2%	L	7.7%		7.7%		8.5%		7.2%		9.7%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- From 2012/13 to 2016/17, there was a total of 782 infants born preterm among NHR women, representing 10% of all live births.
- Preterm birth rates remained consistent over time at the zone level; zone one had the smallest percentage of pre-term births (8.7%) and zone three had the highest (14.0%).
- Within NHR, disparity stayed the same over time.

Table 13 Preterm Birth Rate by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**6,089**	**7.6%**		**7.7%**		**Northern Health Region**	**782**	**10.0%**	**H**	**9.7%**	**H**
Zone 1	**256**	**8.7%**		**8.8%**		**Zone 2**	**358**	**9.9%**	**H**	**9.4%**	**H**
Flin, Snow, Cran, Sher	16	4.7%	-	9.3%		Cross Lake/Cross Lake FN	47	7.6%		9.4%	
Gillam Fox	8	7.0%		7.9%		Puk/Mat Col CN	21	8.1%		8.6%	
Thompson, Myst Lake	110	9.1%		9.2%		Bu(OH)CN, MS(GR)CN, GLN/GLFN	50	9.2%		9.3%	
The Pas/OCN, Kels	82	9.6%		8.3%		Sham, YorkFN, TatCN(SPL)	44	9.3%		8.4%	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	28	9.6%		12.1%		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	18	9.7%		s	
Thick, Pik, Wab, Ilf/WLFN, Corm	12	10.6%		4.6%		Norway House/NH CN	73	10.9%	H	9.6%	
NHR District Disparity Ratio						Nelson House/NCN	41	11.4%		13.7%	H
T1 Disparity				***3.0***		GR/MisCN, ML/MosCN, Eas/CheCN	64	12.6%	H	9.3%	
T2 Disparity				***3.0***							
Change				***0***		**Zone 3**	**168**	**14.0%**	**H**	**13.0%**	**H**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	168	14.0%	H	13.0%	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Small for Gestational Age (SGA)

Definition

The percentage of live hospital births in which birth weight falls below the 10th percentile of sex-specified birth weight for a given gestational age, based on a five-year time period.

Why is this indicator important?

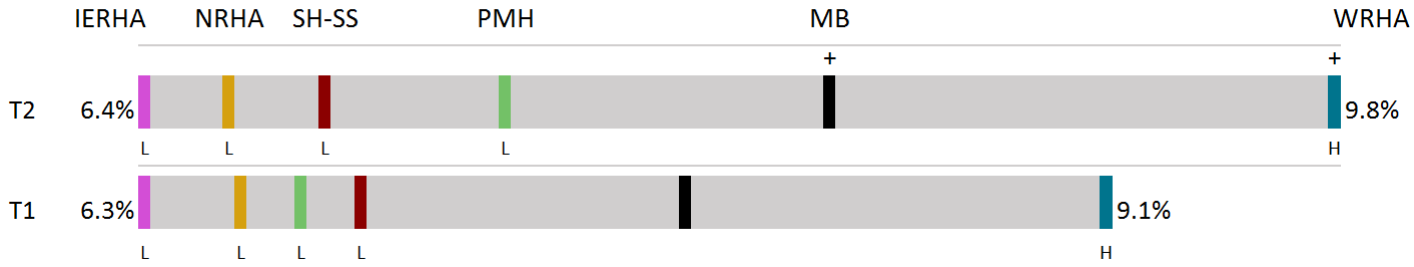
SGA infants are more likely to face both short-term and long-term health issues including diabetes, hypertension, and cardiovascular disease. SGA is often related to maternal smoking, substance use, poor nutrition during pregnancy, placental insufficiency, and other conditions[v].

Provincial Key Findings

- In Manitoba, 8.3% of hospital births fall below the 10th percentile, which totals 6,576 infants from 2012 to 2017.
- Winnipeg RHA was found to have significantly higher percentage of women delivering infants below the 10th percentile compared to Interlake-Eastern, NHR, Southern Health Santé Sud and Prairie Mountain Health all significantly below the provincial average.

Figure 12 Small for Gestational Age Rate by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Maternal age adjusted average annual percent of singleton live in-hospital births



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	IERHA		NHR		SH-SS		PMH		MB		WRHA	
T2 COUNT	440		535		985		734		6,576		3,873	
T2 RATE	6.4%	L	6.6%	L	6.9%	L	7.4%	L	8.3%	+	9.8%	H+
T1 RATE	6.3%	L	6.6%	L	7.0%	L	6.8%	L	7.9%		9.1%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- NHR rates for small for gestational age remained stable over time at 6.6%. This is significantly lower than the Manitoba average.
- Thirteen of the fifteen districts within the NHR had rates lower or the same as the provincial average of 8.3% with Bunibonibee (Oxford House) Cree Nation, Manto Sipi (God's River) Cree Nation, God's Lake Cree Nation, God's Lake Narrows and Oxford House rate significantly lower at 4.6% in 2012/13 to 2016/17.

- The gap in district disparity decreased over time.

Table 14 Small for Gestational Age by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Maternal age adjusted average annual percent of singleton live in-hospital births

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**6,576**	**8.3%**	**+**	**7.9%**		**Northern Health Region**	**535**	**6.6%**	**L**	**6.6%**	**L**
Zone 1	**219**	**7.3%**		**6.4%**	**L**	**Zone 2**	**224**	**5.9%**	**L**	**6.2%**	**L**
Thick, Pik, Wab, Ilf/WLFN, Corm	6	5.0%		6.5%		Bu(OH)CN, MS(GR)CN, GLN/GLFN	27	4.6%	L	4.9%	
Gillam Fox	6	5.1%		3.8%		GR/MisCN, ML/MosCN, Eas/CheCN	26	4.8%		4.4%	L
The Pas/OCN, Kels	51	5.7%		4.2%	L	Puk/Mat Col CN	14	5.1%		7.1%	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	24	7.8%		10.9%		Sham, YorkFN, TatCN(SPL)	28	5.7%		4.7%	
Thompson, Myst Lake	101	8.3%		7.7%		Nelson House/NCN	27	7.1%		8.5%	
Flin, Snow, Cran, Sher	31	8.8%		6.2%		Norway House/NH CN	50	7.2%		5.3%	
NHR District Disparity Ratio						Cross Lake/Cross Lake FN	48	7.5%		9.3%	
		T1 Disparity		***2.9***		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	s	s		4.9%	
		T2 Disparity		***1.9***							
		Change		***-1.0↓***							
						Zone 3	**92**	**7.2%**		**8.6%**	
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	92	7.2%		8.5%	

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Large for Gestational Age (LGA)

Definition

The percentage of live hospital births in which birth weight falls above the Canadian 90th percentile of sex-specified birth weight for a given gestational age, based on a five-year time period.

Why is this indicator important?

LGA infants may have a higher risk for injury and complications during birth, fetal and neonatal illnesses and death, impaired cognitive development, childhood and adult obesity and chronic conditions such as diabetes and heart disease later in life. LGA infants can be associated with prolonged pregnancies and gestational diabetes[vi].

Provincial Key Findings

- In Manitoba, rates for large for gestational age have decreased significantly over time from 13.8% down to 12.4%.
- All of the five health regions have experienced declines over time.
- Prairie Mountain Health, Interlake-Eastern, and NHR, although declining, continue to have rates which are significantly higher than the Manitoba average.
- The percentage of births large for gestational age among low income residents was 1.4 times higher than the highest income residents.

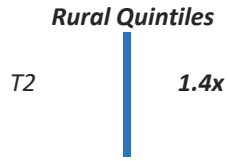
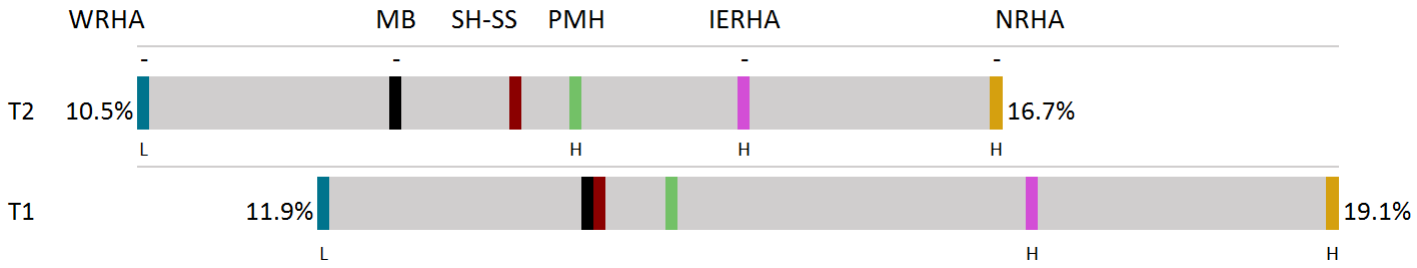


Figure 13 Large for Gestational Age Rate by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Maternal age adjusted average annual percent of singleton live in-hospital births



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		MB		SH-SS		PMH		IERHA		NHR	
T2 COUNT	4,213		9,830		1,887		1,356		1,026		1,337	
T2 RATE	10.5%	L-	12.4%	-	13.2%		13.7%	H	14.9%	H-	16.7%	H-
T1 RATE	11.9%	L	13.8%		13.8%		14.4%		17.0%	H	19.1%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- In the NHR, the percentage of large for gestational age decreased significantly from 19.1% down to 16.7% from 2007/08-2011/12 to 2012/12-2016/17. The rates remained significantly higher than the Manitoba averages of 13.8% to 12.4%.
- Zone three had the highest large for gestational age percentage at 19.6%, next to zone two at 17.3% and zone one was the lowest at 15.0% in 2012/13 to 2016/17.
- Twelve of the fifteen NHR districts had large for gestational age percentages higher than the provincial average with five of them being significantly higher.
- Although, all districts experience large for gestational, some districts saw significantly higher proportions. For instance, women living in Norway House and Norway House Cree Nation were 2.3 times more likely to deliver a baby large for gestational age than those in Nisichawayasihk (Nelson House) Cree Nation and the Incorporated Community of Nelson House.

Table 15 Large for Gestational Age by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Maternal age adjusted average annual percent of singleton live in-hospital births

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**9,830**	**12.4%**	**-**	**13.8%**		**Northern Health Region**	**1,337**	**16.7%**	**H-**	**19.1%**	**H**
Zone 1	**447**	**15.0%**	**H-**	**17.6%**	**H**	**Zone 2**	**646**	**17.3%**	**H-**	**19.7%**	**H**
Flin, Snow, Cran, Sher	39	11.2%	-	16.9%		Nelson House/NCN	37	9.9%		13.4%	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	34	11.2%		15.9%		Cross Lake/Cross Lake FN	86	13.6%		12.4%	
Thompson, Myst Lake	172	14.1%		15.4%		Puk/Mat Col CN	44	16.4%		20.1%	H
Thick, Pik, Wab, Ilf/WLFN, Corm	19	16.2%		19.2%		GR/MisCN, ML/MosCN, Eas/CheCN	88	16.7%		21.0%	H
The Pas/OCN, Kels	160	18.3%	H	20.3%	H	Bu(OH)CN, MS(GR)CN, GLN/GLFN	97	17.0%	H	19.3%	H
Gillam Fox	23	19.8%		21.8%		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	33	17.3%		23.4%	H
NHR District Disparity Ratio T1 Disparity ***1.9*** T2 Disparity ***2.3*** Change ***0.4↑*** Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						Sham, YorkFN, TatCN(SPL)	104	21.5%	H	24.6%	H
						Norway House/NH CN	157	23.0%	H	25.5%	H
						Zone 3	**244**	**19.6%**	**H**	**21.8%**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	244	19.6%	H	21.7%	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Breastfeeding Initiation

Definition

The percentage of women who deliver in hospital and initiate breastfeeding while in hospital, based on a one-year time period.

Why is this indicator important?

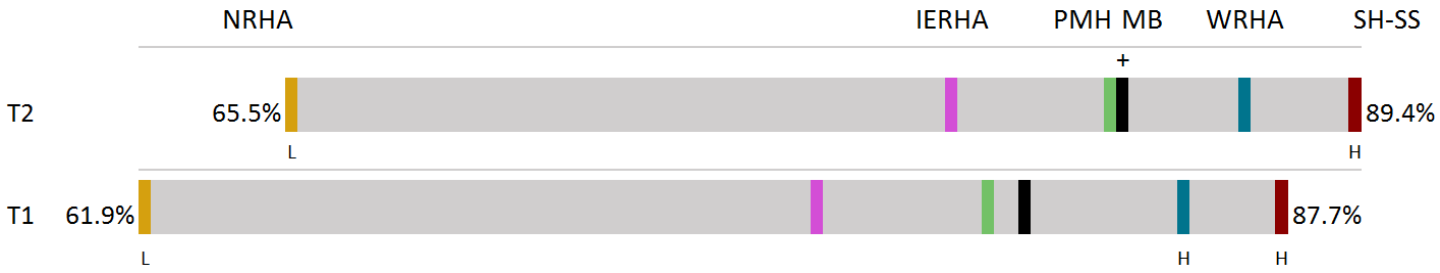
Breastfeeding is a key part of the healthy development and growth of infants. It is associated with lower rates of obesity and chronic diseases such as diabetes and asthma, and better early childhood development. Breastfeeding also has health benefits for mothers including lower risk for breast cancer, ovarian cancer and osteoporosis. Some of the most significant predictors of lower breastfeeding initiation are lower income, less than Grade 12 education and inadequate prenatal care.

Provincial Key Findings

- In Manitoba, the percentage of women who initiated breastfeeding while in hospital has increased significantly over time from 82.1% up to 84.2%.
- All regions have experienced increased breastfeeding initiation rates over time.
- Southern Health-Santé Sud has the highest breastfeeding initiation rate (89.4%), which is significantly higher than the provincial Manitoba average (84.2%).

Figure 14 Breastfeeding Initiation Rates by RHA, 2011/12(T1) and 2016/17(T2)

Maternal age adjusted percent of singleton live in-hospital births



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		IERHA		PMH		MB		WRHA		SH-SS	
T2 COUNT	1,032		1,075		1,693		13,215		6,893		2,515	
T2 RATE	65.5%	L	80.2%		83.9%		84.2%	+	86.8%		89.4%	H
T1 RATE	61.9%	L	77.3%		81.2%		82.1%		85.4%	H	87.7%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- 65.5% of NHR women initiated breastfeeding while in hospital, which was significantly below the provincial rate of 84.2%.
- Breastfeeding initiation percentages vary considerably between zones and districts, the highest zone was zone one at 84.0% and the lowest was zone three at 49.6%.
- Although, breastfeeding initiation percentages vary across the region, it is important to note that disparity over time decreased and we see a smaller gap between our highest and lowest percentages.

Table 16 Breastfeeding Initiation by NHR Zone and District, 2011/12(T1) and 2016/17(T2)

Maternal age adjusted percent of singleton live in-hospital births

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**13,215**	**84.2%**	**+**	**82.1%**		**Northern Health Region**	**1,032**	**65.5%**	**L**	**61.9%**	**L**
Zone 1	**497**	**84.0%**		**80.8%**		**Zone 2**	**422**	**55.6%**	**L**	**51.0%**	**L**
Gillam Fox	22	95.3%		86.5%		Nelson House/NCN	74	88.8%		73.8%	
Thompson, Myst Lake	207	86.7%		80.4%		Puk/Mat Col CN	37	68.2%		75.2%	
Flin, Snow, Cran, Sher	66	85.3%		77.5%		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	24	61.1%		38.7%	
Thick, Pik, Wab, Ilf/WLFN, Corm	21	83.1%		63.9%		GR/MisCN, ML/MosCN, Eas/CheCN	71	59.0%	L	45.2%	L
The Pas/OCN, Kels	133	79.7%		82.2%		Cross Lake/Cross Lake FN	79	58.2%	L	51.2%	L
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	48	79.4%		86.8%		Sham, YorkFN, TatCN(SPL)	47	52.3%	L	45.3%	L
NHR District Disparity Ratio						Norway House/NH CN	57	42.9%	L	56.4%	L
T1 Disparity				***3.4***		Bu(OH)CN, MS(GR)CN, GLN/GLFN	33	31.6%	L	25.3%	L
T2 Disparity				***3.0***							
Change				***-0.4↓***		**Zone 3**	**113**	**49.6%**	**L**	**49.8%**	**L**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	113	49.6%	L	49.7%	L

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Proportion of Children Living in Low-Income-Families

Definition

The proportion of children, age 17 years and younger, living in low income families according to low income measure – after tax (LIM-AT).

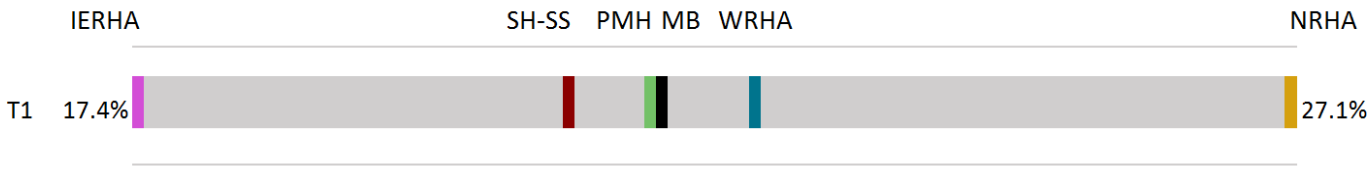
Why is this indicator important?

Family income affects children's access to basic necessities such as adequate housing, nutritious food and clothing. Living in low income poses many challenges for child growth and development including early learning and care programs, and access to recreation and art programs.

Provincial Key Findings

- Census 2016 data suggests that approximately one in five children live in low income in Manitoba.
- According to the low income measure after tax, Interlake-Eastern had the smallest percentage of children living in low-income families among all regions in Manitoba.

Figure 15 Children aged 17 and younger living in low income families based on LIM-AT by RHA



	IERHA	SH-SS	PMH	MB	WRHA	NHR
T1 RATE	17.4%	21.1%	21.8%	21.9%	22.6%	27.1%

Source: Statistics Canada Census 2016

Regional

- There was a total of 2,510 children between the ages of 0 to 17 living in low income households in the NHR, 27.1%.
- The proportion of children living in low income households varied significantly across the districts with 80.0% children in Pukatawagan and Mathias Colomb living in low income compared to 4.9% of children in Gillam and Fox Lake Cree Nation.

Table 17 Children aged 17 and younger living in low income families based on LIM-AT by NHR District

	Total 0 to 17 years in low-income	Percent
Manitoba	**57,370**	**21.9%**
NHR	**2,510**	**27.1%**
Zone 1		
Flin, Snow, Cran, Sher	295	20.8%
The Pas/OCN, Kels	465	24.9%
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	180	67.9%
Thompson, Myst Lake	850	21.0%
Thick, Pik, Wab, Ilf/WLFN, Corm	155	43.1%
Gillam Fox	20	4.9%
Zone 2		
GR/MisCN, ML/MosCN, Eas/CheCN	100	52.6%
Puk/Mat Col CN	40	80.0%
SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	55	57.9%
Nelson House/NCN	s	s
Sham, YorkFN, TatCN(SPL)	15	75.0%
Bu(OH)CN, MS(GR)CN, GLN/GLFN	95	67.9%
Cross Lake/Cross Lake FN	95	70.4%
Norway House/NH CN	35	30.4%
Zone 3		
IsL/GHFN, RSL/RSLFN, STPFN, WasFN	105	70.0%

s - data suppressed

Source: Statistics Canada Census 2016

Families First – Risk Factors

Definition

The proportion of mothers with three or more risk factors identified as leading to poor childhood outcomes, based on the regional post-partum population screened for enrollment in the Families First Program, for a one-year time period.

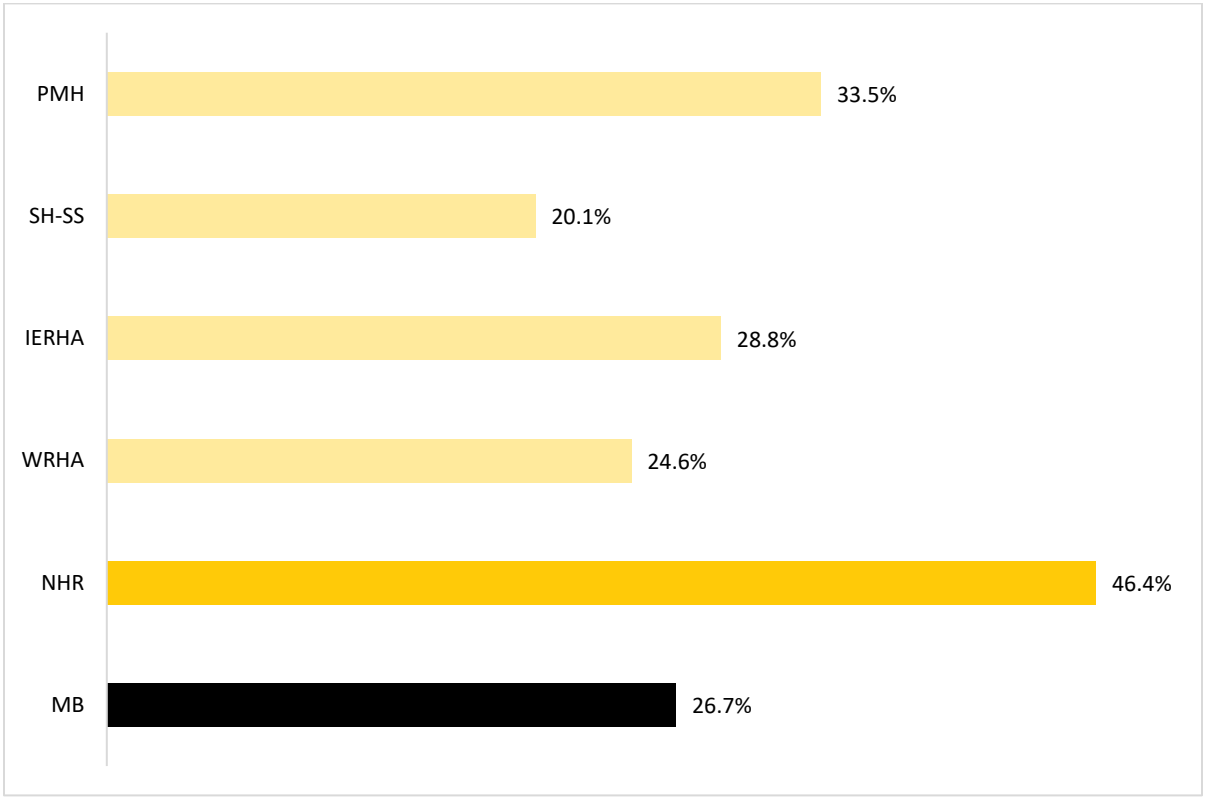
Why is this indicator important?

The early years comprise a significant period of brain development and set the foundation for health and success in all aspects of life. It is used to identify families who may need further support and assistance to ensure children are raised in a healthy environment.

Provincial Key Findings

- In 2017, 26.7% of mothers screened had three or more risk factors.
- Based on 2017 data, the NHR experienced a larger proportion of women being screened with three or more risk factors compared to those in Southern Health Santé Sud, Prairie Mountain Health, Interlake-Eastern, and Winnipeg RHA.

Figure 16 Families First Risk Factors by RHA, 3 or More Risk Factors, 2017



Source: HCMO, 2017

Table 18 Families First Screening by RHA, 2013-2017

Three or more risk factors	2017	2016	2015	2014	2013
Manitoba	**26.7%**	26.7%	26.7%	26.7%	43.1%
NHR	**46.4%**	46.8%	43.8%	42.8%	26.7%
WRHA	**24.6%**	25.8%	25.3%	27.3%	27.0%
PMH	**33.5%**	32.3%	30.6%	31.5%	31.3%
IERHA	**28.8%**	31.4%	35.2%	32.8%	32.9%
SH-SS	**20.1%**	22.0%	16.8%	19.6%	17.1%

Source: HCMO, 2017

Regional Key Findings

- From 2013 to 2017, approximately 600 to 700 women in the NHR were screened in the Family First program.
- Overall, rates of reported alcohol use by mothers during pregnancy, maternal smoking during pregnancy, and mothers with less than grade 12 education decreased in 2017 compared to 2013.

Table 19 Families First Screening NHR, 2013-2017

	NHR				
	2017	**2016**	**2015**	**2014**	**2013**
Alcohol use by mother during pregnancy	**15.1%**	15.2%	14.8%	14.2%	20.0%
Maternal smoking during pregnancy	**36.1%**	35.1%	35.2%	37.0%	45.3%
Mother with less than Grade 12 education	**34.3%**	36.9%	34.8%	37.2%	38.8%
Income support or financial difficulties	**33.0%**	28.7%	30.1%	31.0%	30.9%
Maternal depression and/or maternal anxiety disorders combined	**23.8%**	19.8%	18.0%	19.2%	13.1%
Number of women screened by the program:	**700**	679	715	649	613

Source: HCMO, 2017

Readiness for School Learning

Definition

The proportion of kindergarten children 'vulnerable' or struggling, ‘at risk’ or lower than expected and 'on track’ meaning meeting age appropriate expectations for school based on the Early Development Instrument (EDI), for a one-year time period. It measures five areas of development: physical health and well-being, social competence, emotional maturity, language and thinking skills, and communication skills and general knowledge.

Why is this indicator important?

EDI is an important measure of the well-being and health of children. It has been shown to be strongly linked to parental involvement in a child’s early learning, household income levels, as well as educational outcomes later in childhood. EDI results assist communities in planning for the services and programs children need in order to learn and enjoy their school experience.

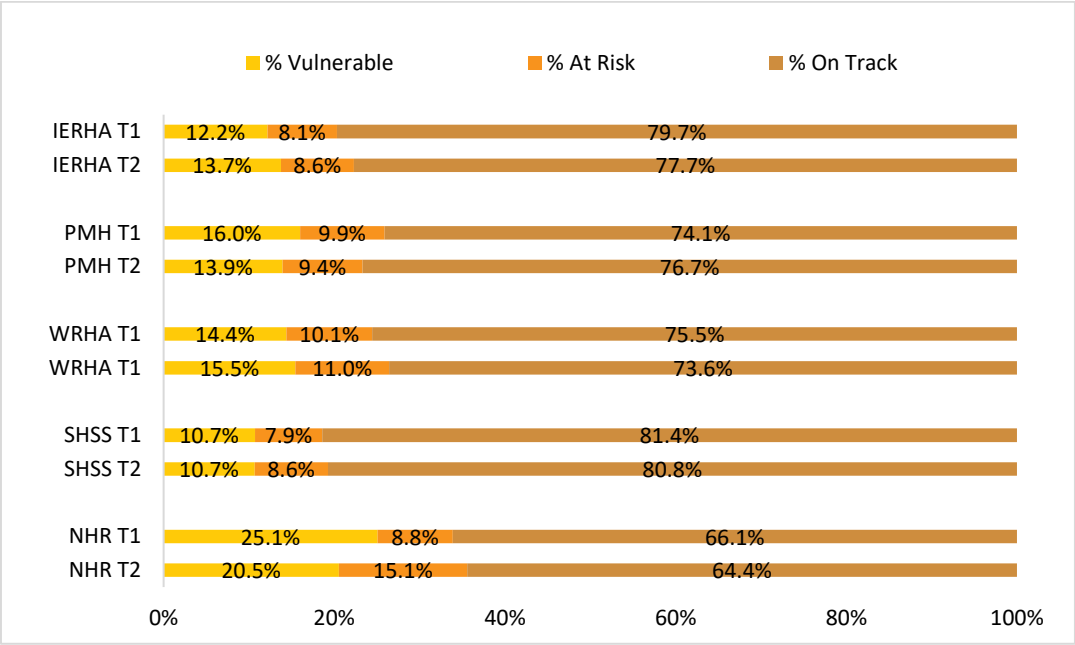
Provincial Key Findings

- Click on the link below to be directed to the Healthy Child Manitoba website which contains multiple report options: provincial roll up, school division and former health regions (pre amalgamation in 2012)
- Hyperlink: https://www.gov.mb.ca/healthychild/edi/edi_reports.html

- Generally, Southern Health-Santé Sud had the least number of kindergarten aged children in the “vulnerable” percentile and the NHR had the most children in the “vulnerable” percentile for all five Early Development Instrument measures.
- Likewise, Southern Health-Santé Sud and the Interlake-Eastern had the highest percent of kindergarten aged children who were “on track”, meaning meeting age appropriate expectations for school based on the Early Development Instrument in all five areas of development and the NHR had the lowest percent of children “on track”.

Figure 17 Readiness for School Learning, Physical Health and Well-Being, 2013(T1) and 2017(T2)

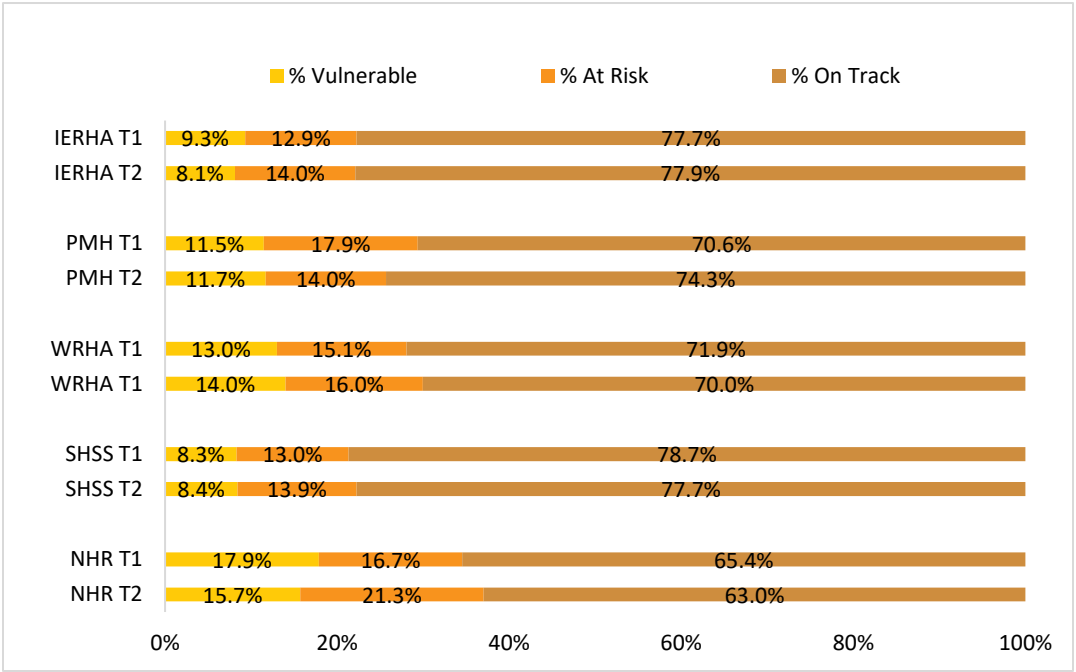
Kindergarten Children



Source: HCMO, 2019

Figure 18 Readiness for School Learning, Social Competence, 2013(T1) and 2017(T2)

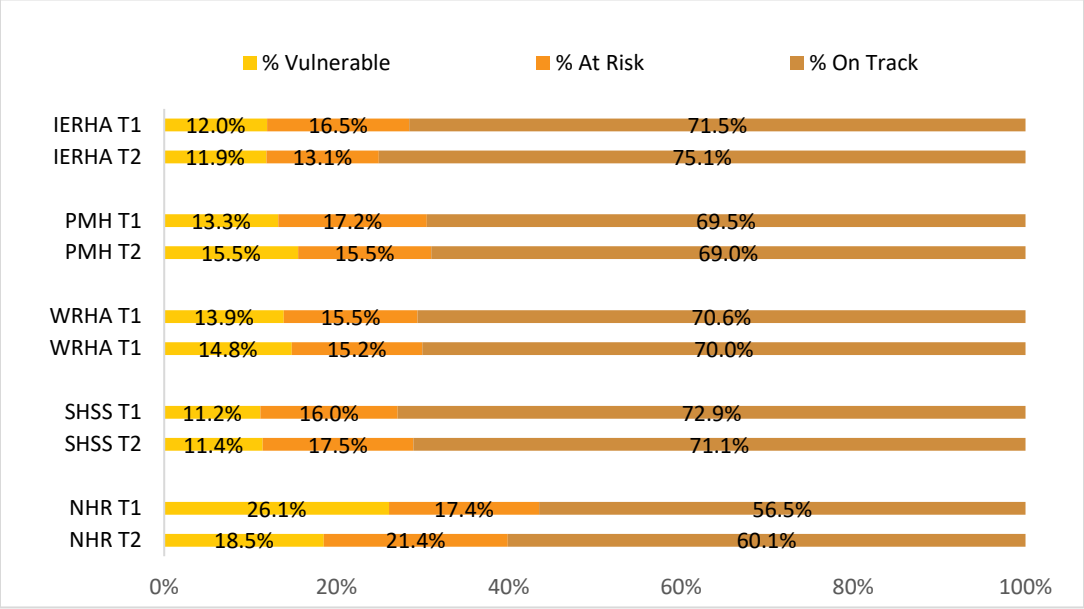
Kindergarten Children



Source: HCMO, 2019

Figure 19 Readiness for School Learning, Emotional Maturity, 2013(T1) and 2017(T2)

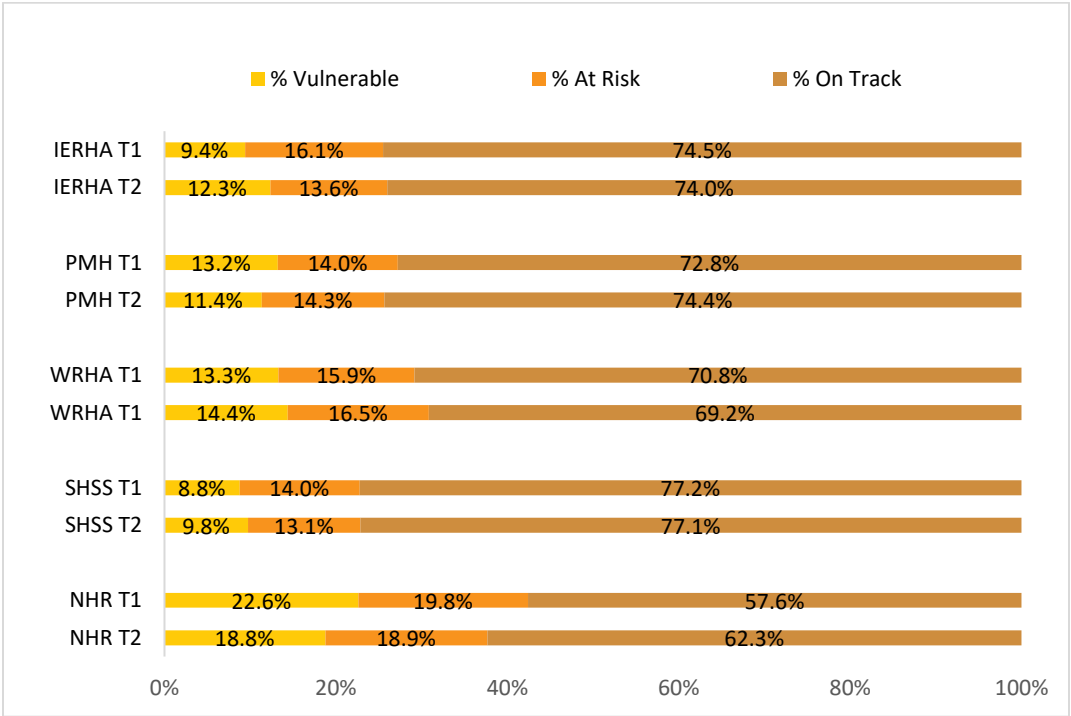
Kindergarten Children



Source: HCMO, 2019

Figure 20 Readiness for School Learning, Language and Thinking Skills, 2013(T1) and 2017(T2)

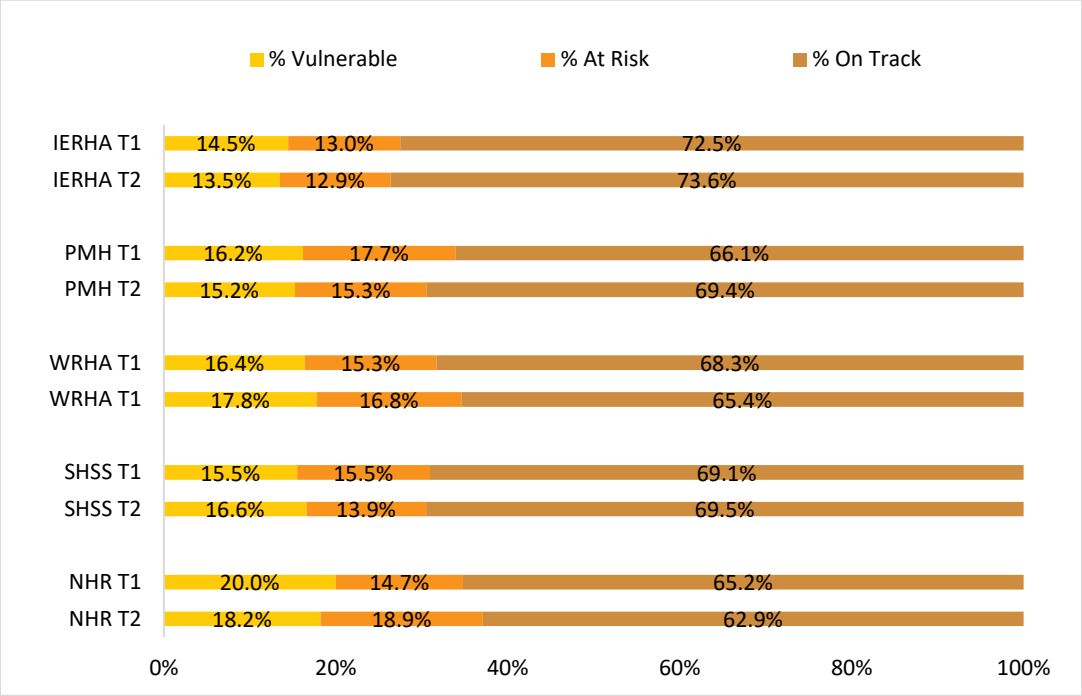
Kindergarten Children



Source: HCMO, 2019

Figure 21 Readiness for School Learning, Communication Skills and General Knowledge, 2013(T1) and 2017(T2)

Kindergarten Children



Source: HCMO, 2019

Regional Key Findings

- Between 2013 and 2017, the percentage of kindergarten children in the NHR that were "vulnerable" or struggling in all five domains of the early development instrument decreased.
- The percent of children who were "at risk" or lower than expected for age appropriate expectations increased in four domains (i.e. physical health and well-being; social competence; emotional maturity; and communication skills and general knowledge). The percent of children who were "at risk" on the language and thinking skills domain decreased.
- The percent of children who were "on track" meaning meeting age appropriate expectations for school based on the Early Development Instrument decreased on four domains (i.e. physical health and well-being; social competence; emotional maturity; language and thinking skills) and increased on the communication skills and general knowledge domain.

Pediatric Dental Extractions under General Anesthesia

Definition

The average annual rate of hospital-based dental extraction surgeries, for children under the age of 6 years, per 1,000 population, over a five-year time period.

Why is this indicator important?

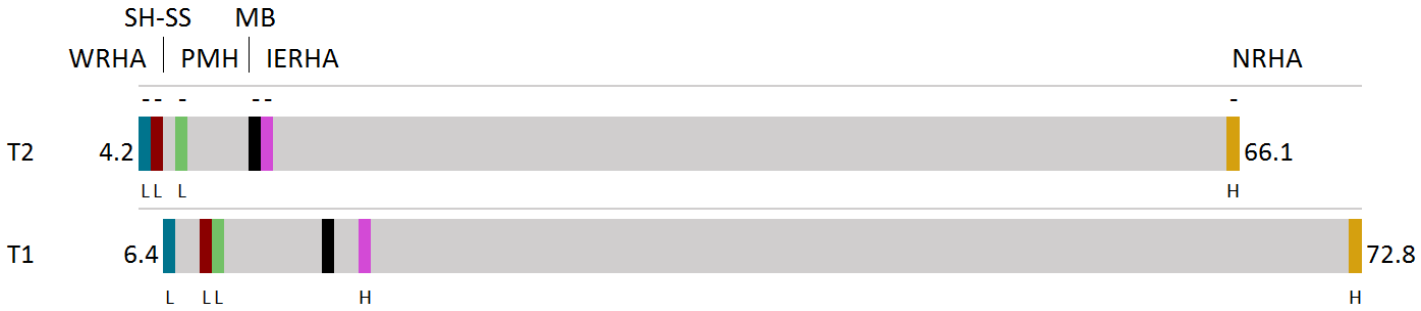
Early childhood caries (ECC) (i.e., dental decay in the primary teeth in children under the age of 6 years) reflects the impact of many social inequalities including income, nutrition and personal health practices. Monitoring pediatric dental surgery involving extraction of primary teeth gauges ongoing access to care and preventative dental services for children.

Provincial Key Findings

- The rate of hospital-based dental surgeries under general anesthesia involving extraction of primary teeth for children in Manitoba significantly decreased over time (24% or 3.5/1,000 children). Over the past ten years, nearly all (99.4%) of dental extraction surgeries in hospital had direct admission and were coded as elective procedures (e.g., scheduled day procedures, not unplanned urgent/emergent procedures).[vii]
- However, the rates of severe childhood tooth decay may be underestimated as data for dental extraction surgeries performed outside of hospitals (e.g., dentists' offices) are not available. Additionally, not all surgeries to treat early childhood caries involve extraction of primary teeth as many are restored with filings and stainless steel crowns.
- Rates decreased significantly in all health regions over time.
- Rates in NHR were higher than the provincial average, while those in Winnipeg RHA, Southern Health-Santé Sud and Prairie Mountain Health were significantly lower in 2007/08-2011/12 and 2012/13-2016/17. The rate in Interlake-Eastern was significantly higher than the provincial average in 2007/08-2011/12 only.

Figure 22 Pediatric Dental Extraction Surgery Rate by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Crude average annual rate per 1,000 residents under age 6 years



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		SH-SS		PMH		MB		IERHA		NHR	
T2 COUNT	1,060		450		448		5,786		530		3,279	
T2 RATE	4.2	L-	4.9	L-	6.8	L-	11.5	-	12.1	-	66.1	H-
T1 RATE	6 4	L	8.0	L	9.0	L	15.0		17.1	H	72.8	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- From 2012/13 to 2016/17, there was a total of 3,279 NHR children under the age of six who had a dental extraction surgery (66.1 surgeries per 1,000 residents).
- NHR zone three (93.6%) had the highest rates of pediatric dental extraction surgery, followed by zone two (76.0%) and zone one (42.1%). All three are significantly higher than the provincial rate (11.5%). Zone three and zone two both had a significant decrease over the two time periods.

Table 20 Pediatric Dental Extraction Surgery Rate by NHR, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Crude average annual rate per 1,000 residents under age 6 years

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**5,786**	**11.5**	**-**	**15.0**		**Northern Health Region**	**3,279**	**66.1**	**H-**	**72.8**	**H**
Zone 1	**780**	**42.1**	**H**	**40.5**	**H**	**Zone 2**	**1,767**	**76.0**	**H-**	**87.9**	**H**
Flin, Snow, Cran, Sher	36	14.9		14.8		Puk/Mat Col CN	107	60.9	H-	86.5	H
Gillam Fox	25	27.4	H	24.2		Bu(OH)CN, MS(GR)CN, GLN/GLFN	225	63.9	H-	92.0	H
Thompson, Myst Lake	284	37.8	H	34.9	H	Nelson House/NCN	170	66.6	H-	84.1	H
The Pas/OCN, Kels	274	47.6	H	51.1	H	Sham, YorkFN, TatCN(SPL)	221	75.1	H	84.8	H
Thick, Pik, Wab, Ilf/WLFN, Corm	42	s	H	77.8	H	GR/MisCN, ML/MosCN, Eas/CheCN	255	78.2	H	85.2	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	119	s	H+	68.9	H	Norway House/NH CN	355	85.3	H	89.3	H
NHR District Disparity Ratio						Cross Lake/Cross Lake FN	342	85.8	H	87.8	H
T1 Disparity				***7.4***		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	92	87.5	H	99.1	H
T2 Disparity				***6.2***							
Change				***-1.2↓***		**Zone 3**	**732**	**93.6**	**H-**	**108.8**	**H**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	732	93.6	H-	108.8	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Childhood Immunization

Definition

Antigen-specific immunization coverage rates for children are reported as the percentage of children who received all recommended vaccine doses for diphtheria, tetanus, pertussis, measles, mumps, rubella and human papillomavirus (HPV) by the age of 17 years. Rate of HPV immunization is only reported for girls.

Why is this indicator important?

Vaccines are one of the most important parts of child health programs because they can prevent death, disability, and control the spread of infectious diseases.

DPT immunization prevents diphtheria which can lead to breathing problems, and paralysis and heart failure; tetanus (often called "lockjaw") which causes painful tightening of muscles that is often deadly if breathing muscles are affected; and pertussis (often called "whooping cough) which causes long coughing spells that make it hard for infants and children to eat, drink, or even breathe.

Immunization for MMR is about 97% effective at preventing measles and 88% effective at preventing mumps. Measles is a very contagious disease that resulted in 110,000 deaths globally in 2017. Mumps is also a contagious disease and is associated with potentially serious complications, including inflammation and swelling in part of body such as testicles, brain and pancreas, hearing loss, heart problems and miscarriage.

HPV can cause cells within the body to change, and can lead to cancer if left untreated. Many cancers, such as cervical cancer, that are caused by HPV do not have symptoms until they are quite advanced. When the HPV vaccine is given before exposure to the virus, it provides protection against nine types of HPV which cause 90% of all cervical and anal cancers and 90% of all genital warts.

Immunization is the single most important public health achievement in the past century, as infectious diseases have dropped from the leading cause of death to less than five percent of all deaths in Canada. For additional information, see the Routine Immunization Schedules for Manitoba at: https://www.gov.mb.ca/health/publichealth/cdc/div/schedules.html

Provincial Key Findings

- In Manitoba, about 71% of residents aged 17 years old had received all recommended doses for diphtheria, tetanus, and pertussis in 2017.
- The lowest childhood immunization prevalence was noted in Southern Health Santé Sud and the highest in Prairie Mountain for diphtheria, tetanus, pertussis and HPV. For measles, mumps and rubella, the lowest was noted in Winnipeg RHA and the highest in the NHR.

Table 21 Childhood Immunization by RHA, 2017

Percentage of youth (aged 17) who received a booster dose since age 10

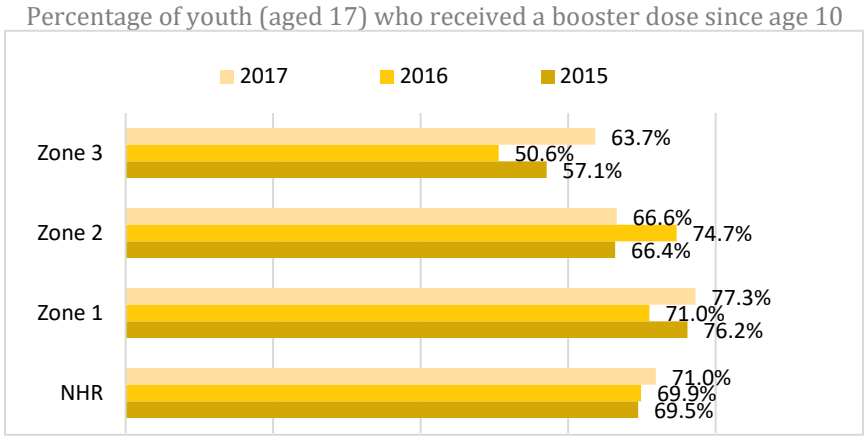
	Diphtheria	Tetanus	Pertussis	Measles	Mumps	Rubella	HPV
Manitoba	**71.9%**	**71.9%**	**70.5%**	**74.3%**	**74.0%**	**83.0%**	**62.7%**
NHR	**71.0%**	**71.0%**	**70.2%**	**88.6%**	**88.2%**	**96.6%**	**66.9%**
WRHA	70.1%	70.1%	68.9%	63.8%	63.5%	75.2%	62.4%
PMH	82.1%	82.1%	80.6%	87.3%	86.7%	91.0%	73.7%
IERHA	79.4%	79.4%	78.2%	86.9%	86.9%	93.8%	68.6%
SH-SS	66.8%	66.8%	64.5%	86.5%	85.9%	90.8%	51.2%

Source: MHSAL IMA, 2019

Regional Key Findings

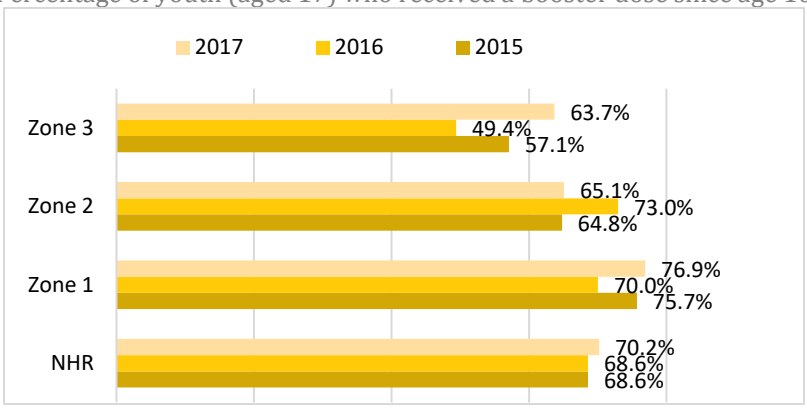
- Diphtheria and Tetanus: In the NHR, 71.9% of youth aged 17 years received all recommended doses for diphtheria and tetanus in 2017. Regionally this increased yearly from 2015 to 2017, but there was variation at the zone level. Generally, rates were highest in zone one, followed by zone two and lowest in zone three.
- Pertussis: In the NHR, 70.2% of youth aged 17 years received all recommended doses for pertussis in 2017. Regionally, this increased from 2015 to 2017, again with variation at the zone level. Generally, rates were highest in zone one, followed by zone two and lowest in zone three.
- Measles and Mumps: The measles and mumps rates are very similar in the NHR with 88.6% of youth aged 17 years receiving all recommended doses for measles and 88.2% of youth aged 17 years received all recommended doses for measles. The NHR measles and mumps vaccination rates increased in zone one and two from 2015-2017. Zone three had an increase from 2015-2016 and then a decrease from 2016-2017. Generally, rates were highest in zone one, followed by zone two and lowest in zone three.
- Rubella: 96.6% of youth aged 17 years in the NHR received all recommended doses for rubella in 2017; this is the highest in Manitoba. Zone two had the highest rates closely followed by zone one and three.
- HPV: 66.9% of female youth aged 17 years in the NHR received all recommended HPV vaccination doses by 2017. Vaccination rates slightly increased from 2015-2017. Zone three has the highest rates followed by zone two and zone one.

Figure 23 Diphtheria/Tetanus Immunization in NHR Zones, 2015, 2016 and 2017



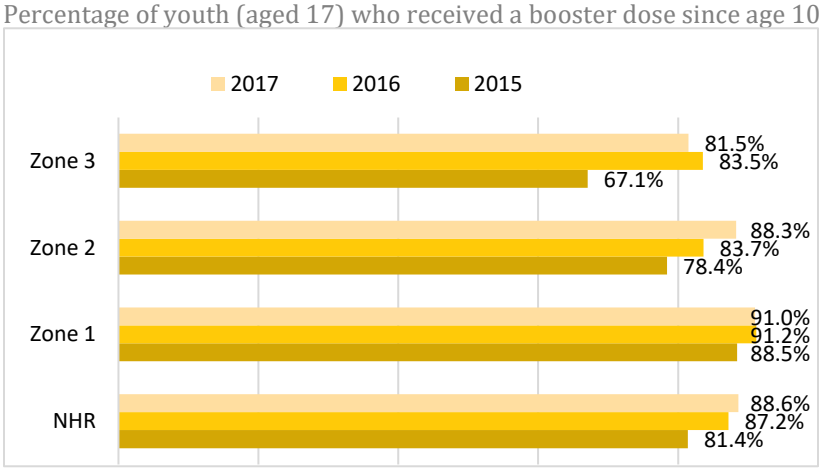
Source: IMA MHSAL 2019

Figure 24 Pertussis Immunization in NHR Zones, 2015, 2016 and 2017



Source: IMA MHSAL 2019

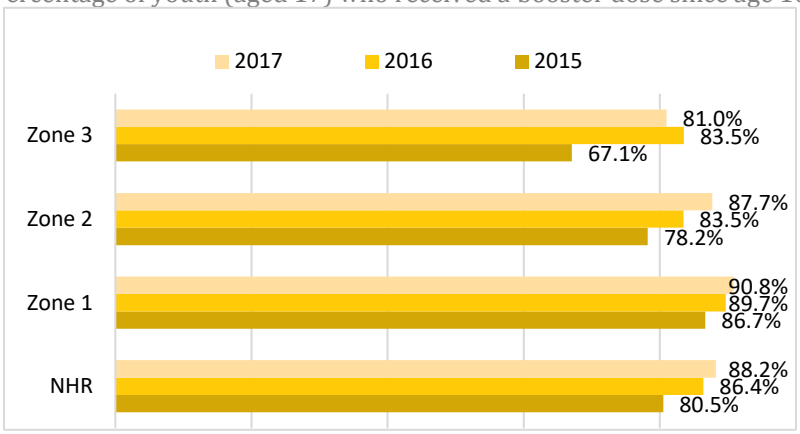
Figure 25 Measels Immunization in NHR Zones, 2015,2016 and 2017



Source: IMA MHSAL 2019

Figure 26 Mumps Immunization in NHR Zones, 2015, 2016 and 2017

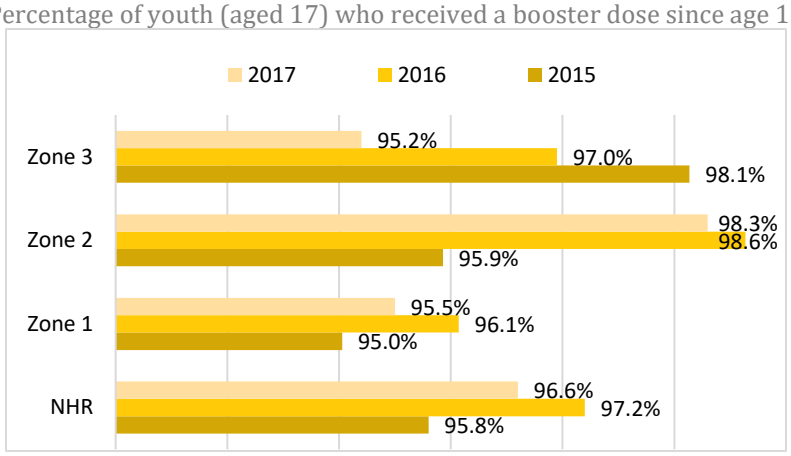
Percentage of youth (aged 17) who received a booster dose since age 10



Source: IMA MHSAL 2019

Figure 27 Rubella Immunization in NHR Zones, 2015, 2016 and 2017

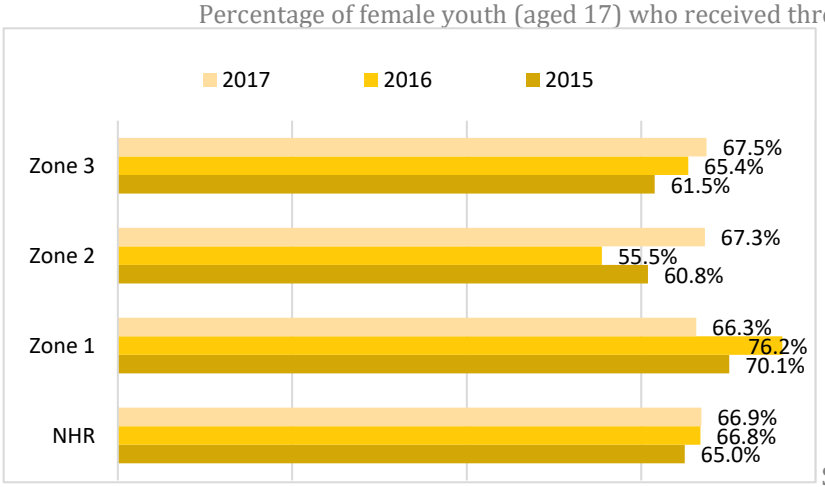
Percentage of youth (aged 17) who received a booster dose since age 10



Source: IMA MHSAL 2019

Figure 28 HPV Immunization in NHR Zones, 2015, 2016 and 2017

Percentage of female youth (aged 17) who received three doses



Source: IMA MHSAL 2019

Teen Pregnancy Rate

Definition

The annual rate of pregnancies including live births, stillbirths, abortions and ectopic pregnancies per 1,000 female residents, ages 15 to 19 years, over a five-year time period.

Why is this indicator important?

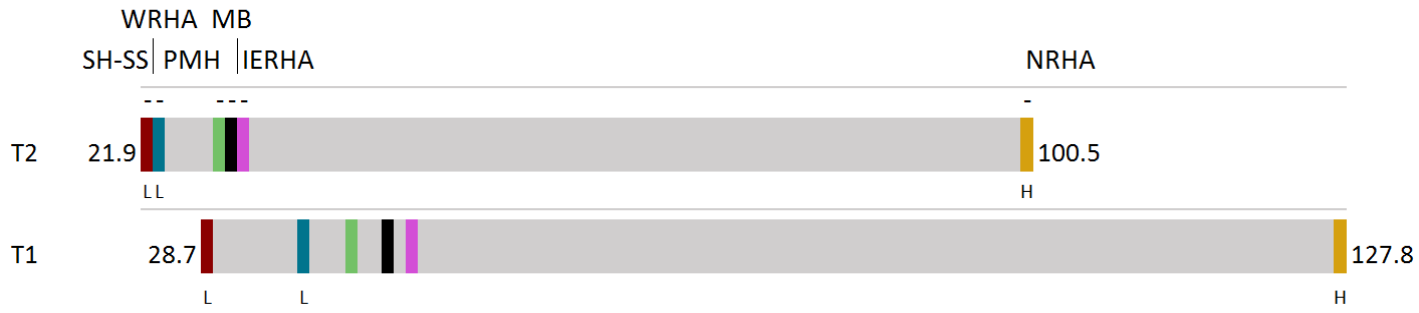
Pregnant teens are less likely to receive early prenatal care and more likely to experience anemia, eclampsia and depressive disorders. Teenage pregnancy is often associated with high risk activities such as substance use, smoking during pregnancy, and physical or sexual abuse[viii]. Teenage mothers tend to have lower socioeconomic status, as well as reduced educational opportunities[ix].

Provincial Key Findings

- In Manitoba, there has been a statistically significant decrease in teen pregnancy from 44.5 to 30.0 per 1,000 females aged 15 to 19.
- All health regions in Manitoba have experienced statistically significant decreases in teen pregnancy over time.
- The NHR teen pregnancy rate remains the highest in the province at 100.5 pregnancies per 1,000 females aged 15 to 19.

Figure 29 Teen Pregnancy by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Age adjusted annual average rate per 1,000 females aged 15-19



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		PMH		MB		IERHA		NHR	
T2 COUNT	817		2,765		807		6,679		658		1,533	
T2 RATE	21.9	L-	23.3	L-	29.3	-	30.0	-	30.8	-	100.5	H-
T1 RATE	28.7	L	36.8	L	40.8		44.5		46.1		127.8	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- In the NHR from 2012/13-2016/17 there was a total of 1,533 teen pregnancies, at a rate of 100.5 per 1,000 females aged 15 to 19.

- The NHR teen pregnancy rate was significantly higher than the Manitoba average (30.0), but it significantly decreased over time from 127.8 to 100.5 per 1,000 females aged 15 to 19.
- Zone three (159.0) had the highest teen pregnancy rate, followed by zone two (115.0) and zone one (68.3) had the lowest teen pregnancy rate.
- At the district level, there was a widening of disparity (0.3) over time. Females aged 15 to 19 in Garden Hill First Nation, Red Sucker Lake First Nation, St. Theresa Point First Nation, Wasagamack First Nation, Island Lake and Red Sucker Lake district experienced teen pregnancy 4.4 times more often than females aged 15 to 19 in Flin Flon, Snow Lake, Cranberry Portage, and Sherridon/Cold Lake.

Table 22 Teen Pregnancy Rate by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Age adjusted annual average rate per 1,000 females aged 15-19

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**6,679**	**30.0**	**-**	**44.5**		**Northern Health Region**	**1,533**	**100.5**	**H-**	**127.8**	**H**
Zone 1	**478**	**68.3**	**H**	**79.0**	**H**	**Zone 2**	**775**	**115.0**	**H-**	**161.0**	**H**
Flin, Snow, Cran, Sher	40	35.2		44.3		Nelson House/NCN	82	91.0	H-	144.8	H
Thompson, Myst Lake	152	60.5	H-	92.8	H	GR/MisCN, ML/MosCN, Eas/CheCN	98	100.9	H-	167.1	H
Gillam Fox	17	64.4	H	69.1		Norway House/NHCN	119	107.0	H-	148.9	H
The Pas/OCN, Kels	168	77.4	H	83.5	H	Cross Lake/Cross Lake FN	126	113.0	H-	148.6	H
Thick, Pik, Wab, Ilf/WLFN, Corm	36	s	H	91.4	H	SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	46	120.5	H	119.3	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	65	s	H	125.5	H	Sham, YorkFN, TatCN(SPL)	99	133.2	H-	189.3	H
NHR District Disparity Ratio T1 Disparity ***4.1*** T2 Disparity ***4.4*** Change ***0.3 ↑*** Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing						Bu(OH)CN, MS(GR)CN, GLN/GLFN	136	139.5	H	169.4	H
						Puk/Mat Col CN	69	142.2	H	142.3	H
						Zone 3	**280**	**159.0**	**H**	**184.6**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	280	155.1	H-	182.7	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Teen Birth Rate

Definition

The annual rate of live births per 1,000 female residents, ages 15 to 19 years, over a five-year time period.

Why is this indicator important?

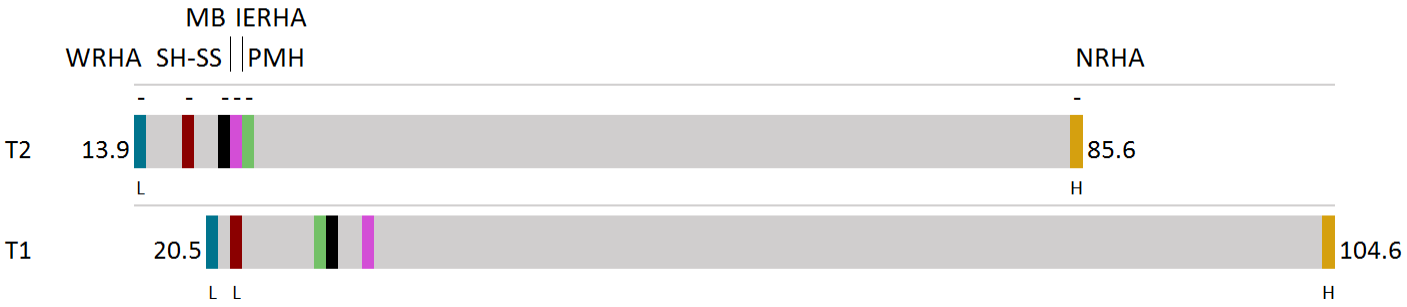
Very similar to teen pregnancy rate, teen birth rates are of concern because babies born to teen mothers are at higher risk of adverse health outcomes such as low birth rate, death during infancy, and preterm birth. There are also strong economic consequences, since teenage mothers are more likely to drop out of school and have fewer economic opportunities.

Provincial Key Findings

- In Manitoba, there has been a statistically significant decrease in teen birth rates from 29.7 to 21.5 per 1,000 females aged 15 to 19.
- All health regions in Manitoba have experienced statistically significant decreases in teen birth rates over time.

Figure 30 Teen Births by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Age adjusted average annual rate per 1,000 females aged 15-19



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		SH-SS		MB		IERHA		PMH		NHR	
T2 COUNT	1,644		691		4,786		476		619		1,290	
T2 RATE	13.9	L-	18.3	-	21.5	-	22.3	-	22.5	-	85.6	H-
T1 RATE	20.5	L	21.9	L	29.7		31.6		28.4		104.6	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- In the NHR, from 2012/13-2016/17 there was a total of 1,290 teen births, at a rate of 85.6 per 1,000 females aged 15 to 19. This rate is significantly higher than the Manitoba average, but it significantly decreased over time.
- Similar to teen pregnancy rates, zone three (140.7) had the highest teen birth rate (births per 1,000 females aged 15 to 19), followed by zone two (99.0) and zone one (54.9).

- At the district level, the disparity between districts stayed the same over time with female teens in Flin Flon, Cranberry Portage, Snow Lake and Sherridon/Cold Lake having had a baby 4.6 times less often than the female teens in Garden Hill First Nation, Red Sucker Lake First Nation, St. Theresa Point First Nation, Wasagamack First Nation, Island Lake or Red Sucker Lake.

Table 23 Teen Births by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Age adjusted average annual rate per 1,000 females aged 15-19

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**4,786**	**21.5**	**-**	**29.7**		**Northern Health Region**	**1,290**	**85.6**	**H-**	**104.6**	**H**
Zone 1	**383**	**54.9**	**H**	**58.0**	**H**	**Zone 2**	**660**	**99.0**	**H-**	**134.7**	**H**
Flin, Snow, Cran, Sher	34	29.9		35.4		Nelson House/NCN	69	76.6	H-	121.4	H
Gillam Fox	12	45.6		51.0		Norway House/NH CN	98	88.1	H-	118.7	H
Thompson, Myst Lake	118	47.0	H-	63.1	H	SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	35	91.5	H	85.9	H
The Pas/OCN, Kels	140	64.5	H	68.0	H	GR/MisCN, ML/MosCN, Eas/CheCN	89	91.8	H-	147.4	H
Thick, Pik, Wab, Ilf/WLFN, Corm	25	s	H	57.7		Cross Lake/Cross Lake FN	108	96.8	H	119.3	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	54	s	H	93.0	H	Sham, YorkFN, TatCN(SPL)	84	113.0	H-	152.6	H
NHR District Disparity Ratio						Bu(OH)CN, MS(GR)CN, GLN/GLFN	113	115.9	H	142.0	H
T1 Disparity					***4.6***	Puk/Mat Col CN	64	132.0	H	127.1	H
T2 Disparity					***4.6***						
Change					***0***	**Zone 3**	**247**	**140.7**	**H**	**163.9**	**H**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	247	137.0	H-	162.7	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

A CLOSER LOOK… BABY FRIENDLY INITIATIVE

The Baby Friendly Initiative is a global campaign of the World Health Organization and the United Nations Children's Fund. The Baby Friendly Initiative is **inclusive of all mothers and babies**, regardless of how babies are fed. While the goal of Baby Friendly Initiative is to **increase breastfeeding initiation and duration** by protecting, promoting and supporting breastfeeding, women who make an informed decision to formula feed are supported to ensure they can provide formula in a safe and nurturing way.

Thompson Public Health's BFI Designation Celebration (February 28, 2018)

Thompson's Breastfeeding Celebration (October 4, 2019)

The Northern Health Region has been dedicated to the initiative where in 2015 The Pas, followed by Flin Flon and Thompson in 2017 achieved the Baby Friendly Initiative designation for Public Health and Community Services.

There are a total of 35 community health service sites across Canada that are Baby Friendly Initiative designated and three of them are from the Northern Health Region! This achievement has taken many years of collaboration, goal setting and planning to accomplish.

Personal Health Determinants

Self-Rated General Health

Definition

The percentage of residents, aged 12 years and older, who rated their overall health as 'poor', 'fair' 'good', 'very good' or 'excellent'. Overall health was not only based on the absence of disease or injury, but overall physical, mental and social-well-being.

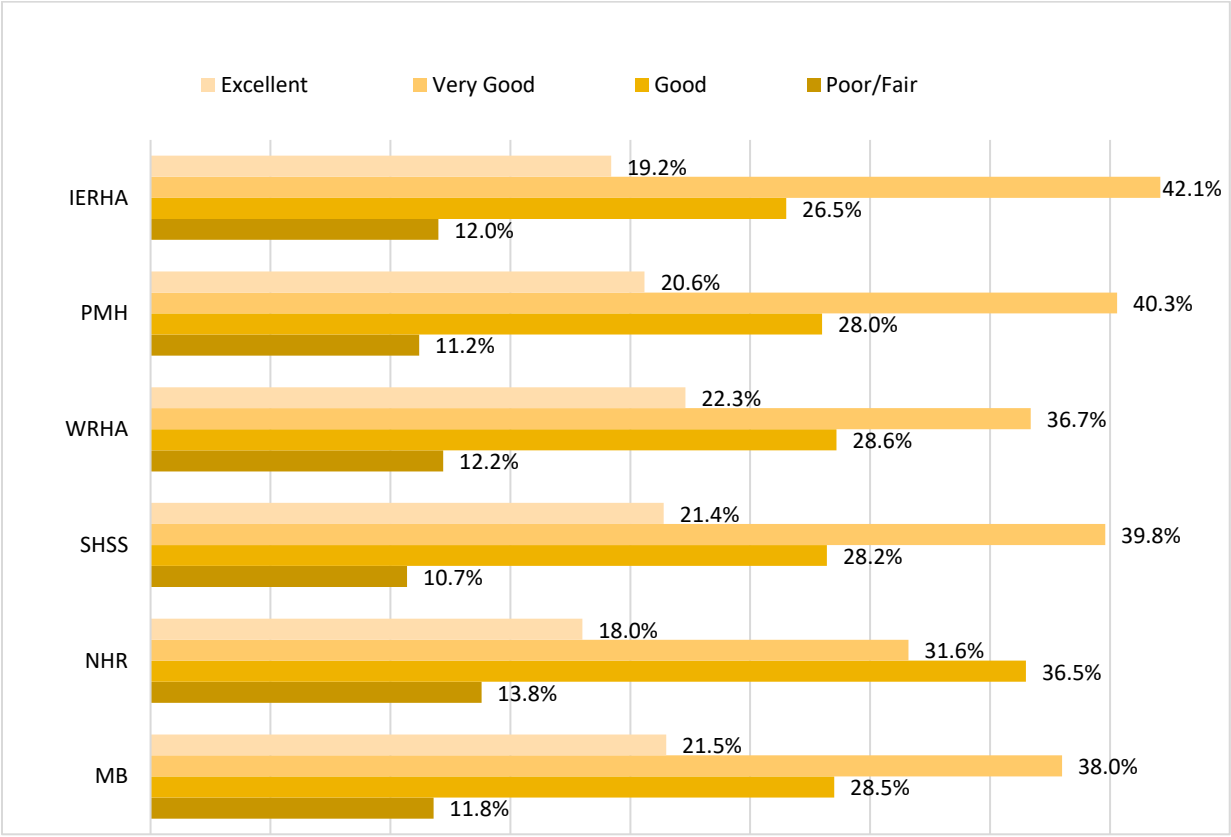
Why is this indicator important?

Good-to-excellent self-reported health status is associated with lower risk of mortality and use of health services. Poor self-reported health status is a good predictor of future illness and premature death.

Provincial Key Findings

- Self-rated general health scores were found to be stable between all health regions with no region's being statistically different from the Manitoba average.
- The NHR had the lowest percentage of respondents who indicated that their general health was excellent (18.0%) or very good (31.6%) and the highest percentage of respondents who indicated their general health was poor/fair (13.8%) compared to the other regions.

Figure 31 Self-Rated General Health by RHA, 2015/16



Source: Statistics Canada CCHS 2015-2016

Self-Rated Mental Health

Definition

The percentage of residents, aged 12 years and older, who rated their mental health as 'poor', 'fair' 'good', 'very good' or 'excellent'.

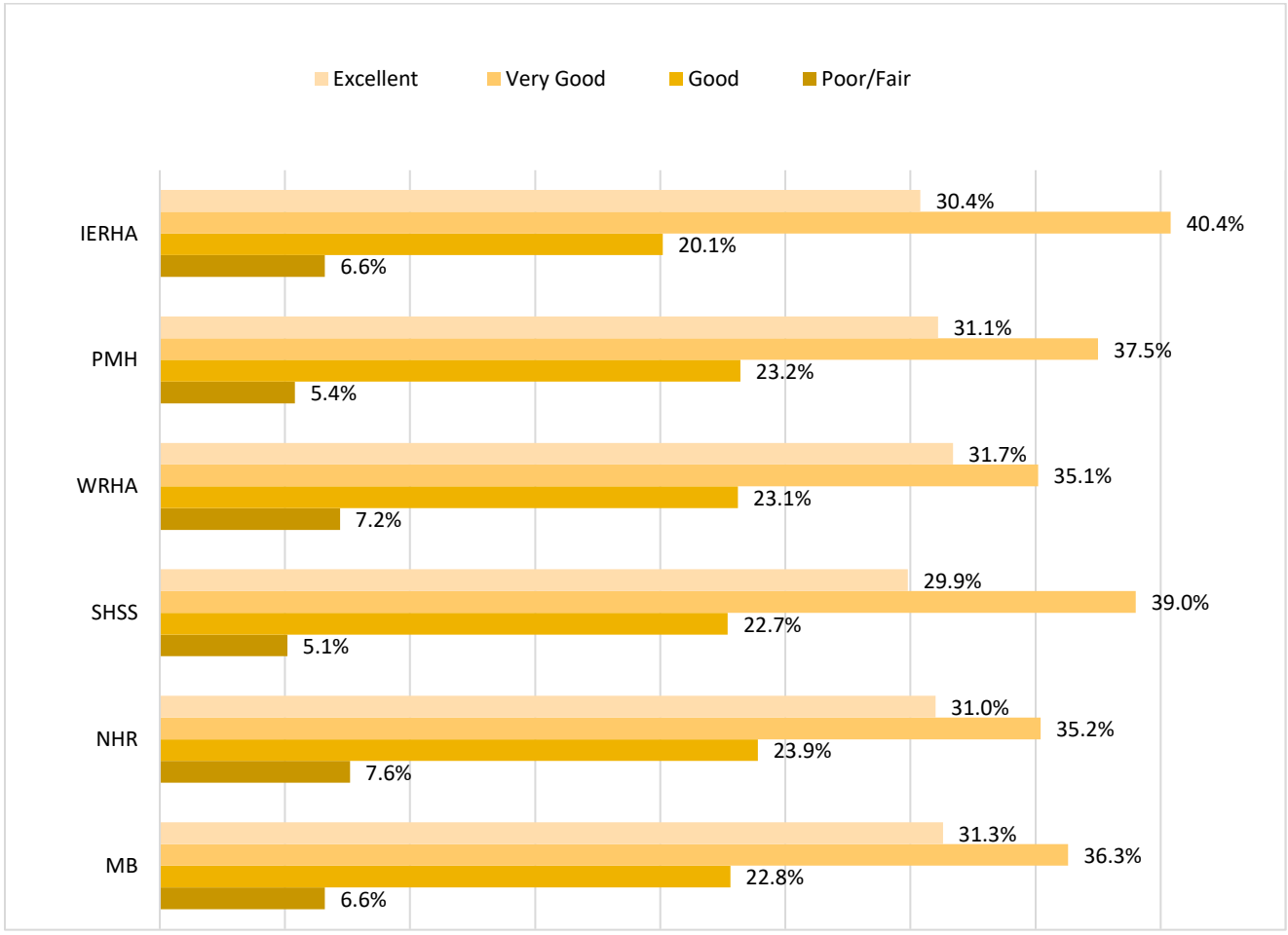
Why is this indicator important?

Mental health issues, including emotional health problems, can manifest at any time across the lifespan and are often related to challenges associated with changing roles and responsibilities. While perceived mental health is a subjective measure and does not directly correspond with diagnosed mental illnesses, it may still affect health service use and quality of life.

Provincial Key Findings

- Nearly one-third of all Manitoban's scored their mental health as excellent and fewer than 10% indicated that their mental health was either poor/fair.
- 66.2% of NHR respondents reported that their mental health was either very good or excellent.

Figure 32 Self-Rated Mental Health by RHA, 2015/16



Source: Statistics Canada CCHS 2015-2016

Life Stress

Definition

The percentage of residents, aged 15 years or older, who reported most days to be 'quite a bit stressful', 'extremely stressful', or 'not at all stressful'.

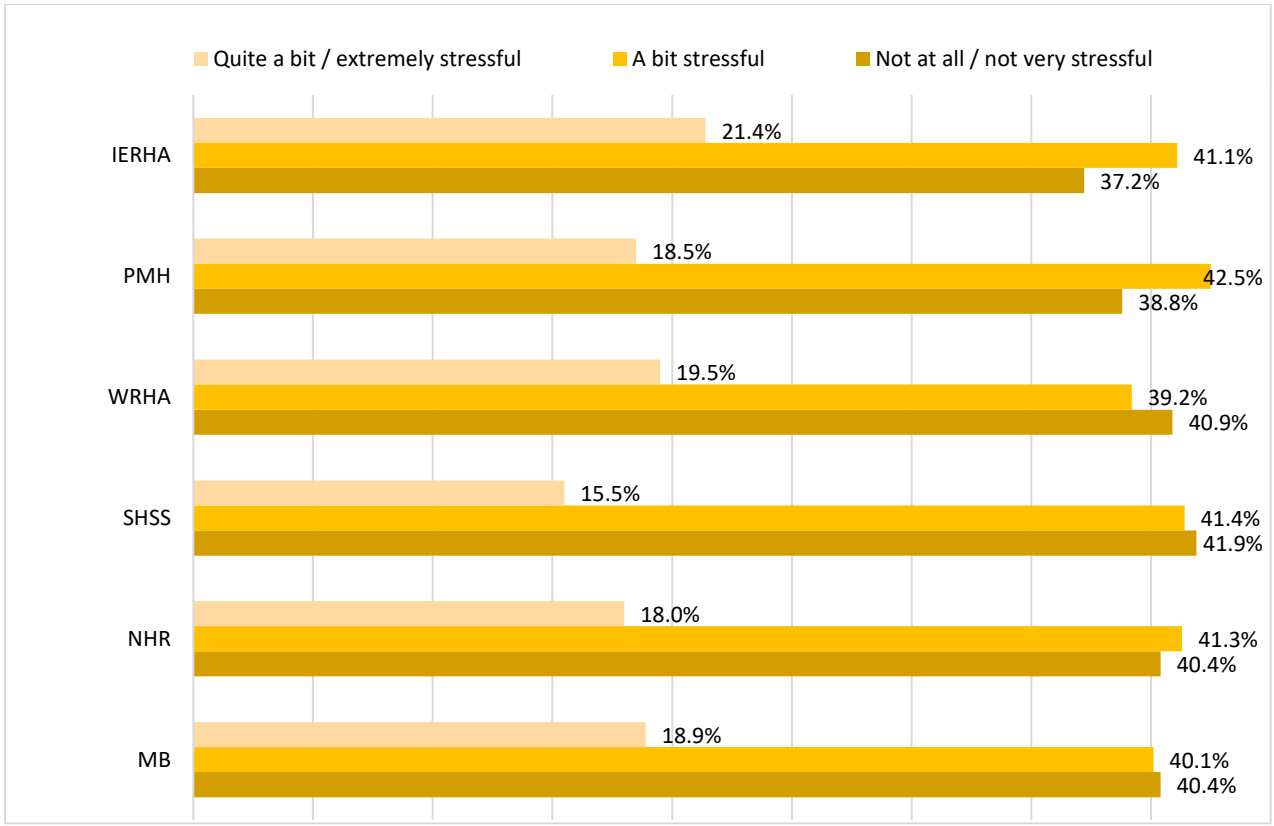
Why is this indicator important?

Prolonged exposure to high levels of stress can have negative consequences for health including increased risk of illness and chronic disease. Stress is often an underlying cause of high risk behaviours, such as substance use, as coping mechanisms.

Provincial Key Findings

- Life stress results were found to be stable between all health regions with no region's being statistically different from the Manitoba average.
- 40.4% of NHR respondents responded most days life was not at all or not very stressful, 41.3% of respondents responded most day life was a bit stressful and 18.0% of respondents reported life was quite a bit or extremely stressful.

Figure 33 Life Stress by RHA, 2015/16



Source: Statistics Canada, CCHS 2015-2016

Sense of Community Belonging

Definition

The percentage of population, aged 12 years and older, who described their sense of belonging to their local community as 'somewhat/very weak,' 'somewhat strong' or 'very strong'.

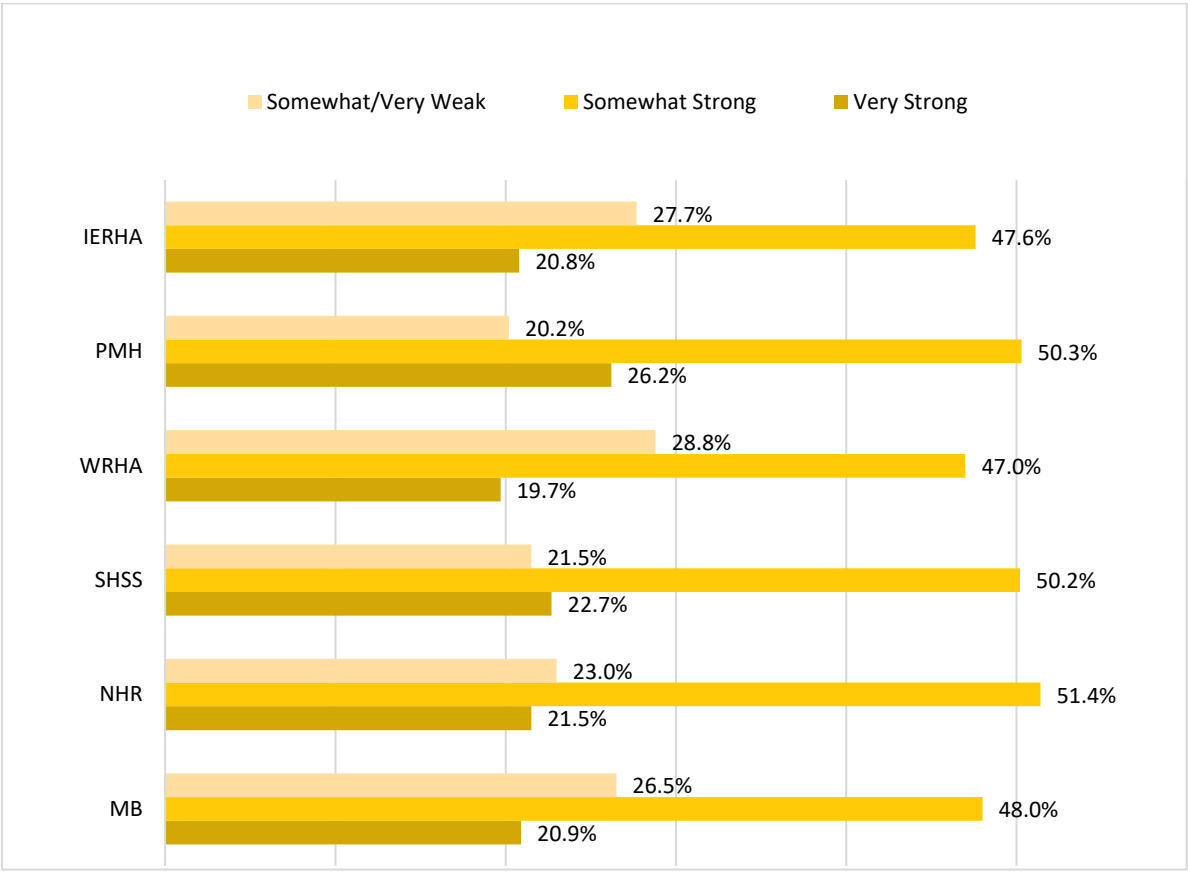
Why is this indicator important?

A strong sense of community belonging reflects attachments, social engagement and participation within communities which is associated with positive health outcomes. Individuals who do not have a strong sense of community belonging may experience social isolation which can be detrimental to their health. Understanding community connectedness supports an upstream approach to health promotion and illness prevention.

Provincial Key Findings

- The majority of all respondents in all health regions reported that they have a "somewhat strong" belonging to their community.
- Between all regions, the responses for community belonging were consistent, with no regions found to be statistically different.

Figure 34 Sense of Community Belonging by RHA, 2015/16



Source: Statistics Canada CCHS 2015-2016

Changes Made to Improve Health

Definition

The percentage of residents who reported making positive health changes in the last 12 months.

Why is this indicator important?

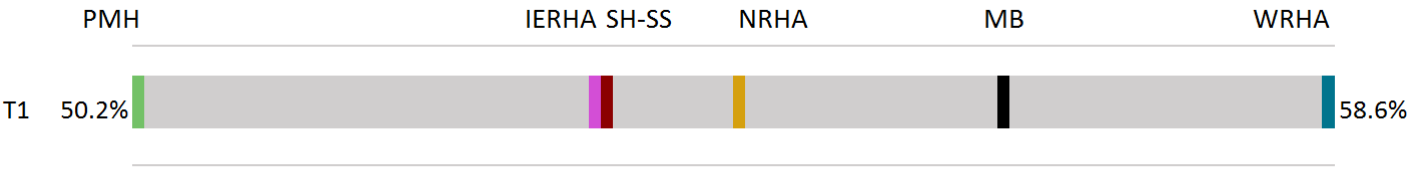
This measure provides insight into people's decision to make changes to improve their health.

Provincial Key Findings

- Nearly 60% of Manitoban's indicated that they made changes in the past 12 months to improve their health.
- Winnipeg RHA had the highest percentage of respondents indicating they had made a change while Prairie Mountain Health had the smallest percentage at 50.2%.
- Within NHR, 54.5% reported they made changes to improve health. The top three changes that were identified included: increasing exercise (44.5%), improving eating habits (20.9%) and reducing weight/smoking/alcohol, or stress (17.4%).

Figure 35 Percent of residents who reported making a positive health change in the last year

Age & Sex Adjusted proportion of weighted sample (%), CCHS 2015-2016 (T1)



H/L Significantly higher or lower than the MB average for that time period.

	PMH	IERHA	SH-SS	NHR	MB	WRHA
T1 RATE	50.2%	53.5%	53.6%	54.5%	56.3%	58.6%

Source: Statistic Canada CCHS 2015-2016

Body Mass Index (BMI)

Definition

The percentage of residents, aged 18 years and older, who are underweight/normal, overweight or obese, based upon self-reported height and weight.

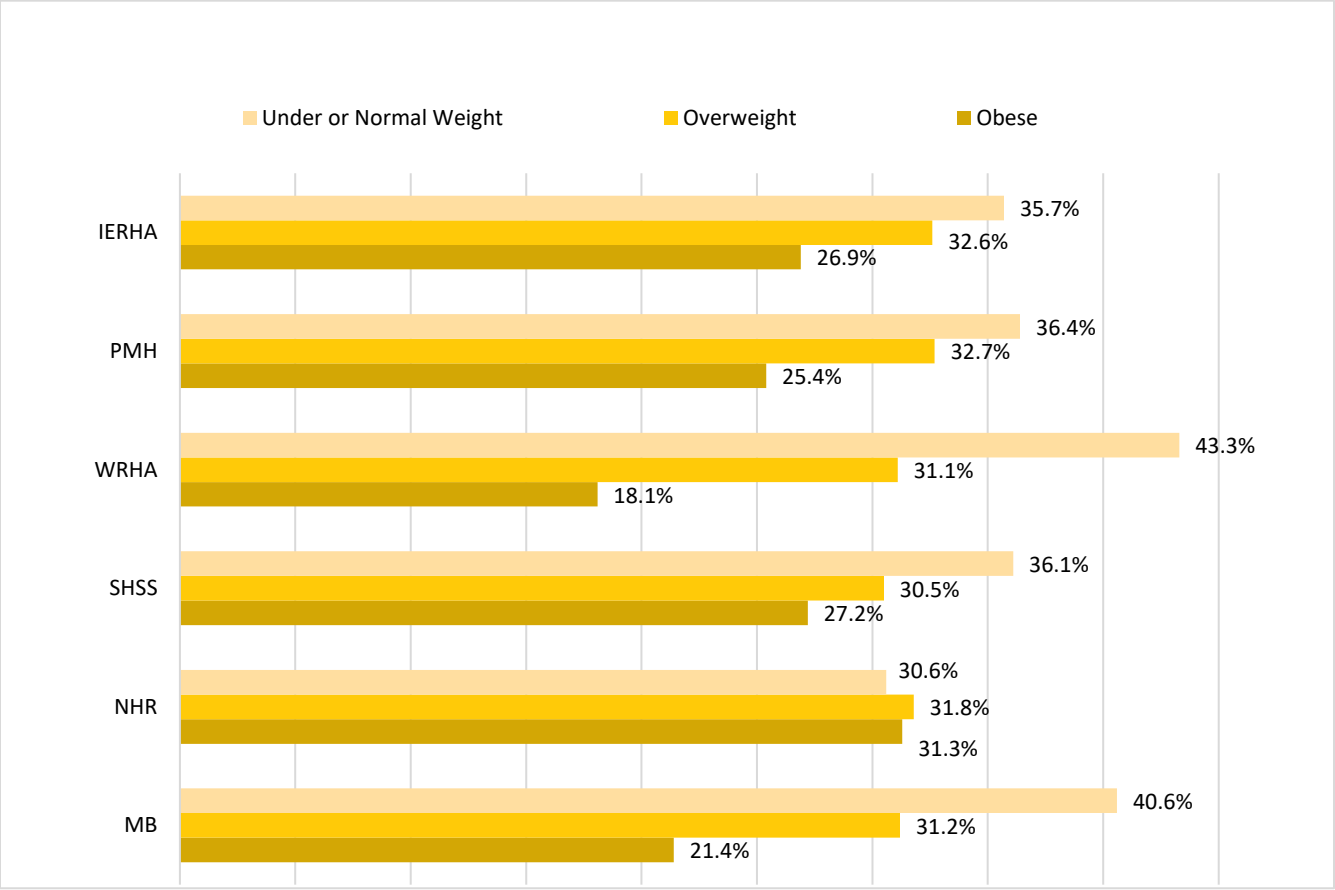
Why is this indicator important?

Body mass index is a widely used diagnostic tool used to monitor weight patterns in the population. Obesity impacts quality of life, life expectancy, is a major risk factor for a number of chronic diseases and affects the use of health services.

Provincial Key Findings

- Over 40% of Manitoba adults reported that they are either underweight or normal weight.
- Between all regions, reported body mass index varies, the percentage "underweight/normal" in Winnipeg RHA was 43.3% compared to 30.6% in NHR.
- Within the NHR, 31.3% of residents reported being "obese" and 31.8% reported being "overweight".

Figure 36 Body Mass Index by RHA, 2015/16



Source: Statistics Canada CCHS 2015-2016

Health Behaviours

Substance Use Disorders

Definition

The percentage of residents, aged 18 years and older, diagnosed with a substance use disorder (including alcohol and/or drug dependence), over a five-year time period.

Why is this indicator important?

Substance use may be associated with injuries and deaths, vandalism, alcohol poisoning and violence. Harmful use patterns started at a young age and carried into adulthood exacerbate these problems, and prolonged substance use may lead to a number of acute and chronic disease conditions.

Provincial Key Findings

- Between 2010/11-2014/15, 58,178 Manitoban's were diagnosed with a substance use disorder.
- Both Prairie Mountain Health and NHR were found to have prevalence significantly higher than the Manitoba average, while Southern Health Santé Sud and Winning RHA had significantly lower prevalence.

Figure 37 Prevalence of Substance Use Disorders among Adults by RHA, 2010/11-2014/15 (T1)

Age- and sex-adjusted percent of adults aged 18+ diagnosed with disorder in five-year time period

H/L Significantly higher or lower than the MB average for that time period.

	SH-SS		WRHA		IERHA		MB		PMH		NHR	
T1 COUNT	5,956		32,208		5,627		58,178		8,354		5,593	
T1 RATE	4.4%	L	5.6%	L	5.9%		5.9%		6.7%	H	10.8%	H

Source: MCHP Mental Health Among Adult Manitobans 2018

Regional Key Findings

- The NHR, saw 5,593 diagnosed with a substance use disorder from 2010/11-2014/15, which represents about 10.8% of the NHR population aged 18 and older.
- Substance use prevalence is significantly higher among all three zones and 15 districts in the NHR, although rates vary considerably.
- For instance, the lowest prevalence for diagnosed substance use disorders was found in Flin Flon, Snow Lake, Cranberry Portage, and Sherridon/Cold Lake (7.5%) and the highest in Lynn Lake, Leaf Rapids, South Indian Lake, O-Pipon-Na-Piwin (South Indian Lake) Cree Nation, Granville Lake, Marcel Colomb First Nation (21.8%)

Table 24 Prevalence of Substance Use Disorders among Adults by NHR Zone and District, 2010/11-2014/15 (T1)

Age- and sex-adjusted percent of adults aged 18+ diagnosed with disorder in five-year time period

Manitoba	**5.9%**	
NHR	**10.8%**	**H**
Zone 1		
Flin,Snow,Cran,Sher	7.5%	H
Thompson, Myst Lake	9.4%	H
The Pas/OCN,Kels	8.1%	H
Gillam, Fox Lake Cree Nation	12.3%	H
Thick,Pik,Wab,Ilf/WLFN,Corm	10.5%	H
LL/MCFN,LR,O–P(SIL)CN,PN(GVL)	21.8%	H
Zone 2		
Cross Lake/Cross Lake FN	15.8%	H
SayD(TL)FN,Bro/BLFN,NoL(Lac)FN	18.4%	H
GR/MisCN,ML/MosCN,Eas/CheCN	7.7%	H
Bu(OH)CN,MS(GR)CN,GLN/GLFN	14.0%	H
Norway House/NH CN	12.9%	H
Puk/Mat Col CN	12.3%	H
Sham, YorkF, Tat(SPL)	18.3%	H
Nelson House/NCN	15.0%	H
Zone 3		
IsL/GHFN,RSL/RSLFN,STPFN,WFN	8.9%	H

H/L Significantly higher or lower than the MB average for that time period.

Source: MCHP Mental Health Among Adult Manitobans 2018

Drug Methods

Definition

The methods individuals reported using for illicit drug consumption over the course of their lifetime for a one-year time period.

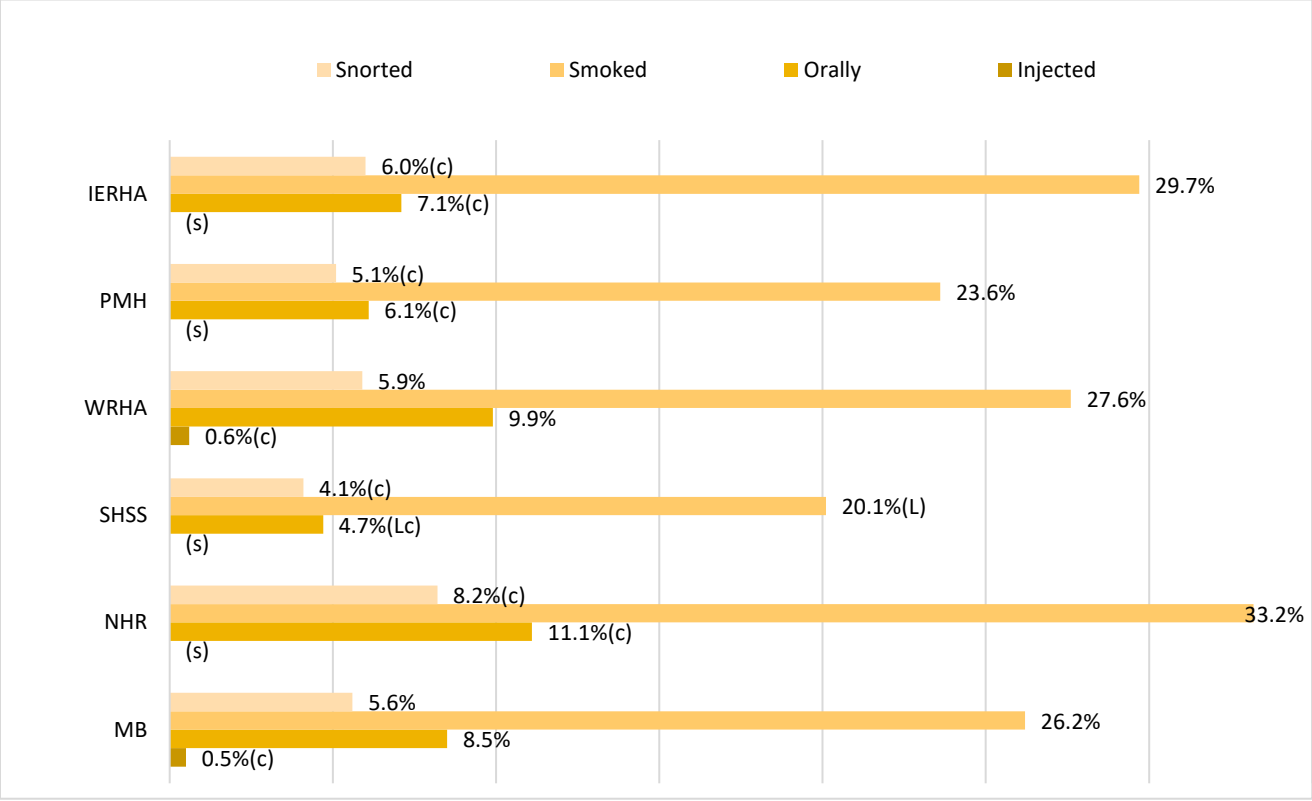
Why is this indicator important?

Understanding methods of drug consumption help inform harm reduction interventions including public awareness, sexually transmitted blood-borne infection (STBBI) prevention and public policy.

Provincial Key Findings

- According to the 2015-16 Canadian Community Health Survey, "smoked" was found to be the most method for drug use followed by "orally" in all health regions.
- Within the NHR, of those who reported they used drugs, approximately 33.2% indicated that the method used was "smoked"; 11.1% indicated the method used was "orally"; 8.2% indicated the method used was "snorted"; and data regarding "injected" was suppressed due to sample size.

Figure 38 Drug Methods by RHA, 2015/16



H/L Significantly higher or lower than the MB average. c – use with caution, s- data suppressed.

Source: Statistics Canada CCHS 2015-2016

Alcohol Use

Definition

The percentage of the population aged 12 years and older who reported using alcohol in the past week by drink amount and type of drinker (based on frequency) over the past year.

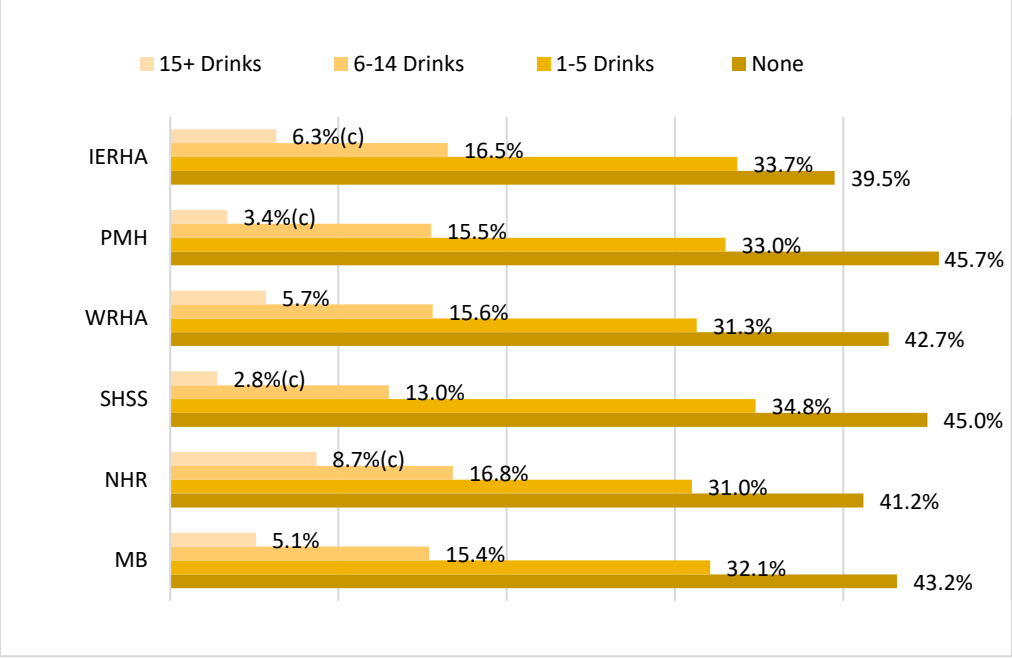
Why is this indicator important?

Alcohol consumption is linked to over 200 different diseases, conditions and types of injuries. Drinking patterns matter – how much and how often a person drinks alcohol are key factors that increase or decrease overall health and well-being[x].

Provincial Key Findings

- Weekly alcohol use between health regions was found to be very similar, with 43.2% of Manitoban's reported that they consumed no alcohol during the past week.
- The NHR had the highest percentage in the province of weekly alcohol use of 15+ drinks (8.7%) (data to be used with caution due to sample size) and 6-14 drinks (16.8%).
- In the NHR, no alcohol use in the last week made up the largest percentage of responses at 41.2%, followed by those having 1-5 drinks at 31.0% during the past week.
- 49% of Manitobans reported they were a "regular drinker"; 27.9% reported they were an "occasional drinker"; and 21.1% reported they had "no drinks" in the past year.
- 34.6% of NHR respondents reported they were a "regular drinker"; this is significantly lower than the provincial average; 32.6% reported they were an "occasional drinker"; and 31.2% reported they had "no drinks" in the last year.

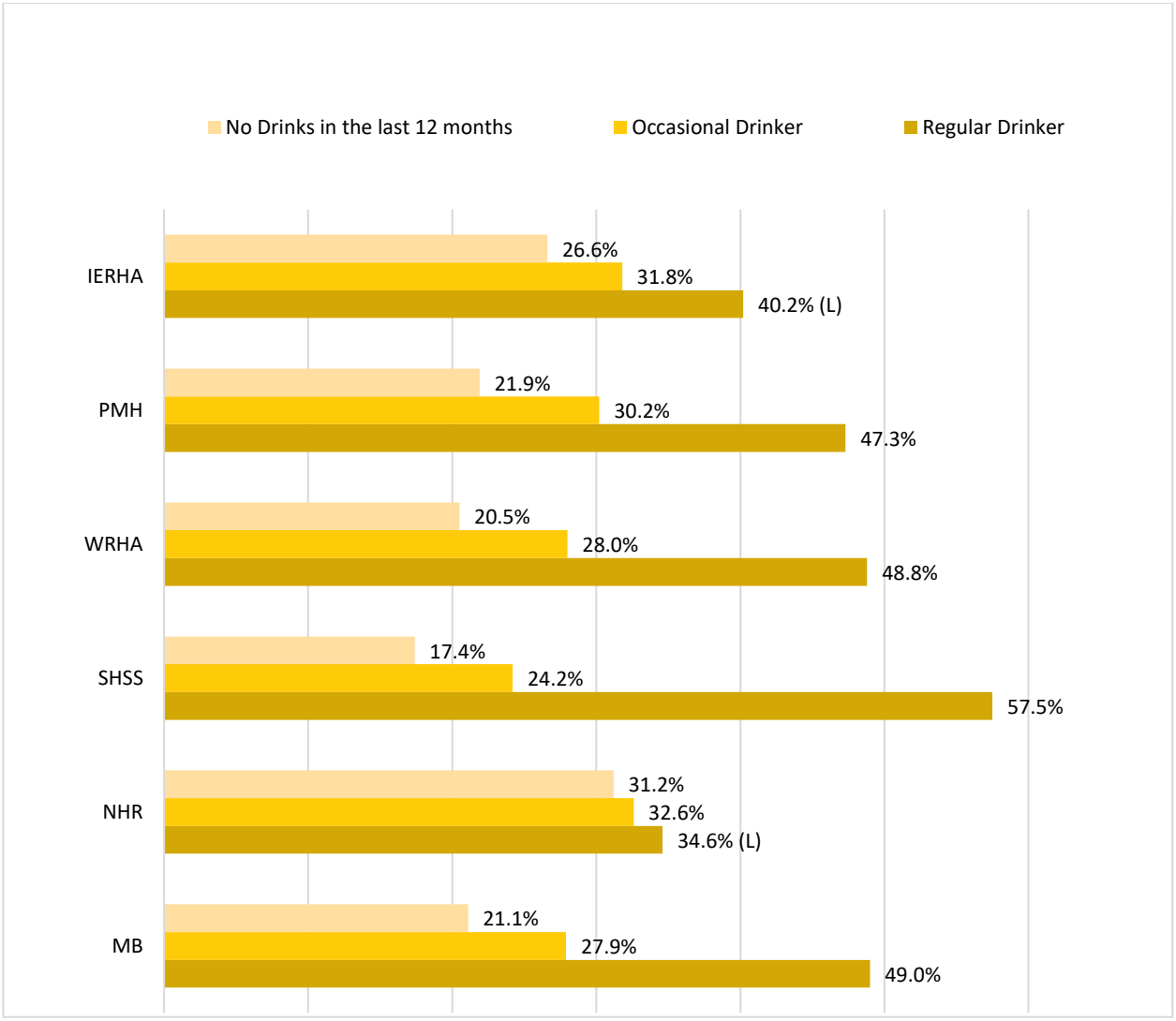
Figure 39 Number of Alcoholic Drinks in the Past Week by RHA, 2015/16



H/L Significantly higher or lower than the MB average. c – use with caution.

Source: Statistics Canada CCHS 2015-2016

Figure 40 Frequency of Alcohol Use in the Past Year by RHA, 2015/16



H/L Significantly higher or lower than the MB average.

Source: Statistics Canada CCHS 2015-2016

Tobacco Use/Smoking

Definition

The percentage of the population, aged 12 years and older, who reported being either a current smoker, a former smoker or a non-smoker over a one-year time period.

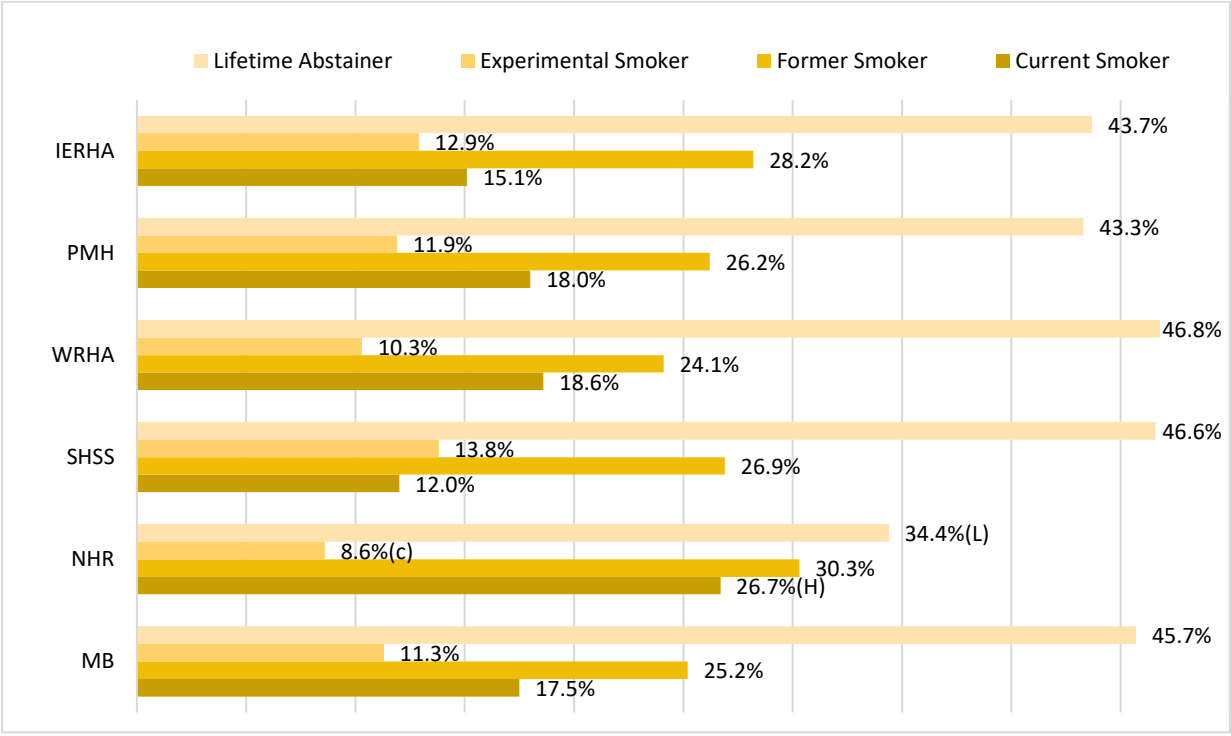
Why is this indicator important?

Tobacco continues to be the leading cause of preventable death in Canada. Smoking and exposure to second-hand smoke are significant risk factors for lung cancer, respiratory diseases and other health problems.

Provincial Key Findings

- Provincially, the majority of respondents indicated that they were "lifetime abstainer" (i.e. never smoked) (45.7%), followed by "former smoker" (25.2%), followed by "current smoker" (17.5%) and last was "experimental smoker" (11.3%).
- Responses varied between health regions on "current smoker", with NHR having a significantly higher rate at 26.7% than the rest of Manitoba at 17.5%; and on "lifetime abstainer", with NHR having a significantly lower rate at 34.4% compared to the rest of Manitoba at 45.7%.

Figure 41 Tobacco Use/Smoking by RHA, 2015/16



H/L Significantly higher or lower than the MB average. c – use with caution

Source: Statistics Canada CCHS 2015-2016

Second-Hand Smoke Exposure

Definition

The percentage of non-smokers 12 years and older who reported second-hand smoke exposure over a period of one year.

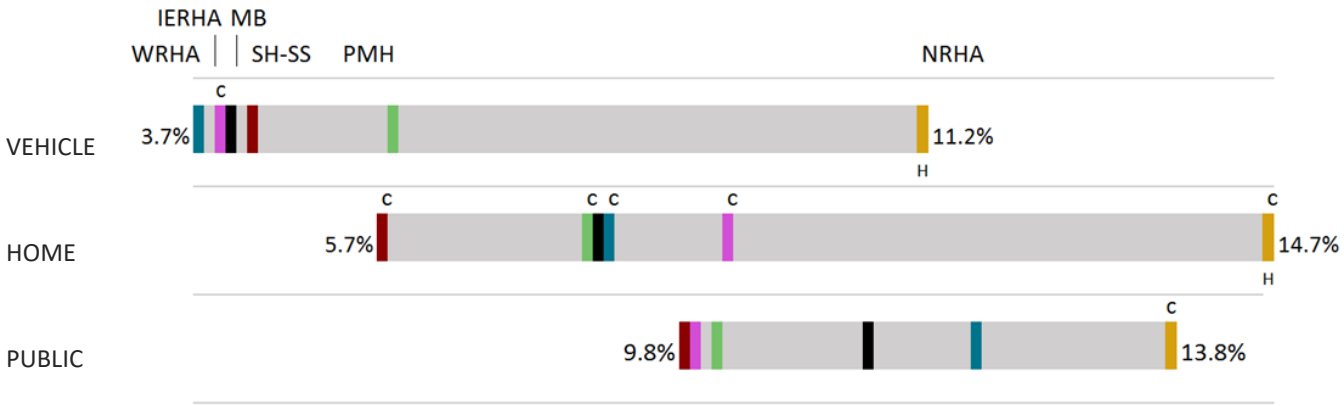
Why is this indicator important?

Second-hand smoke causes numerous health problems in infants and children including more frequent and severe asthma attacks, respiratory infections, ear infections, and sudden infant death syndrome (SIDS). For adults, health conditions caused by second-hand smoke include coronary heart disease, stroke, and lung cancer.

Provincial Key Findings

- In Manitoba, the most frequent location where residents reported being exposed to second hand smoke was in public (11.5%) and least likely to report being exposed in a vehicle (4.1%).
- Between the regions, NHR had the highest reported rates for second hand smoke in the home (14.7%), in the vehicle (11.2%), and in public places (13.8%). Data to be used with caution due to Statistics Canada Canadian Community Health Survey sample size.

Figure 42 Exposed to Second-Hand Smoke in Private Vehicle, Own Home, Public Place, 2015/16



H/L Significantly higher or lower than the MB average. c – use with caution.

	WRHA		IERHA		MB		SH-SS		PMH		NHR	
VEHICLE	3.7%		4.0%	c	4.1%		4.4%		5.8%		11.2%	H
HOME	8.0%	c	9.2%	c	7.9%		5.7%	c	7.9%	c	14.7%	Hc
PUBLIC	12.4%		9.9%		11.5%		9.8%		10.2%		13.8%	c

Source: Statistics Canada CCHS 2015-2016

A CLOSER LOOK…TOBACCO TACKLE AND TOBACCO REDUCTION

In response to tobacco initiation and use rates within the NHR staff provide both the tobacco tackle program in schools and communities and tobacco reduction counselling to NHR residents.

The purpose of the **tobacco tackle** team is to use a **peer led model** to educate youth on the issues of tobacco and prevent regular use of tobacco. The program is designed to include an **education** component, a **peer support** component and to develop and implement school or community based projects. In the past few years our tobacco tackle teams have developed videos, public service announcements in both English and Cree, advocated for local governments to have smoke free areas in communities, developed and implemented awareness campaigns, and participated in clean up butts day. Tobacco Tackle is **open to all schools** located in the NHR.

Our **tobacco reduction** program has been hard at work to improve the availability, accessibility and effectiveness of our **cessation services** for populations affected by tobacco related disparities. The staff have increased their knowledge and capability to support NHR residents to quit tobacco use by becoming Certified Tobacco Educators. We know that most tobacco users struggle with cessation tools that are affordable and accessible. To improve health equity outcomes among tobacco users we are now able to provide nicotine replacement therapy for free. These two advances to our program will help reduce the tobacco related inequities in the NHR.

One NHR resident reflects on her experience with Smoking Cessation “I have smoked for many years which I enjoyed, especially during stressful times and as a bonding with friends or family. I wanted to quit but, felt I needed support along the way. In consultation with my physician, I was referred to the Smoking Reduction, a program by NHR to help people quit. This is where I met Deanna, she was very supportive throughout, and I never felt judged or ashamed. The program was beneficial to me as it provided the patches to curb the cravings, but it’s not only about the patches, it’s about identifying the reasons why I was smoking:

- My feelings of fear, rejection, victimization, loneliness, boredom or celebratory and peer pressure.
- I had to look at my habits, such as smoking after a meal and other habits I created and contributed to.
- Stress triggers, such as hanging out with other smokers, health issues, bills, repairs etc.

It’s been a year and I notice positive changes; my teeth are not so stained, my complexion is not so rough, smoke wrinkles are significantly reduced, even my eyes are not so yellowish, I breathe better. I just feel better overall. I feel good when someone asks me for a smoke and I can say sorry, I don’t smoke. I highly recommend this program to anybody who wants to quit smoking.”

Another NHR resident reveals his journey “I was a smoker for over 40 years. I tried to quit smoking cold turkey lots of times, but for me until a friend referred me to the smoking cessation program at Flin Flon Primary Healthcare Centre. This was the help and support I needed to quit smoking and have been a successful non-smoker now for the past 3 ½ years. The program is an excellent one and I am living proof that the program works. I do not smoke anymore and have never felt better.”

Physical Activity – Adults

Definition

Physical activity level of residents aged 12 years and older, based on self-reported average daily physical activity including the frequency, duration and intensity of their participation in physical activities, over the previous three months.[2]

Why is this indicator important?

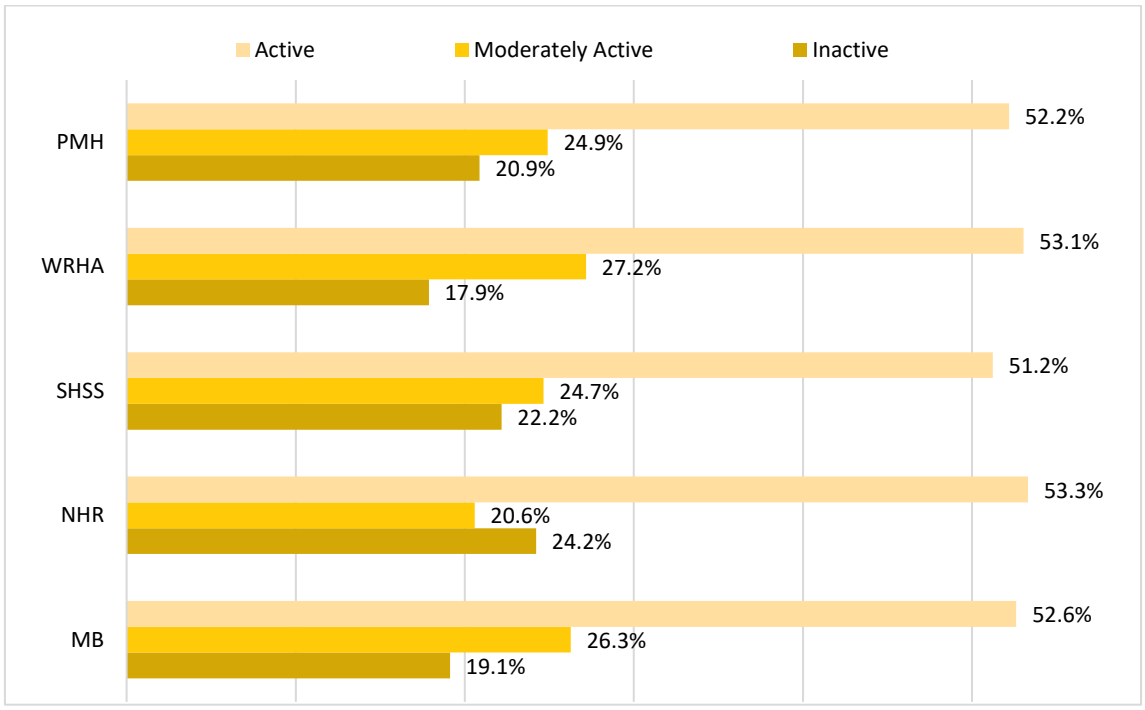
Appropriate levels of physical activity have been demonstrated to promote normal growth and bone development, foster psychological well-being, help maintain a healthy body weight and reduce the risk of several chronic diseases.

Provincial Key Findings

- Over 50% of Manitoba adults reported being "active" and fewer than 20% reported being "inactive".
- Between all regions, the responses for physical activity levels were consistent.
- NHR had the highest number of residents who reported being "active", 53.3% and the highest number of residents who reported being "inactive", 24.2%. In addition, 20.6% of respondents reported being moderately active.
- The NHR values were not found to be statistically different from the Manitoba data.

[2] This indicator is a CCHS derived variable based on average daily energy expenditure values (kcal/kg/day) calculated from a series of questions on the frequency, duration and intensity of participation in physical activities. It was grouped into three categories: Active (27.7 kcal/kg/day or more), Moderate (15.4-27.6 kcal/kg/day) or Inactive (0-15.3 kcal/kg/day) average daily energy expenditure. Three types of physical activities were included in the variable: 1) physical activity (i.e. usual daily activities, occupational-related physical activity); 2) physical activity for travel (i.e., biking or walking to school or work); and 3) leisure time physical activity (i.e., walking, running, gardening, soccer, etc.).

Figure 43 Physical Activity in Adults by RHA, 2015/16



Source: Statistics Canada CCHS 2015-2016

Participation and Activity Limitation

Definition

The percentage of respondents, aged 12 years and older, who reported they require help for activities of daily living because of a physical or mental condition or health issue.

Why is this indicator important?

While it is imperative to measure the prevalence of specific health conditions, it is also important to understand the burden these conditions place on the daily lives of residents. The participation and activity limitation indicator helps to monitor this burden in the population.

Provincial Key Findings

- Over 40% of Manitoba adults reported that they never require help for ADLs.
- Between all regions, the responses for participation and activity limitation were consistent.

Table 25 Participation and Activity Limitation by RHA, 2015/16

	Never	Sometimes	Often
Manitoba	**43.0%**	**14.4%**	**8.8%**
NHR	**42.5%**	**14.6%**	**9.8%**
WRHA	42.6%	14.3%	9.1%
PMH	43.1%	15.1%	8.2%
IERHA	42.8%	14.5%	9.1%
SH-SS	44.2%	14.1%	8.0%

Source: Statistics Canada CCHS 2015/16

Regional Key Findings

- In the NHR 42.5% of residents reported they never required help, 14.6% reported they sometimes required help and 9.8% report they often needed help for an activity of daily living.
- Zone one data indicated that 42.7% of residents never required help, 14.4% sometimes required help and 9.4% often required help with an activity of daily living. The data for zone two was suppressed and in zone three 42.3% of respondents reported they never required help with an activity of daily living, but the rest of the data was suppressed.

Table 26 Participation and Activity Limitation by NHR Zone, 2015/16

	Never	Sometimes	Often
Manitoba	**43.0%**	**14.4%**	**8.8%**
NHR	**42.5%**	**14.6%**	**9.8%**
Zone 1	42.7%	12.7%	9.4%
Zone 2	s	s	s
Zone 3	42.3%	s	s

s – data suppressed.

Source: Statistics Canada CCHS 2015-2016

Fruit and Vegetable Consumption

Fruit and Vegetable Consumption

Definition

The percentage of the population, aged 12 years and older, who reported consuming five or more servings, on average, of fruit and vegetables daily.

Why is this indicator important?

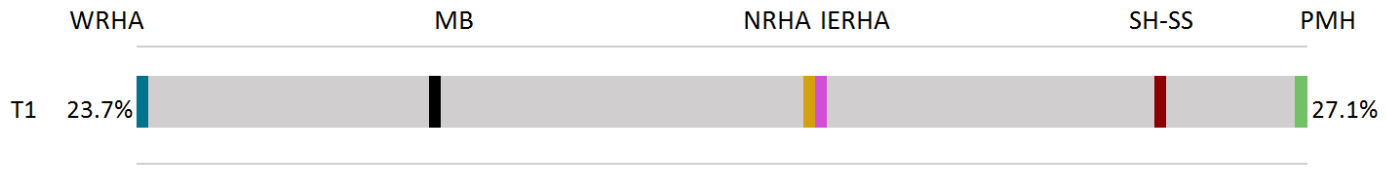
Low fruit and vegetable consumption is one of the leading factors contributing to chronic disease.

Provincial Key Findings

- Nearly one-quarter of Manitoba adults reported that they consume five or more servings of fruit and vegetables daily.
- Between all regions, the responses for fruit and vegetable consumption were consistent, ranging from a low of 23.7% (Winnipeg RHA) to a high of 27.1% (Prairie Mountain Health).
- NHR is in the middle with 25.7% of respondents who reported they consumed five or more servings of fruit and vegetables per day.

Figure 44 Reported Consuming five or more Servings of Fruit or Vegetables per Day, 2015/16

Age and sex adjusted proportion (%) of weighted sample CCHS 2015-2016



H/L Significantly higher or lower than the MB average.

	WRHA		MB		NHR		IERHA		SH-SS		PMH	
T1 RATE	23.7%		24.6%		25.7%		25.7%		26.7%		27.1%	

Source: Statistics Canada CCHS 2015-2016

Sleep Time

Definition

The average number of hours individuals reported they spent sleeping in a 24 hour period.

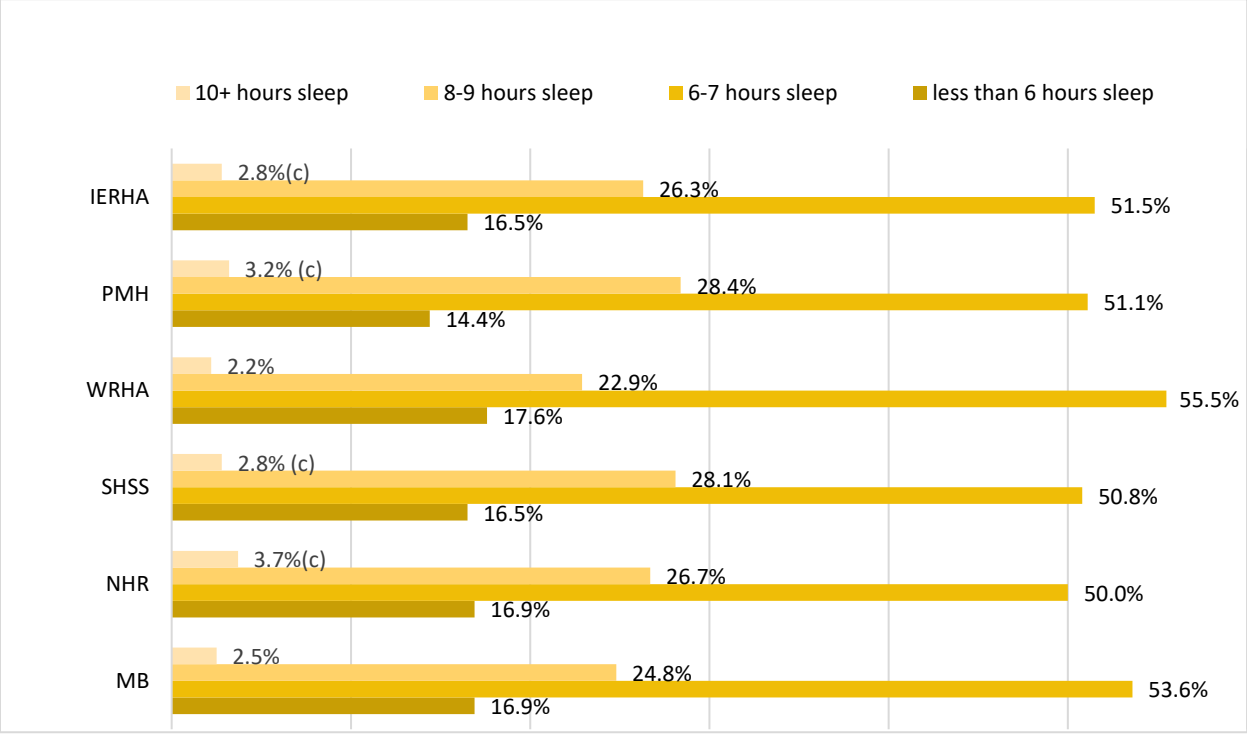
Why is this indicator important?

Sleep is a vital component of good health and well-being throughout an individual's life. An adequate amount of quality sleep every day can help promote good mental and physical health, quality of life and safety.

Provincial Key Findings

- The majority of Manitoban's get at least 6 or more hours of sleep per night.
- Between all regions, the responses for sleep time were consistent, with no regions found to be statistically different.
- In NHR, 6-7 hours was the most commonly reported sleep time and 10+ hours or less was the least common response.

Figure 45 Sleep Time by RHA, 2015/16



c – use with caution

Source: Statistics Canada CCHS 2015-2016

Cell Phone Use While Driving

Definition

The percentage of the population who reported using a cell phone while driving a motor vehicle, over a one-year time period.

Why is this indicator important?

Cell phone use while driving decreases driver awareness and increases the risk for collisions, leading to higher levels of unnecessary injuries and fatalities. Monitoring this behavior helps to inform on the effectiveness of public education activities.

Provincial Key Findings

- Over 70% of Manitoba respondents reported that they "never" use a cell phone while driving.
- Respondents in IEHRA, were most likely to report the use of a cell phone while driving.

Table 27 Driving and Safety regarding Cell Phone Use by RHA, 2011-2014

	Never	Rarely	Often/Sometimes
Manitoba	**72.0%**	**14.5%**	**9.5%**
NHR	**71.9%**	**12.4%**	**8.0%**
WRHA	71.6%	13.6%	8.4%
PMH	69.7%	14.8%	11.0%
IERHA	67.7%	16.2%	11.9%
SH-SS	69.2%	16.6%	10.7%

Source: Statistics Canada CCHS 2011-2014

Regional Key Findings

- NHR had a lower percentage of drivers who reported using their cell phone "rarely" (12.4%) or "often/sometimes" (8.0%) and almost the same rate for "never" (71.9%) compared to Manitoba.
- Zone one data indicates that 73.5% of residents reported "never" using a cell phone while driving, 14.5% report "rarely" using a cell phone while driving and 9.7% report "often" using a cell phone while driving. 91.2% of zone two residents and 71% of zone three residents report "never" using a cell while driving; this data to be used with caution due to sample size. The remainder of the data was suppressed.

Table 28 Driving and Safety regarding Cell Phone Use by NHR Zone, 2011-2014

	Never		Rarely		Often/Sometimes	
Manitoba	72.0%		14.5%		9.5%	
NHR	71.9%		12.4%		8.0%	
Zone 1	73.5%		14.5%		9.7%	
Zone 2	91.2%	c	s		s	
Zone 3	71.0%	c	s		s	

c – use with caution, s – data suppressed.

Source: Statistics Canada CCHS 2011-2014

All-Terrain Vehicle Helmet Use

Definition

The percentage of the population who reported using a helmet while riding an all-terrain vehicle (ATV), over a one-year time period.

Why is this indicator important?

Wearing an approved proper fitting helmet is one of the ways to reduce the risk of acquiring a head or spinal cord injury during an all-terrain vehicle accident. Monitoring this behavior helps to inform public education activities.

Provincial Key Findings

- In Manitoba, over 40% of the population reported that they rarely or never wear a helmet while on all-terrain vehicles.
- Across the region's, "rarely/never" rages from a low of 31.9% (NHR) to a high of 48.7% (Prairie Mountain Health).

Table 29 Driving and Safety regarding ATV Helmet Use by RHA, 2011-2014

	Rarely/Never	Often/Mostly
Manitoba	**41.7%**	**43.7%**
NHR	**31.9%**	**55.0%**
WRHA	40.7%	38.1%
PMH	48.7%	39.9%
IERHA	47.0%	40.8%
SH-SS	41.1%	47.4%

Source: Statistics Canada CCHS 2011-2014

Regional Key Findings

- NHR respondents were more likely to report wearing a helmet on an all-terrain vehicle "often/mostly" (55.0%) and less likely to report "rarely/never" (31.9%).
- At the zone level, 60.2% of zone one residents and 50.0% of residents reported wearing a helmet on an all-terrain vehicle "often/mostly". Much of the zone data was suppressed.

Table 30 Driving and Safety regarding ATV Helmet Use by NHR Zone, 2011-2014

	Rarely/Never		Often/Mostly	
Manitoba	**41.7%**		**43.7%**	
NHR	**31.9%**		**55.0%**	
Zone 1	33.4%		60.2%	H
Zone 2	s		50.0%	c
Zone 3	s		s	

H/L Significantly higher or lower than the MB average. c – use with caution, s – data suppressed.

Source: Statistics Canada CCHS 2011-20

A CLOSER LOOK…MENTAL WELLNESS OCCUPATIONAL THERAPY

Occupational therapy is a profession focused on promoting health and well-being. Occupational therapists work with clients to maximize their engagement in the everyday occupations that are meaningful to them in the areas of **self-care, leisure,** and **productivity**. In a mental health context this includes developing and maintaining functional life skills while increasing understanding of and managing mental illness. On the psychiatric acute care unit two ways this has been accomplished is through cooking group and horticulture group.

Once a week, we meet on the unit in the morning and brainstorm recipes for the afternoon **cooking group**. What is made depends on the client population that day. Healthy, simple and affordable recipes are chosen so that clients have a repertoire of recipes to make when they get home. Additionally, when clients identify cooking as a strength or interest they are encouraged to teach the group their own recipes. Whether the group that day is a less structured leisure activity or a more formal skills teaching opportunity depends on the clients' skill sets, functional needs, and goals.

In the spring of 2019 the University College of the North carpentry program volunteered their knowledge and time to build garden boxes for the **horticulture group** mental wellness program. Clients staying on psychiatric acute care unit were accompanied to stores to purchase seeds; they planted the seeds, and then weeded, watered, and harvested the garden produce. When appropriate the garden produce is used in the cooking group recipes.

Use of Preventive Services

Immunization

Influenza (age 65+)

Definition

The percentage of the population, aged 65 years and older, who were immunized for influenza (received the flu shot), over a one-year time period.

Why is this indicator important?

People 65 years and older are at greater risk of serious complications from the flu, often leading to hospitalization and death, as immune defenses become weaker with age. Monitoring the uptake of influenza vaccination helps to inform health promotion and public health interventions including public awareness messages in an effort to reach the national target of 80 percent coverage.

Provincial Key Findings

- According to Manitoba Health Immunization data, 55.2% of residents aged 65 and older received the annual flu shot.
- Regionally, there is variation, the highest uptake was in Winnipeg RHA and the lowest was in NHR.

Figure 46 Influenza Immunization (age 65+) by RHA, 2017/18

Flu Immunizations 65+

	NHR	SH-SS	PMH	IERHA	MB	WRHA
T1 COUNT	2,405	12,909	16,716	12,698	115,433	70,705
T1 RATE	43.2%	47.5%	53.2%	54.3%	55.2%	58.2%

Source: IMA MHSAL 2019

Regional Key Findings

- In 2017/18, 2405 NHR residents aged 65 and older received the annual flu shot; that is 43.2% of the population.
- There was varying uptake of the influenza vaccine for residents 65 plus across NHR zones. Zone one had a 48.2% uptake, zone three had a 44.7% uptake and zone two had a 28.1% uptake.

Table 31 Influenza Immunization (age 65+) by NHR Zone, 2017/18

	Age 65+
Manitoba	**55.2%**
NHR	**43.2%**
Zone 1	48.2%
Zone 2	28.1%
Zone 3	44.7%

Source: IMA MHSAL 2019

Pneumococcal (age 65+)

Definition

The percentage of the population, aged 65 years and older, who were immunized for pneumonia (pneumococcal conjugate vaccine). Unlike influenza, this immunization is usually only given once in a lifetime, therefore the rate is cumulative.

Why is this indicator important?

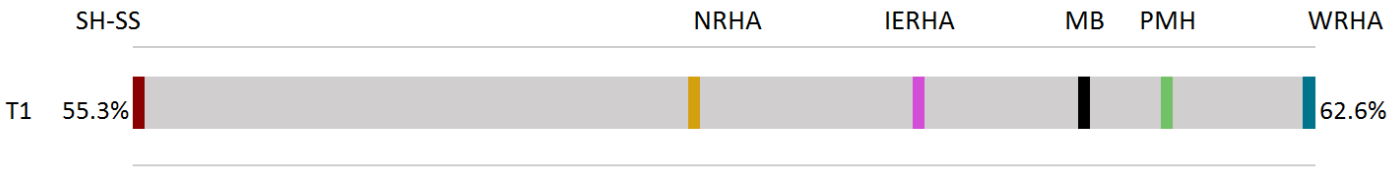
Pneumococcal disease can cause severe infections of the lungs, bloodstream, lining of the brain and spinal cord that may sometimes be fatal. A weakened immune system puts older adults at a greater risk of developing life threatening pneumococcal infections and, for those who survive to suffer permanent damage to health, especially if living with other comorbid conditions. Monitoring the uptake of pneumococcal vaccination helps to inform on health promotion and primary health care interventions.

Provincial Key Findings

- According to Manitoba Health Immunization data, 61.2% of residents aged 65 and older received the immunization for pneumonia.
- Regionally, there is variation, with the highest uptake being in Winnipeg RHA and the lowest uptake in Southern Health Santé Sud.

Figure 47 Pneumococcal (age 65+) by RHA, 2017/18

Pneumococcal Immunizations 65+



	SH-SS	NHR	IERHA	MB	PMH	WRHA
T1 COUNT	14,992	3,255	14,024	127,881	19,445	76,165
T1 RATE	55.3%	58.8%	60.2%	61.2%	61.7%	62.6%

Source: IMA MHSAL 2019

Regional Key Findings

- 58.8% of NHR residents aged 65 and older received the immunization for pneumonia.
- The NHR zones immunization for pneumonia rates vary by just under 10%. Zone one had a rate of 61.3%, zone two's rate was 51.5% and zone three's rate was 59.5%.

Table 32 Pneumococcal (age 65+) by NHR Zone, 2017/18

	Age 65+
Manitoba	**61.2%**
NHR	**58.8%**
Zone 1	61.3%
Zone 2	51.5%
Zone 3	59.5%

Source: IMA MHSAL 2019

Colorectal Cancer Screening

Definition

The percentage of the population, aged 50 to 74 years, who participated in screening for colorectal cancer (including Fecal Occult Blood Test (FOBT), Fecal Immunochemical Test (FiT), Colonoscopy, and Flexible Sigmoidoscopy).

Why is this indicator important?

In Manitoba, it is recommended that most people age 50 to 74 years do a fecal occult blood test (FOBT) every two years. Screening done through a regular FOBT or a colonoscopy or sigmoidoscopy has been shown to greatly reduce the chance of dying from colorectal cancer because early detection of pre-cancerous polyps often leads to more effective treatment.

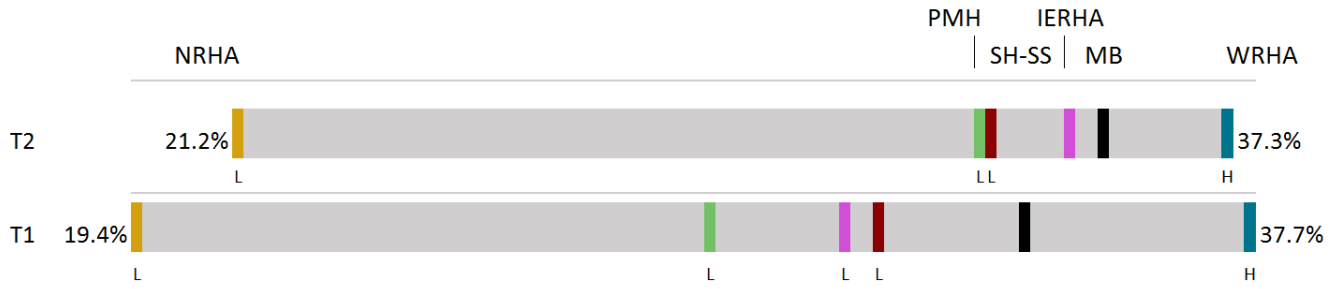
Provincial Key Findings

- In 2016-17, 35.3% of Manitoban's participated in screening for colorectal cancer.
- All regions have experienced increased colorectal cancer screening participation rates from 2014 to 2017.
- Colorectal cancer screening participation rates were found to be significantly higher in Winnipeg RHA, while rates in Prairie Mountain Health, Southern Health Santé Sud, and in NHR are significantly lower.
- The income disparity remained unchanged over time. Colorectal cancer screening among low income residents was 0.8 times lower than the highest income residents.

	Rural Quintiles
T1	*0.8x*
T2	*0.8x*
CHANGE	*0.0*

Figure 48 Colorectal Cancer Screening by RHA, 2014/15 (T1) and 2016/17 (T2)

All Fecal Tests (ColonCheck FOBT, ColonCheck FiT, and Other FOBT) Ages 50-74



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		PMH		SH-SS		IERHA		MB		WRHA	
T2 COUNT	3,444		16,830		16,852		15,729		131,612		78,757	
T2 RATE	21.2%	L	33.5%	L	33.5%	L	34.9%		35.3%		37.3%	H
T1 RATE	19.4%	L	28.9%	L	31.6%	L	31.1%	L	34.1%		37.7%	H

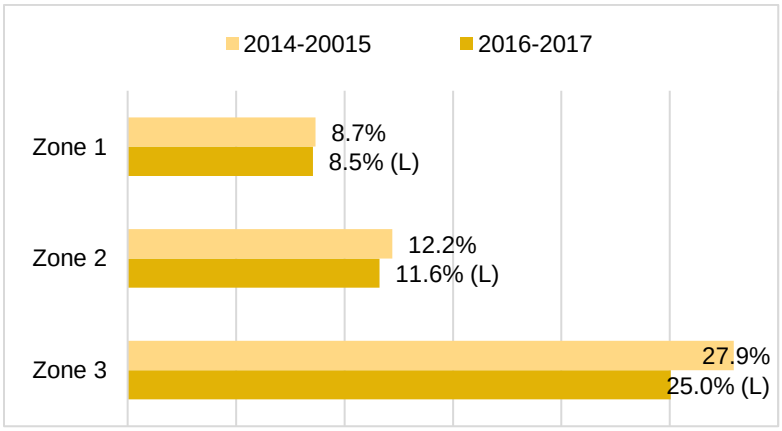
Source: CancerCare Manitoba 2019

Regional Key Findings

- From 2014 to 2017, there was a 1.8% increase in NHR residents participating in colorectal cancer screening. The NHR colorectal screening rate remained below the Manitoba average.
- Similar to the provincial key findings, all zones experienced increased participation rates over time.
- All zones had colorectal screening rates significantly below the Manitoba average.

Figure 49 Colorectal Cancer Screening by NHR Zone, 2014/15 (T1) and 2016/17 (T2)

All Fecal Tests (ColonCheck FOBT, ColonCheck FiT, and Other FOBT) Ages 50-74



H/L Significantly higher or lower than the MB average.

Source: CancerCare Manitoba 2019

Breast Cancer Screening

Definition

The percentage of females, aged 50 to 69 years, who received at least one mammogram in a two-year time period.

Why is this indicator important?

In Manitoba, it is recommended that screening mammography be offered every two years to all women 50 to 74 years of age. Although breast cancer can occur at any age, more than 80 percent of new cases occur among women 50 years of age and older. Early detection, combined with effective treatment, remains the best option available to reduce deaths in this age group.

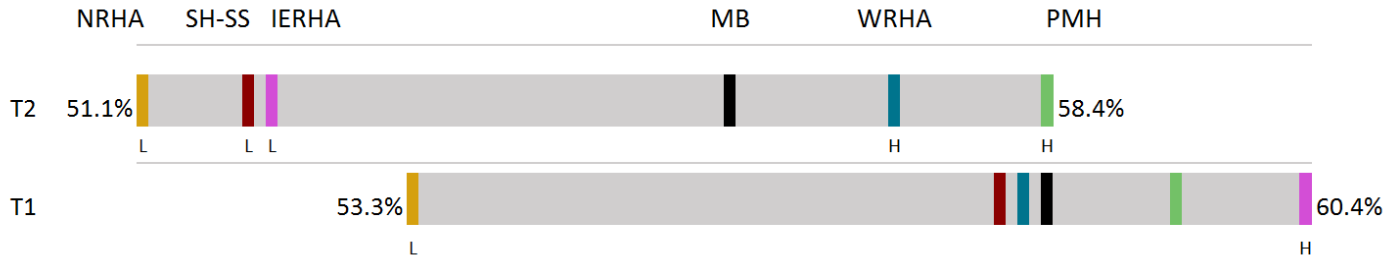
Provincial Key Findings

- In 2016-17, there was a decrease in the percentage of residents who received a mammography form 58.4% down to 55.8%.
- All regions reported 'significantly different' results in comparison with the Manitoba rate. Three of the five regions have rates significantly lower than the Manitoba average while two have rates which are significantly higher.
- It is important to note, that all region's experienced a decline in breast cancer screening participation rates overall.
- The income disparity remained unchanged over time. Breast cancer screening among low income residents was 0.8 times lower than the highest income residents.

	Rural Quintiles
T1	*0.8x*
T2	*0.8x*
CHANGE	*0.0*

Figure 50 Breast Cancer Screening by RHA, 2014-2015 (T1) to 2016-2017 (T2)

Percent of women (ages 50 to 74) who had a mammogram within the last two years, by RHA



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		SH-SS		IERHA		MB		WRHA		PMH	
T2 COUNT	3,695		13,087		11,429		106,075		63,072		14,792	
T2 RATE	51.1%	L	52.0%	L	52.2%	L	55.8%		57.1%	H	58.4%	H
T1 RATE	53.3%	L	58.0%		60.4%	H	58.4%		58.2%		59.4%	

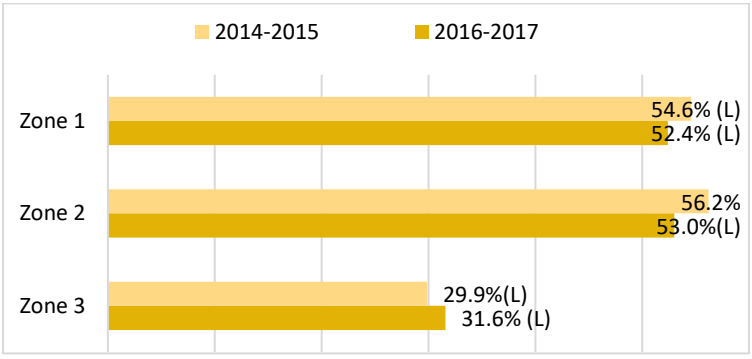
Source: CancerCare Manitoba 2019

Regional Key Findings

- In 2016-17, 51.1% of eligible women in the NHR received a mammography; this rate was significantly lower than the provincial average (55.8%).
- Across the zones, both zone one (52.4%) and zone two (53.0%) were found to have the highest breast cancer screening rates in 2016-2017.
- All three zones rates were significantly lower than the provincial average in the most recent time period.

Figure 51 Breast Cancer Screening by NHR Zone, 2014-2015 to 2016-2017

Percent of women (ages 50 to 74) who had a mammogram within the last two years



H/L Significantly higher or lower than the MB average.

Source: CancerCare Manitoba 2019

Cervical Cancer Screening

Definition

The percentage of females, aged 21 to 69 years, who were screened for cervical cancer over a two-year time period.

Why is this indicator important?

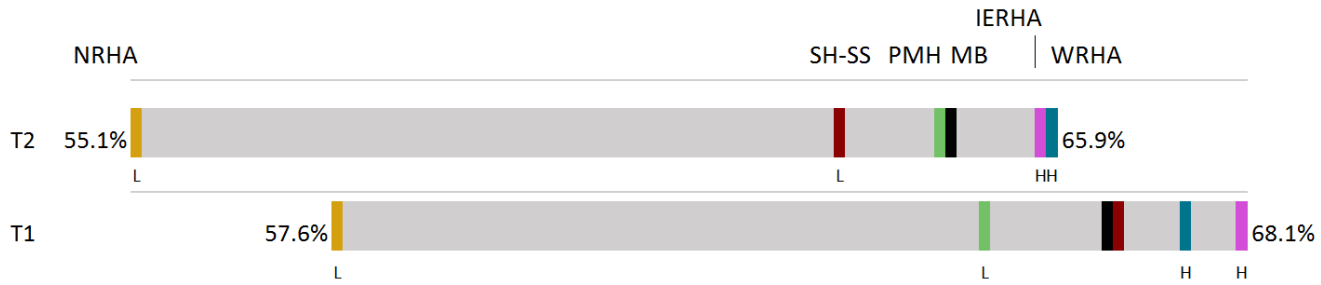
Regular pap smears every three years can prevent or detect early cell changes that can be the precursor to cervical cancer. Risk factors associated with cervical cancer include early age of sexual intercourse, sexually transmitted infection, low socioeconomic status and smoking.

Provincial Key Findings

- There has been a slight decline in cervical cancer screening rates, from 66.6% down to 64.8% among all eligible females in Manitoba.
- Cervical cancer screening rates were relatively consistent between all health authorities with exception to NHR.
- The income disparity remained unchanged over time. Cervical cancer screening among low income residents was 0.8 times lower than the highest income residents.

Rural Quintiles	
T1	*0.8x*
T2	*0.8x*
CHANGE	*0.0*

Figure 52 Cervical Cancer Screening Percent of Eligible Population by RHA 2012-2014 (T1) and 2015-2017 (T2)



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		SH-SS		PMH		MB		IERHA		WRHA	
T2 COUNT	12,178		34,383		30,414		251,718		26,268		148,475	
T2 RATE	55.1%	L	63.4%	L	64.6%		64.8%		65.8%	H	65.9%	H
T1 RATE	57.6%	L	66.6%		65.1%	L	66.6%		68.1%	H	67.5%	H

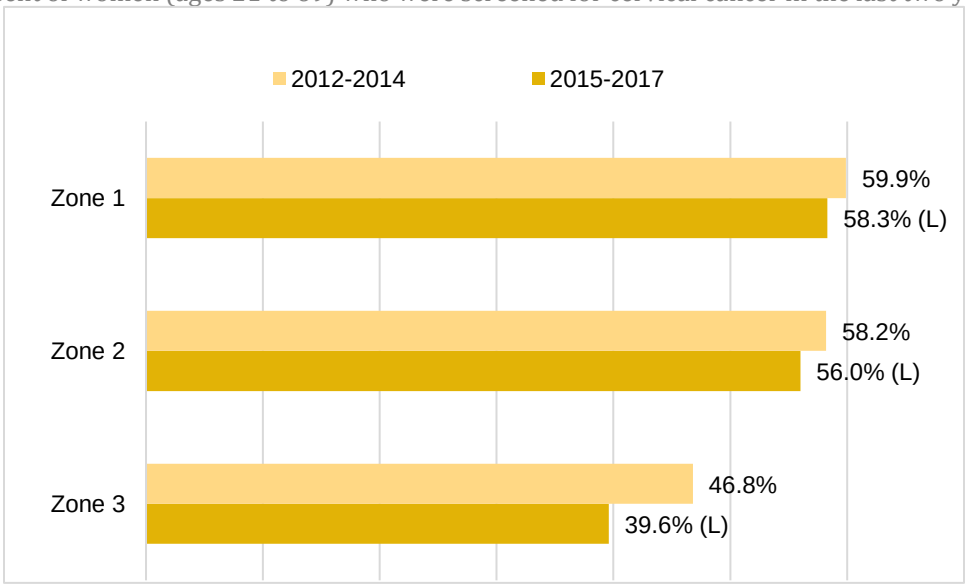
Source: CancerCare Manitoba 2019

Regional Key Findings

- In 2015-17, 55.1% of eligible women participated in cervical cancer screening in NHR. This rate was significantly lower than the Manitoba average.
- From 2014 to 2017, there was a declining trend among all zones for participation in cervical cancer screening in the NHR.

Figure 53 Cervical Cancer Screening by NHR Zone, 2012-2014 and 2015-2017

Percent of women (ages 21 to 69) who were screened for cervical cancer in the last two years



H/L Significantly higher or lower than the MB average.

Source: CancerCare Manitoba 2019

Dental Insurance

Definition

The percentage of respondents who reported dental insurance coverage.

Why is this indicator important?

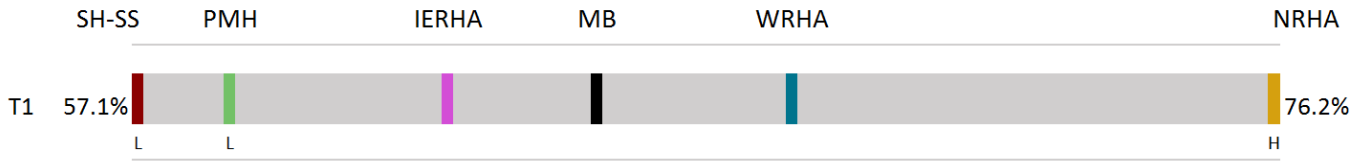
The main contributors to inequity in dental care are income and dental insurance coverage.[xi] The probability of receiving any dental care over the course of a year increases markedly with dental insurance, household income, and the educational attainment.[xii]

Provincial Key Findings

- In Manitoba, 65% of respondents reported having dental insurance.
- The percentage with dental insurance was significantly lower than the provincial average in Southern Health-Santé Sud and Prairie Mountain Health but significantly higher in the NHR.

Figure 54 Dental Insurance by RHA, 2011/12-2013/14

Age-and sex-adjusted proportion (%) of weighted sample with dental insurance



H/L Significantly higher or lower than the MB average.

	SH-SS		PMH		IERHA		MB		WRHA		NHR	
T1 RATE	57.1%	L	58.9%	L	62.5%		65.0%		68.2%		76.2%	H

Source: Statistics Canada CCHS 2011-2014

Regional Key Findings

- Over three quarters of NHR respondents reported having dental insurance.
- Percentages varied across zones with the lowest in zone two (74.1%), then zone one (80.2%) and zone three was the highest (100%). Zone two and three data to be used with caution as much of the district data was suppressed due to sample size.

Table 33 Dental Insurance in NHR, 2011/12-2013/14

Age-and sex-adjusted proportion (%) of weighted sample with dental insurance

Manitoba	**65.0%**	
NHR	**76.2%**	**H**
Zone 1	80.2%	H
Zone 2	74.1%	c
Zone 3	100.0%	c

(H/L) =significantly higher/lower than MB average.
c - estimate displayed with caution.

Source: Statistics Canada CCHS 2011-2014

Dental Visits

Definition

The percentage of respondents who reported on the annual frequency of dental visits.

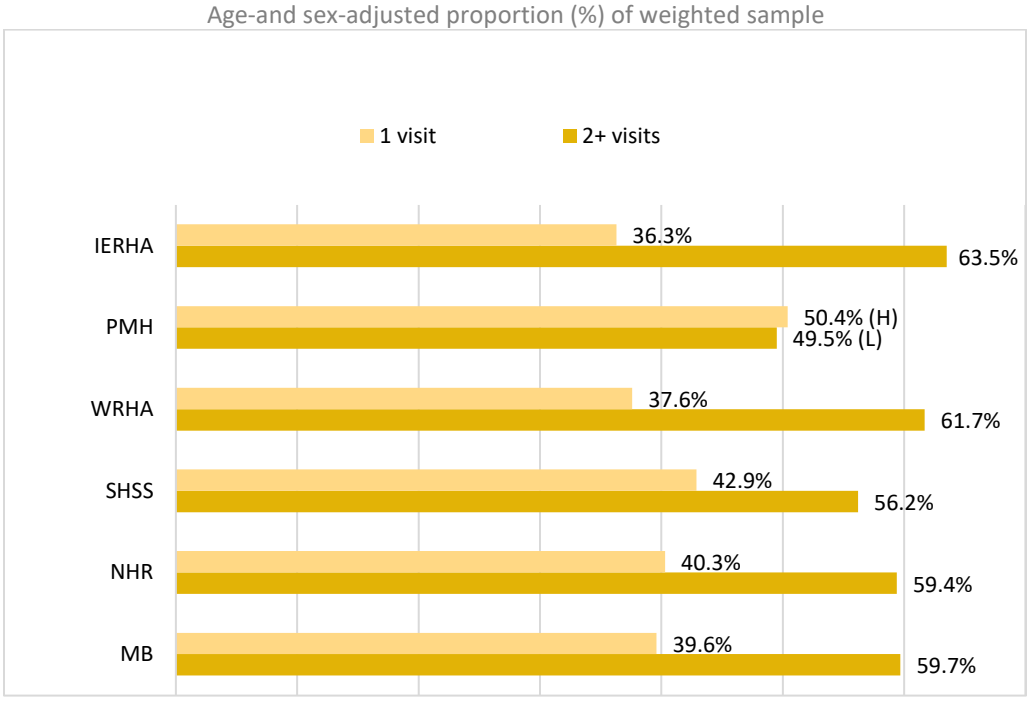
Why is this indicator important?

The promotion of good oral health habits such as healthy food choices, brushing teeth twice a day with fluoridated toothpaste, regular flossing and visits to a dentist can all help to prevent decay and maintain a healthy mouth for a lifetime.[xiii] There is a strong association between early periodontal disease and cardiac disease in later life.

Provincial Key Findings

- Approximately 60% of Manitoba respondents reported visiting the dentist two or more times, this was similar in the majority of regions.
- In Prairie Mountain Health, percentage of respondents reporting one visit was significantly higher than the provincial average while the percentage of respondents reporting two or more visits was significantly lower.
- In the NHR, 40.3% of respondents reported one dental visit and 59.4% reported two or more visits per year, almost the same as the provincial percentages. This survey does not include data from residents living on reserve land.

Figure 55 Dental Visits by RHA, 2015/16



(H/L) =significantly higher/lower than MB average.

Source: Statistics Canada CCHS 2015-2016

A CLOSER LOOK…ROOTS OF EMPATHY

The Northern Health Region staff have been involved in delivering the **Roots of Empathy** program for the past 17 years in partnership with the Flin Flon School Division. Roots of Empathy's mission is to build **caring, peaceful**, and **civil societies** through the development of empathy in children and adults. The focus of Roots of Empathy in the long term is to build capacity of the next generation for responsible citizenship and responsive parenting. In the short term, Roots of Empathy focuses on raising levels of empathy, resulting in more respectful and caring relationships and reduced levels of bullying and aggression. Part of our success is the universal nature of the program; all students are positively engaged instead of targeting bullies or aggressive children. The program **goals** are to foster the development of **empathy**, develop **emotional literacy,** reduce levels of bullying, aggression and violence, and promote children's **pro-social behaviours**, increase knowledge of human development, learning, and infant safety, prepare students for responsible citizenship and responsive parenting.

From 2002 to 2006 Manitoba conducted a randomized control trial and longitudinal follow-up to determine the real world effectiveness of the Rots of Empathy program. The results demonstrated that Roots of Empathy decreased students' physical aggression and indirect aggression, and increased students' pro-social behaviour immediately after program completion. Follow-up results demonstrated that these beneficial effects were maintained or continued to improve up to three years after Roots of Empathy program completion. Roots of Empathy is an important component of Reclaiming Hope Manitoba's Youth Suicide Prevention Strategy.

Brittany Bilquist reflects on her experience with Roots of Empathy "As a new mom, I was apprehensive about taking my newborn out in public. I was afraid he would cry and I would not know how to soothe him. The Roots of Empathy program taught me to embrace the hard days and celebrate the small milestones. As well, I learned that the majority of people, including children, are capable of showing unconditional love and empathy for others. This instilled confidence in me as a first time mother."

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CHAPTER THREE: HOW HEALTHY ARE WE?

Chapter Three Table of Contents

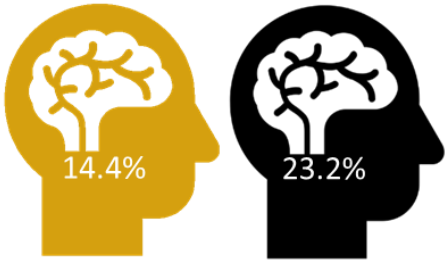
Chapter Three Tables and Figures

At a Glance: How Healthy are we?

Life Expectancy

Infant Mortality
deaths per 1,000 births

Proportion of Residents with a Mood and Anxiety Disorder



Premature Mortality Rate
per 1,000 population

Cancer Incidence
per 100,000 population

Chapter Three Key Findings

Mortality

- The life expectancy rate for females in the NHR was virtually unchanged at 76.9 years and for males it increased significantly from 71.3 years to 72.7 years.
- The mortality rates in the NHR decreased from 11.8 to 10.6 deaths per 1,000 population with cancer and circulatory disease being the highest causes of mortality.
- The premature mortality rates were significantly higher than the provincial rate in all three zones in the NHR in both time-periods, with injury and poisoning; cancer; and circulatory disease being the top three.
- Over time, infant mortality rates remained the same at 8.6 deaths per 1,000 live births and child mortality rates decreased to 0.76 deaths per 1,000 children.
- Residents in the NHR die early, with 110.8 potential years of life lost per 1,000 residents.
- Potential years of life lost due to unintentional injuries have also remained stable with a rate of 19.1 potential years of life lost per 1,000 residents and unintentional injuries causing death rates have decreased over time from 0.83 to 0.76 deaths per 1,000 residents.
- Potential year of life lost due to suicide sits at 15.6 years lost per 1,000 residents; this is over two and one half times the Manitoba average.
- Potentially avoidable deaths have decreased in all zone in the NHR, although all zones do remain significantly higher than the provincial average.

Cancer

- In the NHR the overall cancer incidence rate significantly increased to 525.6 per 100,000 residents.
- Colorectal cancer had the highest rate of new cancer incidences in NHR.
- In the NHR the mortality rate for lung and bronchus and breast cancer decreased and the mortality rate for colorectal and prostate cancer increased over time.
- The survival rate for all invasive cancers has increased over time in the NHR.

Cardiovascular

- The rate of hypertension remained stable over time in the NHR.
- Ischemic heart disease significantly decreased over time in the NHR and was the same as the Manitoba average at 8.3%.
- The heart attack rate decreased from 5.15 to 4.78 events per 1,000 residents aged 40 and older.
- Zone three's heart attack rates were double the Manitoba average whereas zone two rates significantly decreased over time.
- The stroke rate saw a slight increase from 4.56 to 4.68 strokes per 1,000 residents aged 40 and up.

Diabetes

- The diabetes incidence rate declined slightly over time from 1.95 to 1.88 incidence of diabetes per 100 residents.
- One in five residents in the NHR had a diagnosis of diabetes.
- The rate of lower limb amputations amongst residents with diabetes significantly decreased over time from 2.99% to 1.83%.
- Diabetes eye care exam rates for residents 19 years and older significantly increased to 41.4%.

Injury

- The NHR intentional injury hospitalization rates and unintentional injury hospitalization rates decreased over time.
- The hip fracture hospitalization rate increased over time.

Mental Illness

- The overall rate of mood and anxiety disorders in the NHR is significantly lower than the Manitoba average.
- The prevalence of dementia is lower in the NHR than in the whole of Manitoba. The district rates vary widely.
- The rates of antidepressant follow up is significantly lower than the Manitoba average and significantly decreased over time.
- The NHR has significantly higher suicide rates (0.49 deaths due to suicide per 1,000 population people aged 10 and up) than the Manitoba average and it is increasing over time. This totals 139 NHR resident suicides in the five year time period.

Musculoskeletal

- Just under one quarter of all NHR residents 19 and up have a diagnosis of arthritis.
- The osteoporosis prevalence in the NHR is just slightly higher than the Manitoba average.

Renal

- The prevalence of chronic kidney disease was 15.5%; significantly higher than the Manitoba average.
- 181 residents in NHR diagnosed with end stage kidney disease in 2012 had either dialysis or kidney transplantation.
- The projection estimates that our region will see an increase by 79.6% from 2012 to 2024 for end stage kidney disease. This is the highest in the province.

Respiratory

- The NHR children's asthma rate is the lowest in the province with zone three having the lowest rates.

Communicable Disease

- NHR had considerably higher chlamydia infection rates than the rest of the province; 2216.1 per 100,000 compared to 544.3 per 100,000.
- The NHR gonnorrhea rate was almost four and one half times the Manitoba rate.
- In 2017, NHR residents made up 6% of the new HIV positive cases.
- Over time, the syphilis rates have increased over 23 times in the NHR from 9.4 to 222.5 cases per 100,000.

Mortality

Life Expectancy

Definition

The expected length of life from birth, based on patterns of mortality in the population for the preceding five years.

Why is this indicator important?

Life expectancy is one of the most widely used indicators to measure the health of a population, and the overall effectiveness of a health care system in maintaining the health status of its population.

Provincial Key Findings

Female

- Life expectancy for females in Manitoba increased significantly over time from 82.2 to 82.8 years.
- Female life expectancy increased for all health regions, though only the changes in Winnipeg and Prairie Mountain reached statistical significance.
- There were slight differences in female life expectancy between the regions, with the exception of NHR which was considerably lower.
- In both time periods, female life expectancy in NHR was lower than the Manitoba average, but this difference was not statistically significant.
- Income: In rural settings, the highest income females had a life expectancy about 1.1 times longer than the lowest income females.

Rural Quintiles

T2 | ***1.1x***

Male

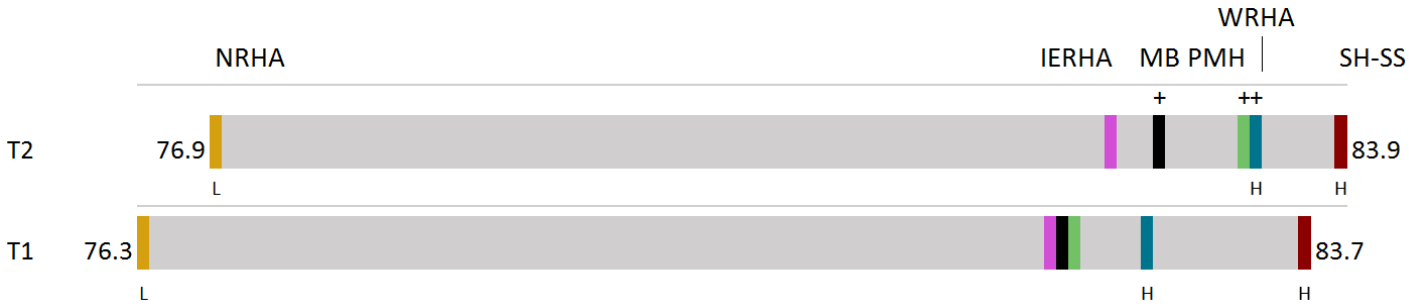
- Life expectancy for males in Manitoba increased significantly over time from 77.5 to 78.5 years.
- Male life expectancy increased significantly for all health regions, though the change in Southern Health-Santé Sud did not reach statistical significance.
- In both time periods, male life expectancy in NHR was lower than the provincial average, but not statistically significant.
- Income: The highest income males had a life expectancy about 1.1 times longer than the lowest income males.

Rural Quintiles

T2 | ***1.1x***

Figure 1 Female Life Expectancy at Birth by RHA, based on mortality in 2007-2011 (T1) and 2012-2016 (T2)

Life expectancy at birth in years



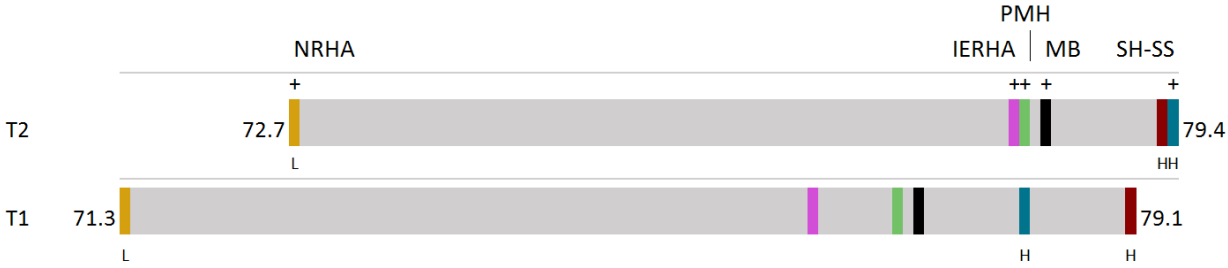
H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		IERHA		MB		PMH		WRHA		SH-SS	
T2 COUNT	1,177		2,786		25,781		4,144		13,605		3,294	
T2 RATE	76.9	L	82.5		82.8	+	83.3	+	83.4	H+	83.9	H
T1 RATE	76.3	L	82.1		82.2		82.2		82.7	H	83.7	H

Source: MCHP RHA Indicators Atlas 2019

Figure 2 Male Life Expectancy at Birth by RHA, based on mortality in 2007-2011 (T1) and 2012-2016 (T2)

Life expectancy at birth in years



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		IERHA		PMH		MB		SH-SS		WRHA	
T2 COUNT	1,177		2,786		4,144		25,781		3,294		13,605	
T2 RATE	72.7	L+	78.2	+	78.3	+	78.5	+	79.4	H	79.4	H+
T1 RATE	71.3	L	76.7		77.3		77.5		79.1	H	78.3	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

Female

- The life expectancy rate for females in the NHR was virtually unchanged, rising very slightly from 76.3 years in 2007-2011 to 76.9 years in 2012-2016.
- Among the NHR zones, zone one had the highest female life expectancy at 78.9 in 2012-2016, which was above the regional average, while the other two zones were below the regional average.
- The district disparity ratio shows that over time there was a 0.1 worsening at the district level in female life expectancy.

Male

- The life expectancy rate for males in the NHR rose significantly from 71.3 years in 2007-2011 to 72.7 years in 2012-2016.
- As with females, the male life expectancy was higher in zone one and lower in the other two zones.
- The district disparity ratio has not changed over time which means, there has been no narrowing or widening in life expectancy rates in the districts with the highest and lowest rates.

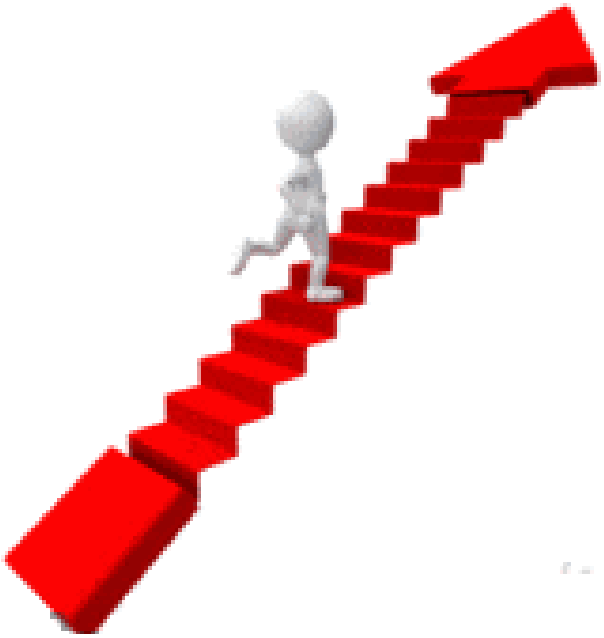


Table 1 Female Life Expectancy at Birth by NHR Zone and District, based on mortality in 2007-2011 (T1) and 2012-2016 (T2)

Life expectancy at birth in years

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**25,881**	**82.8**	**+**	**82.2**		**Northern Health Region**	**925**	**76.9**	**L**	**76.3**	**L**
Zone 1	**516**	**78.9**	**L**	**78.7**	**L**	**Zone 2**	**319**	**74.5**	**L**	**73.2**	**L**
Thompson, Myst Lake	123	83.6	+	77.8	L	SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	11	81.4		82.6	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	13	82.3	+	71.9	L	Bu(OH)CN, MS(GR)CN, GLN/GLFN	43	77.8		78.5	
Gillam Fox	7	81.1		77.8		Nelson House/NCN	34	76.2	+	68.0	L
Flin Flon, Snow, Cran, Sher	177	80.0		81.0		GR/MisCN, ML/MosCN, Eas/CheCN	37	75.8	L	72.5	L
The Pas/OCN, Kels	178	77.6	L	77.9	L	Cross Lake/Cross Lake FN	48	75.8	L	78.8	
Thick, Pik, Wab, Ilf/WLFN, Corm	18	77.5	L	77.9		Norway House/NH CN	58	75.3	L+	70.3	L
NHR District Disparity Ratio						Puk/Mat Col CN	28	68.0	L-	79.0	
T1 Disparity				***1.2***		Sham, YorkFN, TatCN(SPL)	60	66.1	L	69.5	L
T2 Disparity				***1.3***							
Change				***0.1 ↑***		**Zone 3**	**90**	**72.1**	**L**	**72.7**	**L**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	90	72.8	L	72.8	L

Disparity with a value of "0" suggest no inequities exist.
Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Table 2 Male Life Expectancy at Birth by NHR Zone and District, based on mortality in 2007-2011 (T1) and 2012-2016 (T2)

Life expectancy at birth in years

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**25,781**	**78.5**	**+**	**77.5**		**Northern Health Region**	**1,177**	**72.7**	**L+**	**71.3**	**L**
Zone 1	**602**	**75.7**	**L**	**74.6**	**L**	**Zone 2**	**447**	**69.3**	**L**	**67.5**	**L**
Flin Flon, Snow, Cran, Sher	161	78.0		75.7		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	22	73.7		67.4	L
Thompson, Myst Lake	167	76.3		75.6		GR/MisCN, ML/MosCN, Eas/CheCN	63	72.1		71.7	L
Gillam Fox	18	74.6		78.2		Bu(OH)CN, MS(GR)CN, GLN/GLFN	61	71.2	L	67.2	L
Thick, Pik, Wab, Ilf/WLFN, Corm	22	74.1		74.9		Cross Lake/Cross Lake FN	65	71.0	L	66.8	L
The Pas/OCN, Kels	205	74.0	L	73.9	L	Norway House/NH CN	90	68.8	L	68.4	L
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	29	72.2		71.4		Nelson House/NCN	54	67.9	L	64.7	L
NHR District Disparity Ratio						Sham, YorkFN, TatCN(SPL)	61	66.5	L	66.6	L
				T1 Disparity	***1.2***	Puk/Mat Col CN	31	65.4	L	68.1	L
				T2 Disparity	***1.2***						
				Change	***0***	**Zone 3**	**128**	**66.6**	**L**	**65.5**	**L**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	128	66.9	L	65.5	L

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Total Mortality Rates

Definition

The total average annual number of deaths, per 1,000 population, for a five-year time period.

Why is this indicator important?

Mortality statistics provide a valuable measure for assessing community health status and are useful when formulating health plans and policies to prevent or reduce premature mortality and improve overall quality of life.

Provincial Key Findings

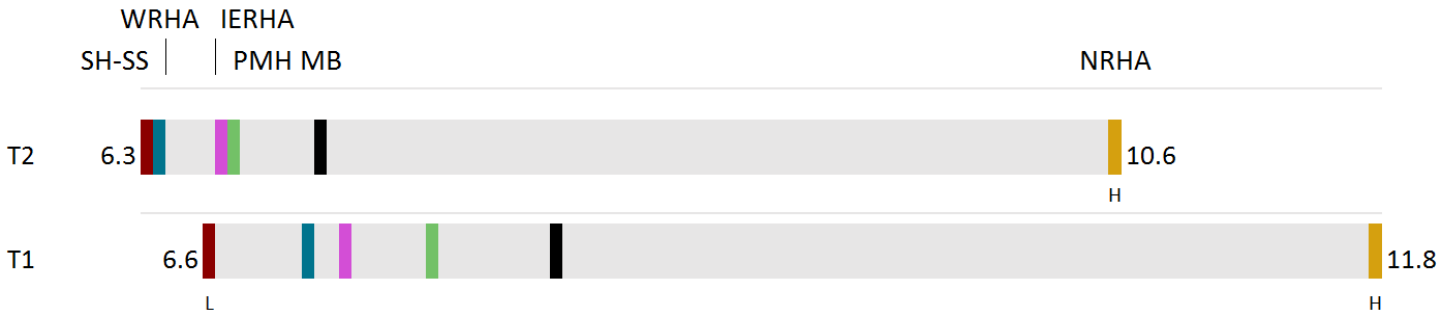
- There were 51,723 deaths reported in Manitoba in 2012-2016. The total mortality rate decreased over time from 8.17 to 7.14 deaths per 1,000 residents per year, although it was not statistically significant.
- All regions showed decreasing rates over time, though none of the changes were statistically significant.
- Total mortality rate in the NHR was significantly higher than the provincial average in 2007-2011 and 2012-2016.
- Income: Low income residents' mortality rate was about 1.9 times higher than the highest income residents .

Rural Quintiles

T2 ***1.9x***

Figure 3 Average Annual Total Mortality Rate by RHA, 2007-2011 (T1) & 2012-2016 (T2)

Age and sex adjusted rate per 1,000 (all ages)



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		IERHA		PMH		MB		NHR	
T2 COUNT	6,266		28,477		5,225		8,218		51,723		2,103	
T2 RATE	6.3		6.3		6.7		6.7		7.1		10.6	H
T1 RATE	6.6	L	7.0		7.2		7.6		8.2		11.8	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- There was a decrease in mortality rates in the NHR from 11.8 deaths per 1,000 population in 2007-2011 to 10.6 deaths per 1,000 popluation in 2012-2016.
- The total deaths was 2,103 from 2012-2016, in the NHR.
- Among the NHR zones, zone three had the highest mortality rate at 19.7 deaths per 1,000 population and zone one had the lowest at 10.1 deaths per 1,000 population in 2012-2016.
- The district disparity ratio indicates that over time there has been a narrowing of mortality rates between districts.
- The most frequent causes of mortality are cancer and circulatory disease, accounting for 42.7% of all deaths.

Table 3 Average Annual Total Mortality Rate by NHR Zone and District, 2007-2011 (T1) & 2012-2016 (T2)

Age and sex adjusted rate per 1,000 (all ages)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**51,723**	**7.1**		**8.17**		**Northern Health Region**	**2,103**	**10.6**	**H**	**11.8**	**H**
Zone 1	**1,119**	**10.1**	**H**	**10.54**	**H**	**Zone 2**	**766**	**15.9**	**H**	**17.7**	**H**
Flin Flon, Snow, Cran, Sher	339	8.7		9.46		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	33	10.4		14.5	H
Gillam Fox	25	9.8		8.39		Bu(OH)CN, MS(GR)CN, GLN/GLFN	104	12.7	H	15.0	H
Thompson, Myst Lake	290	10.0	H	10.38	H	Cross Lake/Cross Lake FN	113	14.1	H	15.2	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	42	10.4		14.82	H	GR/MisCN, ML/MosCN, Eas/CheCN	100	14.4	H	15.3	H
The Pas/OCN, Kels	383	10.9	H	11.09	H	Norway House/NH CN	148	16.0	H	19.2	H
Thick, Pik, Wab, Ilf/WLFN, Corm	40	11.0		11.51		Nelson House/NCN	88	16.5	H-	24.0	H
						Puk/Mat Col CN	59	21.1	H+	13.8	H
						Sham, YorkFN, TatCN(SPL)	121	23.7	H	21.4	H
						Zone 3	**218**	**19.7**	**H**	**20.4**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	218	19.7	H	20.4	H

NHR District Disparity Ratio

T1 Disparity ***2.9***

T2 Disparity ***2.7***

Change ***-0.2 ↓***

Disparity with a value of "0" suggest no inequities exist.
Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Table 4 Leading 10 Causes of Mortality by NHR, 2007-2011(T1) & 2012-2016(T2)

Average annual crude percent of deaths (all ages)

Top 10 Causes of Mortality	Crude Percent	
	T2	T1
Cancer	22.1%	23.4%
Circulatory	20.6%	22.3%
Injury and Poisoning	18.0%	18.6%
Endocrine and Metabolic	7.8%	8.0%
Respiratory	7.5%	7.4%
Digestive	5.6%	5.2%
Mental Illness	3.4%	1.8%
Ill Defined Conditions	2.9%	3.0%
Nervous System	2.5%	1.7%
Infectious and Parasitic	2.3%	
Perinatal Conditions		2.0%
All Others	7.3%	6.7%

Source: MCHP RHA Indicators Atlas 2019

Premature Mortality Rate (PMR)

Definition

The average annual number of deaths before the age of 75 years, per 1,000 population, for a five-year time period.

Why is this indicator important?

Premature mortality rate is an important overall indicator of population health status with high rates indicating poor health. These rates are often correlated with morbidity and self-rated health as well as socioeconomic indicators such as food security, housing and education level.

Provincial Key Findings

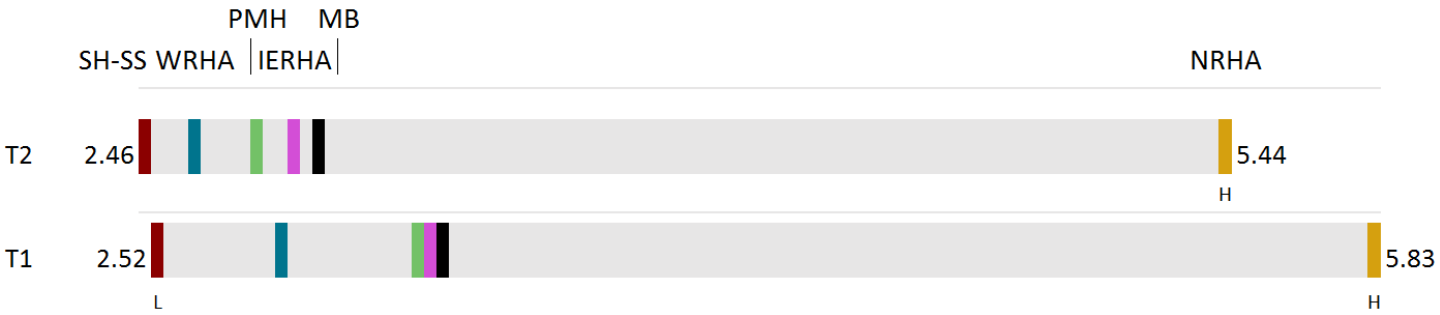
- A total of 19, 915 Manitobans died prematurely in 2012-2016. Premature mortality rate in Manitoba decreased over time from 3.29 to 2.98 deaths per 1,000 residents aged 0 to 74 years old, though the decrease did not reach statistical significance. This suggests an improvement in population health.
- Premature mortality rate in all health regions decreased over time, but none of the changes were statistically significant.
- Premature mortality rate in the NHR was significantly higher than the provincial rate in both time periods.
- Income: Low income residents' premature mortality rate was 2.2 times higher than the highest income residents.

Rural Quintiles

T2	***2.2x***

Figure 4 Premature Mortality by RHA, 2007-2011 (T1) and 2012-2016 (T2)

Age and sex adjusted average annual rate of death before age 75 per 1,000 residents



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		PMH		IERHA		MB		NHR	
T2 COUNT	2,334		10,563		2,702		2,253		19,915		1,456	
T2 RATE	2.46		2.64		2.79		2.90		2.98		5.44	H
T1 RATE	2.52	L	2.87		3.25		3.26		3.29		5.83	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- A total of 1,456 residents died prematurely in NHR from 2012-2016.
- Premature mortality rate in the NHR decreased over time from 5.83 to 5.44 deaths per 1,000 residents aged 0 to 74 years old.
- Premature mortality rate in all three zones of the NHR was significantly higher than the provincial rate in both time periods, with zone three having the highest rate of premature death at 8.4 deaths per 1,000 residents in 2012-2016.
- The district disparity of three in 2007-2011 and 2012-2016 indicates that the mortality rates in the district with the most disparity which is Nisichawayasihk Cree Nation and Nelson House, are three times worse than the mortality rates in the district with the least disparity which is Gilliam and Fox Lake Cree Nation. The district disparity ratio of zero indicates that there was no change over time in the inequitites among the districts.
- The top five causes of premature death in the NHR remained the same over time with; injury & poisoning and cancer at the top.

Table 5 Premature Mortality Rate by NHR Zone and District, 2007-2011 (T1) and 2012-2016 (T2)

Age and sex adjusted average annual rate of death before age 75 per 1,000 residents

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**19,915**	**3.0**		**3.3**		**Northern Health Region**	**1,456**	**5.4**	**H**	**5.8**	**H**
Zone 1	**690**	**4.1**	**H**	**4.3**	**H**	**Zone 2**	**579**	**6.9**	**H-**	**7.7**	**H**
Flin, Snow, Cran, Sher	156	3.4		3.7		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	22	4.3		6.1	H
Gillam Fox	17	3.5		3.4		Cross Lake/Cross Lake FN	81	5.9	H	6.8	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	26	4.0	-	6.7	H	GR/MisCN, ML/MosCN, Eas/CheCN	78	6.3	H	6.8	H
Thompson, Myst Lake	224	4.1	H	4.1	H	Bu(OH)CN, MS(GR)CN, GLN/GLFN	78	6.6	H	7.2	H
The Pas/OCN, Kels	237	4.6	H	4.7	H	Norway House/NH CN	116	6.6	H	7.8	H
Thick, Pik, Wab, Ilf/WLFN, Corm	30	5.2	H	5.0		Nelson House/NCN	64	6.9	H-	10.2	H
NHR District Disparity Ratio T1 Disparity ***3.0*** T2 Disparity ***3.0*** Change ***0.0*** Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts						Sham, YorkFN, TatCN(SPL)	94	9.4	H	9.2	H
						Puk/Mat Col CN	46	10.4	H	6.8	H
						Zone 3	**187**	**8.4**	**H**	**8.6**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	187	8.3	H	8.6	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Table 6 Most Frequent Cause of Premature Death in NHR, 2007-2011 (T1) and 2012-2016 (T2)

Average annual crude percent of deaths (age 0-74)

Cause of Premature Death	Crude Percent	
	T2	T1
Injury and Poisoning	24%	26%
Cancer	22%	23%
Circulatory	17%	18%
Endocrine and Metabolic	7.20%	7%
Digestive	6.70%	6%

Source: MCHP RHA Indicators Atlas 2019

Infant Mortality

Definition

The average annual number of deaths prior to one year of age, per 1,000 live births, over a five-year time period.

Why is this indicator important?

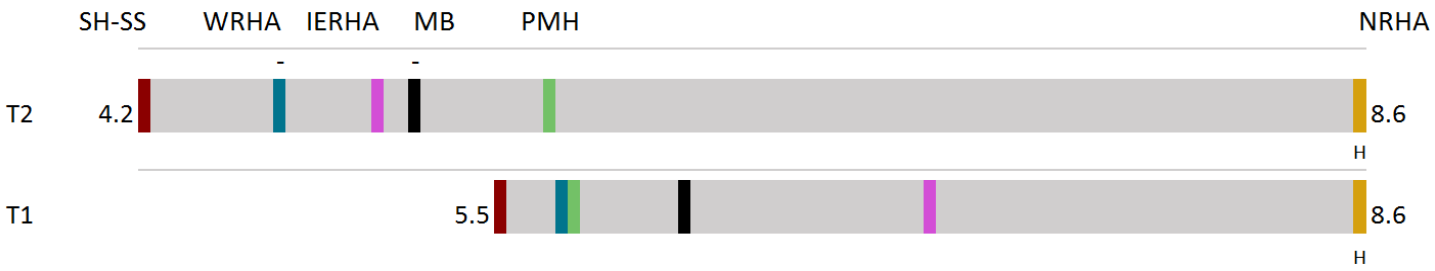
Infant mortality is considered to be one of the most important indicators of child and overall population health, and the well-being of a society over time. This is a health equity indicator as it is largely driven by social determinants of health and helps to inform planning of appropriate upstream interventions.

Provincial Key Findings

- There were 407 infant deaths in 2012-2016. The rate for infant mortality decreased significantly over time in the province, from 6.2 to 5.2 per 1,000 live births.
- Rates decreased in all regions, though only the decrease in Winnipeg was statistically significant.
- Rates in the NHR were significantly higher than the provincial average in both time periods.

Figure 5 Infant Mortality Rates by RHA, 2007-2011(T1) and 2012-2016 (T2)

Maternal age adjusted average annual rate per 1,000 live births per year



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		IERHA		MB		PMH		NHR	
T2 COUNT	59		182		35		407		57		73	
T2 RATE	4.2		4.7	-	5.1		5.2	-	5.7		8.6	H
T1 RATE	5.5		5.8		7.1		6.2		5.8		8.6	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The rate for infant mortality in the NHR stayed the same over time at 8.6 deaths per 1,000 live births, totaling 73 deaths in 2012-2016.

Child Mortality

Definition

The average annual number of deaths amongst children, aged 1 to 19 years, per 1,000, for a five-year time period.

Why is this indicator important?

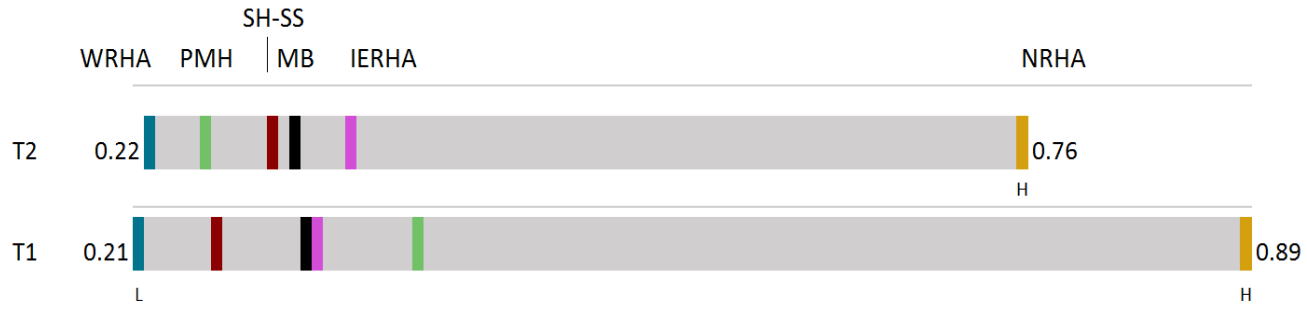
Similar to infant mortality, child mortality is an important indicator of overall population health and the well-being of a society over time. This is a health equity indicator as it is largely driven by social determinants of health and helps to inform planning of appropriate upstream interventions.

Provincial Key Findings

- In Manitoba, 472 children aged 1-19 died in 2012-2016. The rate for child mortality decreased slightly from 0.32 to 0.31 per 1,000 children aged 1-19, although the decrease was not statistically significant.
- The most frequent causes of child mortality in Manitoba are injury and poisoning, cancer, nervous system disorders, respiratory disorders and congenital anomalies.
- Mortality rates were considerably higher for rural compared to urban children. Rates in NHR were significantly higher than the provincial average in both time periods.

Figure 6 Child Mortality Rates by RHA, 2007-2011(T1) and 2012-2016 (T2)

Age and sex adjusted average annual rate of deaths per 1,000 residents per year, age 1-19



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		PMH		SH-SS		MB		IERHA		NHR	
T2 COUNT	174		50		79		472		51		94	
T2 RATE	0.22		0.26		0.30		0.31		0.35		0.76	H
T1 RATE	0.21	L	0.39		0.26		0.32		0.33		0.89	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The rate for child mortality in the NHR decreased from 0.89 to 0.76 deaths per 1,000 children aged 1-19 from 2007-2011 to 2012-2016, totaling 94 child deaths.

Potential Years Of Life Lost (PYLL)- All Deaths

Definition

The life lost when a person dies between the age of 1 to 74 years. For each death, the potential years of life lost value is calculated as the difference (in years) between age at death and 75 years of age. Average annual rates are calculated per 1,000 population, for a five-year time period.

Why is this indicator important?

Potential years of life lost is more sensitive to deaths at younger ages than other mortality indicators.

Provincial Key Findings

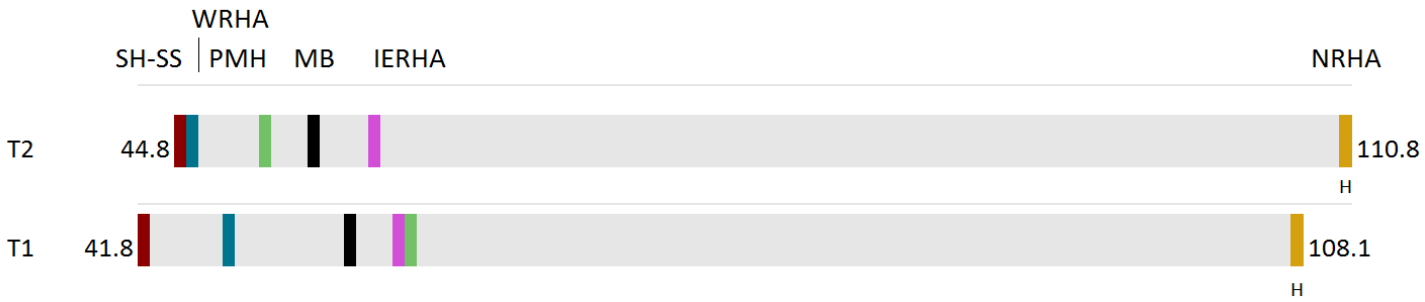
- Manitoba experienced a reduction of potential years of life lost, from 54.11 to 52.25 potential years of life lost per 1,000 population aged 1 to 74, although this decrease was not statistically significant.
- Potential years of life lost in NHR were the highest in both time periods, and they were significantly higher than the provincial average in both periods.
- The highest rate of potential years of life lost can be found for deaths attributed to injury, cancer, circulatory, digestive, and respiratory diseases.
- Income: In rural settings, low income residents' overall potential years of life lost was 2.3 times higher than highest income residents.

Rural Quintiles

T2	***2.3x***

Figure 7 Potential Years of Life Lost by RHA, 2007-2011 (T1) and 2012-2016 (T2)

Age and sex adjusted average annual rate of PYLL per 1,000 residents (aged 1-74)



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		PMH		MB		IERHA		NHR	
T2 COUNT	37,007		163,408		40,289		315,700		33,708		32,157	
T2 RATE	44.8		45.2		49.5		52.3		55.7		110.8	H
T1 RATE	41.8		47.2		57.8		54.1		57.2		108.1	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The NHR rate of potential years of life lost increased from 108.1 to 110.8 per 1,000 population from 2007-2011 to 2012-2016. This rate is almost double the Manitoba average.
- 32,157 years of life were lost in the NHR in 2012-2016.
- Zone two and three had a decrease in potential years of life lost from 2007-2011 to 2012-2016, but both were signifigantly higher than the provincial average in both time periods.
- There was a wide range of potential years of life lost rates across the NHR with almost all of them being above the provincial average.
- Seven of the fifteen districts experienced a decrease in potential years of life lost rates.
- It is important to note that the potential years of life lost rates vary across the districts. For instance, the potential years of life lost were 4.7 times greater in Shamatawa First Nation, York Factory First Nation and Tataskweyak Cree Nation compared to Gilliam and Fox Lake Cree Nation.

Table 7 Potential Years of Life Lost by NHR Zone and District, 2007-2011 (T1) and 2012-2016 (T2)

Age and sex adjusted average annual rate of PYLL per 1,000 residents (aged 1-74)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**315,700**	**52.3**		**54.1**		**Northern Health Region**	**32,157**	**110.8**	**H**	**108.1**	**H**
Zone 1	**13,058**	**80.1**		**75.3**		**Zone 2**	**14,066**	**135.7**	**H**	**138.2**	**H**
Gillam Fox	330	48.2		56.1		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	560	94.8		84.0	
Flin, Snow, Cran, Sher	2,398	62.2		55.5		Norway House/NH CN	2,218	97.3		105.7	
Thick, Pik, Wab, Ilf/WLFN, Corm	477	79.0		92.8		Cross Lake/Cross Lake FN	1,931	111.7		99.8	
Thompson, Myst Lake	4,736	81.7		68.5		Nelson House/NCN	1,611	118.2		173.6	H
The Pas/OCN, Kels	4,518	90.9		83.2		GR/MisCN, ML/MosCN, Eas/CheCN	1,869	119.3		117.6	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	599	92.7		159.6	H	Bu(OH)CN, MS(GR)CN, GLN/GLFN	2,018	151.5		150.8	
NHR District Disparity Ratio						Puk/Mat Col CN	1,313	209.3	H	126.9	
T1 Disparity				***4.2***		Sham, YorkFN, TatCN(SPL)	2,546	224.9	H	234.2	H
T2 Disparity				***4.7***							
Change				***0.5 ↑***		**Zone 3**	**5,033**	**171.6**	**H**	**181.3**	**H**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	5,033	174.9	H	180.9	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Potential Years Of Life Lost—Unintentional Injuries

Definition

The potential years of life lost for all unintentional injuries, for example falls, motor vehicle accidents, or drowning per 1,000 population aged 1 to 74 years, for a five-year time period.

Why is this indicator important?

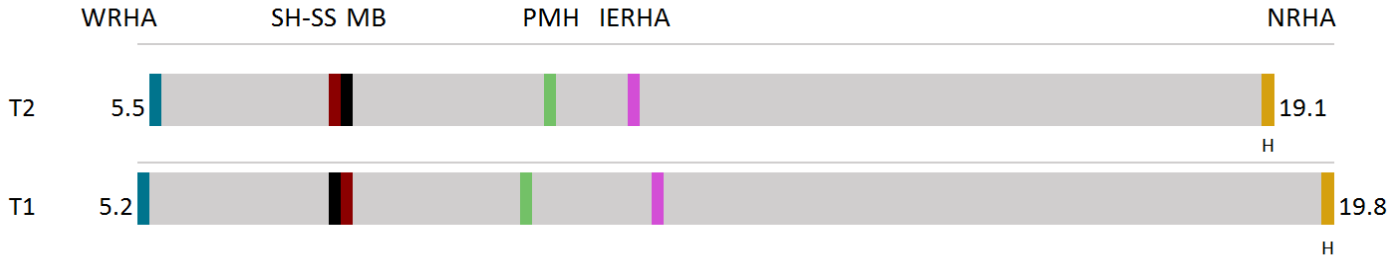
Unintentional injuries contribute significantly to potential years of life lost and can be used to help identify the need for injury prevention strategies.

Provincial Key Findings

- In Manitoba, potential years of life lost caused by unintentional injuries was 7.8 potential years of life lost per 1,000 population. It remained stable over time for Manitoba and all regions.
- Potential years of life lost due to unintentional injuries in NHR were the highest in both time periods, and they were significantly higher than the provincial average in both periods.

Figure 8 Potential Years of Life Lost (PYLL) due to Unintentional Injury by RHA, 2006/07-2010/11 (T1) and 2011/12-2015/16 (T2)

Age and sex adjusted PYLL Rates per 1,000 (1 to 74 years)



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		SH-SS		MB		PMH		IERHA		NHR	
T2 COUNT	17,962		6,449		44,662		7,566		5,975		6,710	
T2 RATE	5.5		7.6		7.8		10.3		11.3		19.1	H
T1 RATE	5.2		7.9		7.8		10.0		11.7		19.8	H

Source: IMA MHSAL 2019

Regional Key Findings

- Potential years of life lost caused by unintentional injuries in NHR remained relatively stable from 2007-2011 to 2012-2016 at a rate of 19.1 potential years of life lost per 1,000 residents aged one to 74.
- In total there was a loss of 6,710 years of life in the NHR due to unintentional injury.

Potential Years of Life Lost—Suicide

Definition

Potential years of life lost (PYLL) for all suicides, per 1,000 population, aged 1 to 74 years for a 5 year time period.

Why is this indicator important?

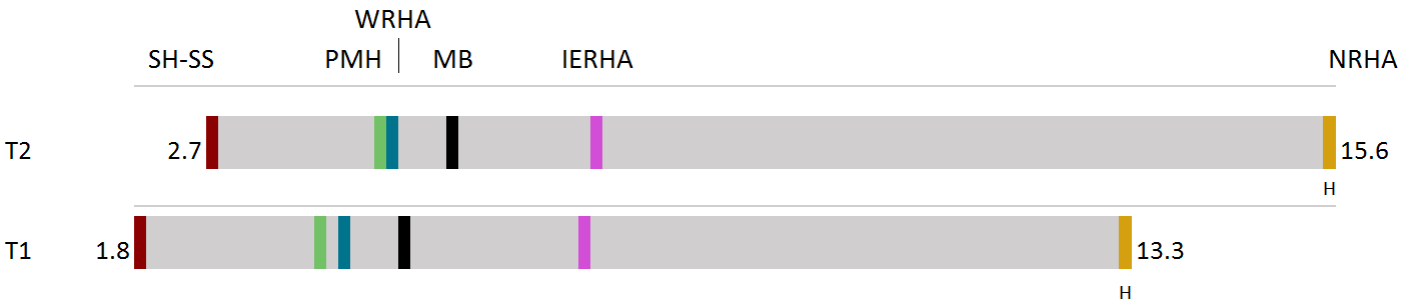
Suicide is one of the main causes of premature death. This indicator is important because suicide comprises a large number of potential years of life lost and it affects younger population. This information is an appropriate measure for the evaluation of public health prevention strategies.

Provincial Key Findings

- In Manitoba, potential years of life lost caused by suicide increased from 4.9 to 5.6 potential years of life lost per 1,000 population.
- Potential years of life lost due to suicide in the NHR were the highest in both time periods, and they were significantly higher than the provincial average in both periods.

Figure 9 Potential Years of Life Lost due to Suicide by RHA, 2006/07-2010/11 (T1) and 2011/12-2015/16 (T2)

Age and sex adjusted PYLL rates per 1,000 (1 to 74 years)



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		PMH		WRHA		MB		IERHA		NHR	
T2 COUNT	2,465		3,564		12,451		27,455		3,548		5,427	
T2 RATE	2.7		4.7		4.9		5.6		7.2		15.6	H
T1 RATE	1.8		4.0		4.3		4.9		7.0		13.3	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The potential years of life lost due to suicide in the NHR increased from 13.3 to 15.6 from 2006/07-2010/11 to 2011/12-2015/16. This was a significant change.
- The rate was more than double that of the Manitoba average.
- The count represented a total of 5,427 years of potential life lost due to suicide.

Potentially Avoidable Deaths

Definition

The average annual rate of avoidable deaths before age 75, per 1,000 population (aged 0-74), for a five-year time period. Avoidable deaths includes those that could be avoided through primary prevention efforts, such as lifestyle modifications, immunizations and health promotion initiatives.

Why is this indicator important?

Potentially avoidable deaths provides insight on the effectiveness of disease prevention policies, health promotion and health care in preventing premature deaths.

Provincial Key Findings

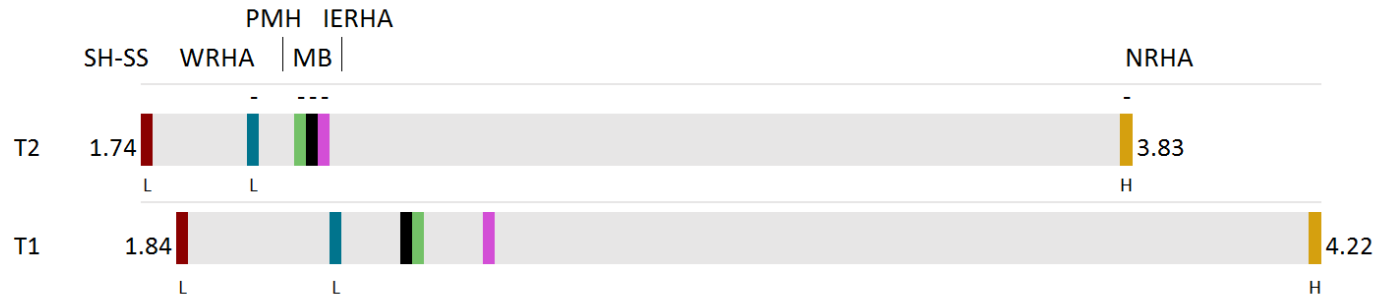
- The number of potentially avoidable deaths in Manitoba was 13,699 in 2012-2016. The rate of potentially avoidable deaths significantly decreased over time from 2.3 to 2.1 per 1,000 residents 75 years of age and younger. A significant decrease was also seen in almost all regions, though the decrease was not statistically significant in Southern Health-Santé Sud.
- Southern and Winnipeg Regional Health Authorities had lower than average rates, while NHR had rates above the provincial average in both time periods.
- Income: Low income residents' rate of potentially avoidable deaths was about 2.2 times higher than the highest income residents.

Rural Quintiles

T2	***2.2x***

Figure 10 Potentially Avoidable Death Rate by RHA, 2007-2011 (T1) and 2012-2016 (T2)

Age and sex adjusted average annual rate of avoidable death before age 75 per 1,000 residents under age 75



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		PMH		MB		IERHA		NHR	
T2 COUNT	1,539		7,272		1,856		13,699		1,587		1,074	
T2 RATE	1.74	L	1.98	L-	2.08	-	2.11	-	2.15	-	3.83	H-
T1 RATE	1.84	L	2.16	L	2.34		2.33		2.48		4.22	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The potentially avoidable deaths rate in the NHR significantly decreased from 4.22 to 3.84 from 2007-2011 to 2012-2016. Both these rates were significantly higher than the Manitoba average.
- The number of potentially avoidable deaths in NHR was 1,074 from 2012-2016.
- All three zones potentially avoidable death rates decreased over the two time periods.
- Residents who live in Pukatawagan and Mathias Colomb Cree Nation are 3.6 times more likely to die from a potentially avoidable cause of death than residents who live in Flin Flon, Snow Lake, and Sherridon or Gillam and Fox Lake Cree Nation.

Table 8 Potentially Avoidable Death Rate by NHR Zone and District, 2007-2011 (T1) and 2012-2016 (T2)

Age and sex adjusted average annual rate of avoidable death before age 75 per 1,000 residents under age 75

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**13,699**	**2.1**	**-**	**2.3**		**Northern Health Region**	**1,074**	**3.8**	**H-**	**4.2**	**H**
Zone 1	**488**	**2.9**	**H**	**3.1**	**H**	**Zone 2**	**445**	**5.2**	**H-**	**5.9**	**H**
Flin, Snow, Cran, Sher	107	2.4		2.7		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	19	3.7		4.6	H
Gillam Fox	12	2.4		2.4		Cross Lake/Cross Lake FN	65	4.6	H	4.8	H
Thompson, Myst Lake	161	2.9	H	2.9		Norway House/NH CN	85	4.7	H	5.8	H
The Pas/OCN, Kels	162	3.1	H	3.5	H	Bu(OH)CN, MS(GR)CN, GLN/GLFN	58	4.8	H	5.6	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	24	3.7		5.7	H	GR/MisCN, ML/MosCN, Eas/CheCN	61	4.8	H	5.0	H
Thick, Pik, Wab, Ilf/WLFN, Corm	22	3.8		2.9		Nelson House/NCN	50	5.2	H-	8.0	H
NHR District Disparity Ratio						Sham, YorkFN, TatCN(SPL)	67	6.5	H	7.6	H
T1 Disparity				***3.3***		Puk/Mat Col CN	40	8.7	H	5.4	H
T2 Disparity				***3.6***							
Change				***0.3*** ↑		**Zone 3**	**141**	**6.1**	**H**	**6.3**	**H**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	141	6.1	H	6.3	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Unintentional Injury Causing Death

Definition

The number of deaths due to unintentional injury, per 1,000 population, for a five-year time period.

Why is this indicator important?

This indicator focuses on the accidental causes of death such as motor vehicle accidents, drowning, falls, burns and poisonings. Unintentional injuries are one of the leading causes of death in Canada and worldwide.

Provincial Key Findings

- In Manitoba, 2,774 unintentional injuries occurred in 2012-2016. The rate of deaths due to unintentional injury decreased over time from 0.45 to 0.42 per 1,000 residents, but the decrease was not statistically significant.
- NHR had significantly higher rates than the provincial average in both time periods.
- Income: Low income residents' rate of unintentional injury causing death was 2.2 times higher than the highest income residents.

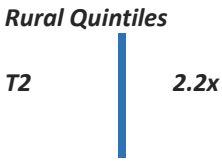
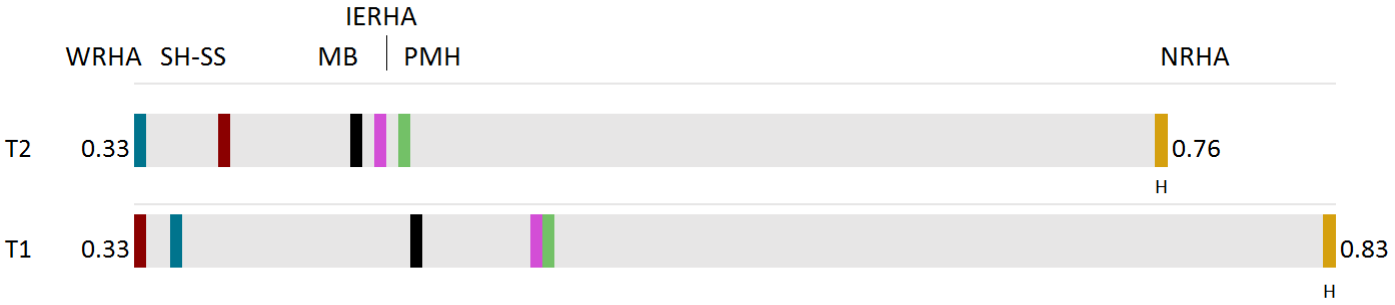


Figure 11 Average Annual Unintentional Injury Causing Death Rates by RHA, 2007-2011 (T1) and 2012-2016 (T2)

Age and sex adjusted, per 1,000



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		SH-SS		MB		IERHA		PMH		NHR	
T2 COUNT	1,356		338		2,774		295		471		240	
T2 RATE	0.33		0.37		0.42		0.43		0.44		0.76	H
T1 RATE	0.35		0.33		0.45		0.50		0.50		0.83	H

Source: MCHP RHA Indicators Atlas 2019

Regional Findings

- The unintentional injury causes of death rate in the NHR decreased from 0.83 to 0.76 per 1,000 residents from 2007-2011 to 2012-2016, this decrease was not statistically significant.
- All three NHR zones had higher rates than the Manitoba average over both time periods with zones two and three being significantly higher.
- The district disparity ratio indicates the disparity decreased 1.5 times between the districts with the highest and lowest rates.

Table 9 Average Annual Unintentional Injury Causing Death Rates by NHR Zone and District, 2007-2011 (T1) and 2012-2016 (T2)

Age and sex adjusted, per 1,000

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**2,774**	**0.42**		**0.45**		**Northern Health Region**	**240**	**0.76**	**H**	**0.83**	**H**
Zone 1	**93**	**0.49**		**0.56**		**Zone 2**	**110**	**0.99**	**H**	**1.06**	**H**
Thompson, Myst Lake	26	0.53		0.56		Norway House/NH CN	12	0.72		0.91	
Flin, Snow, Cran, Sher	24	0.63		0.54		Bu(OH)CN, MS(GR)CN, GLN/GLFN	15	1.14	H	1.63	H
The Pas/OCN, Kels	33	0.75	H	0.65		Cross Lake/Cross Lake FN	17	1.20	H	1.72	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	7	1.26	H-	3.14	H	GR/MisCN, ML/MosCN, Eas/CheCN	18	1.51	H	0.80	
Gillam Fox	s			S		Nelson House/NCN	15	1.52	H	2.31	H
Thick, Pik, Wab, Ilf/WLFN, Corm	s			1.67	H	Sham, YorkFN, TatCN(SPL)	18	1.89	H	1.85	H
NHR District Disparity Ratio						Puk/Mat Col CN	12	2.28	H	s	
T1 Disparity				***5.8***		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	s			1.38	H
T2 Disparity				***4.3***							
Change				***-1.5↓***		**Zone 3**	**37**	**1.24**	**H**	**1.42**	**H**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	37	1.59	H	1.70	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

A CLOSER LOOK… MORTALITY DISTRICT DISPARITY OVERVIEW

Health inequities exist within the NHR and are reflected in differences between districts in length of life, quality of life, rates of diseases, disability, death, and access to treatment.

The data suggests that more than half the inequities related to mortality are narrowing or staying the same, which is a good news story for the NHR.

Mortality indicators are summarized below:

Indicator:	Time period District Disparity Ratio	Change Over Time	What did we learn?
Female Life Expectancy	T1 = 1.2 T2 = 1.3	↑ 0.1	Gap increased slightly between districts. Femle life expectency differs between districts up to 17.5 years.
Male Life Expectancy	T1 = 1.2 T2 = 1.2	=	No change in disparity. Male life expectancy differs by over 12 years between districts.
Total Morality Rates	T1 = 2.9 T2 = 2.7	↓ -0.2	Gap narrowed slightly. Residents in Sham, York FN, TatCN(SPL) are 2.7 times more likely to die in a given year than residents in other districts.
Premature Mortality Rates	T1 = 3.0 T2 = 3.0	=	No change over time in the inequitites among the districts. Residents in Puk/Mat Col CN were 3 times more likely to have premature mortality than residents in other districts.
Potential Years of Lost Life	T1 = 4.2 T2 = 4.7	↑ 0.5	Gap increased by 0.5. Sham, York FN, TatCN(SPL) residents had 4.7 times the potential years of life lost than other district residents.
Potentially Avoidable Deaths	T1 = 3.3 T2 = 3.6	↑ 0.3	Gap increased. Residents in Puk/Mat Col CN are 3.6 times more likely to die to a potentially prevention cause than residents in other districts.
Unintentional Injury Causes of Death	T1 = 5.8 T2 = 4.3	↓ -1.5	Gap narrowed. Residents in Puk/Mat Col CN are 4.3 times more likely to have an unintentional injury cause death than residents in other districts.

Cancer

Cancer Incidence – All and Top Four Diagnosis

Definition

The number of diagnosed new cases of all invasive cancers, breast prostate, lung, and colorectal cancer per 100,000 population, for a two-year time period.

Why is this indicator important?

Annual statistics on cancer incidence are an important part of predicting future utilization of cancer care services and can provide insight into the effectiveness of and access to screening programs.

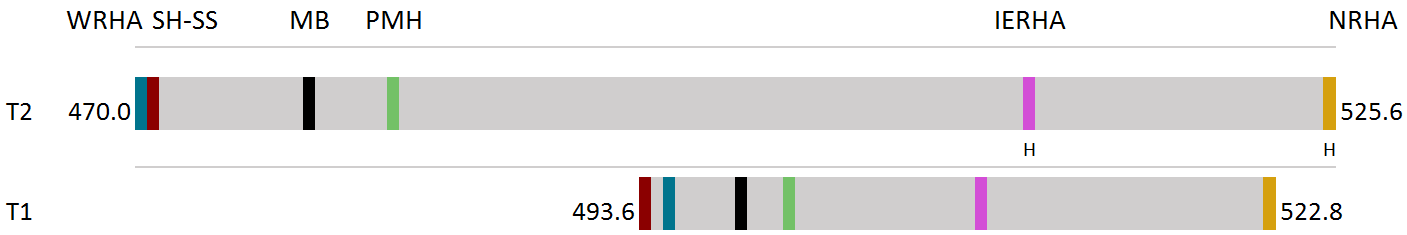
Provincial Key Findings

- The age-standardized overall invasive cancer incidence rate in Manitoba did not change much over time, from 498.2 cases per 100,000 residents (count=19,028) in 2011-2013 to 478.4 cases per 100,000 residents (count=19,442) in 2014-2016.
- The age-standardized overall invasive cancer incidence rates in the Winnipeg Regional Health Authority, Southern Health-Santé Sud and Prairie Mountain Health were similar to the Manitoba rate. However, in both the Interlake-Eastern Regional Health Authority (511.8 cases per 100,000 residents) and the NHR (525.6 cases per 100,000 residents), the rates were significantly higher than the Manitoba rate in 2014-2016.
- The incidence rate was higher among residents aged 75+ and males.
- Of the top four cancers, the age-standardized incidence rate for 2014-2016 was 61.9/100,000 (count=2,504) for colorectal cancer; 62.7/100,000 (count=2,530) for breast cancer; 67.7/100,000 (count=2,778) for lung and bronchus cancer; and 51.8/100,000 (count=2,145) for prostate cancer.
- The cancer incidence rate was higher among residents aged 75+ for all top four diagnoses. The incidence rates were higher in males than females for colorectal and lung and bronchus cancers.

To learn more about Manitoba Cancer System Performance visit: https://www.cancercare.mb.ca/About-Us/communications-and-public-affairs/news-archive/System-Performance-Reports-Now-Available-Online

Figure 12 All Invasive Cancers Incidence rate by RHA 2011-13 (T1) and 2014-16 (T2)

Age standardized incidence rates per 100,000 residents



H/L Significantly higher or lower than the MB average for that time period.

	WRHA		SH-SS		MB		PMH		IERHA		NHR	
T2 COUNT	11,073		2,517		19,442		2,860		2,272		720	
T2 RATE	470.0		470.9		478.4		482.3		511.8	H	525.6	H
T1 RATE	494.9		493.6		498.2		500.8		509.2		522.8	

Source: CancerCare Manitoba 2019

Table 10 Cancer Incidence, Top 4 in NHR and Manitoba, 2011-2013(T1) and 2014-2016(T2)

Age standardized incidence rates per 100,000

Cancer Site	2014-2016					2011-2013		
	NHR			MB		NHR		MB
	Rate		Count	Rate	Count	Rate		Rate
Colorectal	85.86	H	109	61.9	2,504	84.86		66.8
Lung and Bronchus	81.06		103	67.7	2,778	79.84		69.4
Breast	53.84		77	62.7	2,530	52.26	L	69.9
Prostate	54.51		72	51.8	2,145	47.86		51.2

H/L Significantly higher or lower than the MB average for that time period.

Source: CancerCare Manitoba 2019

Regional Key Findings

- In NHR there were a total of 720 cancer incidences (new cases) from 2014-2016.
- The overall cancer incidence rate significantly increased from 522.8 to 525.6 new cases per 100,000 residents from 2007-2011 to 2012-2016 in the NHR.
- Zone three had the highest incidence rate of cancer followed by zone two and zone one.
- In the NHR from 2014-2016 the lung and bronchus, prostate and colorectal cancer incidence rates were higher than the Manitoba average with colorectal being statistically significant.
- The breast cancer incidence rate was lower than the Manitoba average.
- In the NHR the incidence rate for all of the top four cancers including colorectal; lung and bronchus; breast; and prostate; minimally increased from 2011-2013 to 2014-2016.

- From 2014-2016 in the NHR of the top four cancer indicators, the incidence rate for colorectal cancer was significantly higher than the Manitoba average in zones two and three; the lung and bronchus and breast cancer incidence rate was highest in zone two; and the prostate cancer incidence rate was highest in zone one.

Table 11 All Invasive Cancers Incidence rate by NHR Zone 2011-13 (T1) and 2014-16 (T2)

Age-standardized incidence rates per 100,000 residents

	T2			T1	
	Count	Rate		Rate	
Manitoba	**19,442**	**478.4**		**498.2**	
Northern Health Region	**720**	**525.6**	**H**	**522.8**	
Zone 1	453	507.2		518.61	
Zone 2	208	561.48	H	529.87	
Zone 3	59	685.96	H	550.16	H

H/L Significantly higher or lower than the MB average for that time period.

Source: CancerCare Manitoba 2019

Table 12 Cancer Incidence, Top 4 in NHR by Zone, 2014-2016

Age standardized incidence rates per 100,000

Cancer Type	Zone 1			Zone 2			Zone 3		
	Rate		Count	Rate		Count	Rate		Count
Colorectal	73.7		60	101	H	35	150.2	H	14
Lung and Bronchus	76.3		69	102.4		30	79		4
Breast	45.5		40	77.8		32	40.8		5
Prostate	124		54	85.4		16	34		2

H/L Significantly higher or lower than the MB average for that time period.

Source: CancerCare Manitoba 2019

Cancer Mortality — All and Top Four Diagnosis

Definition

The rate of death for breast, prostate, lung and bronchus, and colorectal cancers, per 100,000 population, for a two-year time period.

Why is this indicator important?

Site specific cancer mortality statistics provide insight into the treatment success for cancer at a site specific level.

Provincial Key Findings

- Age-standardized mortality rates for all invasive cancers have been fairly stable in Manitoba since 2011 (208.2 and 206.5 per 100,000 residents in 2011-2013 and 2014-2016 respectively) (2011-2013 count=7,941; 2014-2016 count=8,348).
- Age-standardized mortality rate was higher in males and residents aged 75+.
- Of the top four cancers, age-standardized three-year mortality rate in 2014-2016 was 50.0 per 100,000 residents (count=2,039) for lung & bronchus cancer; 25.0 per 100,000 residents (count=1,005) for colorectal cancer; 14.7 per 100,000 residents (count=591) for breast cancer; and 13.6 per 100,000 (count=542) for prostate cancer.
- The cancer mortality rate was higher among residents aged 75+ for all top four diagnoses. The mortality rates were higher in males than those of females for colorectal and lung & bronchus cancers.

Figure 13 All Invasive Cancers Mortality rate by RHA 2011-13 (T1) and 2014-16 (T2)

Age standardized mortality rates per 100,000 residents

H/L Significantly higher or lower than the MB average for that time period

	WRHA		SH-SS		MB		PMH		IERHA		NHR	
T2 COUNT	4,727		1,072		8,348		1,311		942		296	
T2 RATE	200.6	L	205.9		206.5		211.0		218.4		263.5	H
T1 RATE	206.6		205.4		208.2		204.3		212.6		278.4	H

Source: CancerCare Manitoba 2019

Table 13 Cancer Mortality, Top 4 in NHR and Manitoba, 2011-2013 (T1) and 2014-2016 (T2)

Age standardized mortality rates per 100,000

Cancer Site	2014-2016					2011-2013		
	NHR			MB		NHR		MB
	Rate		Count	Rate	Count	Rate		Rate
Lung and Bronchus	58		70	50	2,039	68.8	H	67
Colorectal	44.6	H	42	25	1,005	38.2	H	39
Prostate	38.1		14	13.6	542	37.8		14
Breast	11.5		16	14.7	591	19.9		24

H/L Significantly higher or lower than the MB average for that time period. Cancer Care Manitoba 2019

Source: CancerCare Manitoba 2019

Regional Key Findings

- In the NHR, of the top four cancers, age-standardized three-year mortality rate in 2014-2016 was 58 per 100,000 residents (count=70) for lung & bronchus cancer; 44.6 per 100,000 residents (count=42) for colorectal cancer; 11.5 per 100,000 residents (count=16) for breast cancer; and 38.1 per 100,000 residents (count=14) for prostate cancer.
- In the NHR from 2014-2016 the lung and bronchus, prostate and colorectal cancer mortality rates were higher than the Manitoba average with colorectal being statistically significant, whereas the breast cancer mortality rate was lower than the Manitoba average.
- In the NHR the mortality rate for lung and bronchus and breast cancer decreased and the mortality rate for colorectal and prostate cancer increased from 2011-2013 to 2014-2016.

Cancer Late Stage Diagnosis –All and Top Four Diagnosis

Definition

The percent of all cancer patients diagnosed at a later stage (IV), for a two-year time period.

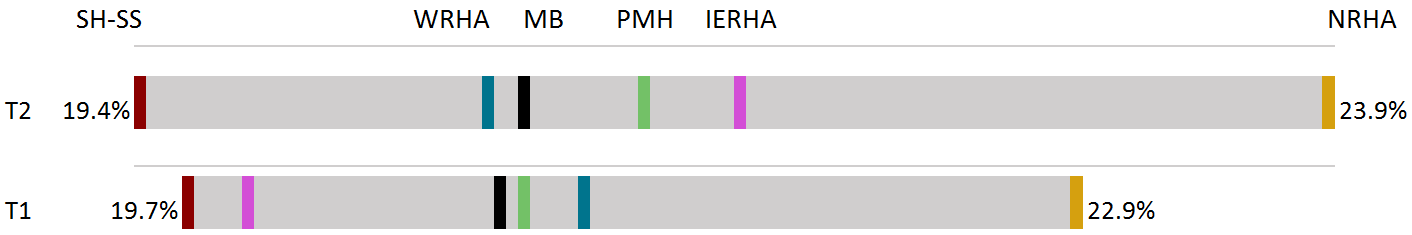
Why is this indicator important?

In late-stage diagnoses, cancer has already spread to other parts of the body and has a significantly worse outcome than cancer diagnosed during earlier stages. Data on late-stage cancer diagnosis helps to identify where to focus cancer awareness campaigns, screening programs and how to improve access to diagnostic tests.

Provincial Key Findings

- The proportion of cancer patients who were diagnosed at stage four of their cancer has remained relatively stable throughout the province with 20.8% (count=3,963) in 2011-2013 and 20.9% (count=4,064) in 2014-2016.
- The proportion of cancer patients who were diagnosed at stage four was higher in males and patients aged 50+.

Figure 14 Percent of all Invasive Cancers diagnosed at Stage IV, by RHA, 2011-2013 (T1) and 201-2016 (T2)



H/L Significantly higher or lower than the MB average for that time period.

	SH-SS		WRHA		MB		PMH		IERHA		NHR	
T2 COUNT	489		2,300		4,064		610		493		172	
T2 RATE	19.4%		20.8%		20.9%		21.3%		21.7%		23.9%	
T1 RATE	19.7%		21.1%		20.8%		20.9%		19.9%		22.9%	

Source: CancerCare Manitoba 2019

Table 14 Percent of Site Specific Invasive Cancers diagnosed at late stage (IV), by NHR and MB, 2011-2013(T1) and 2014-2016(T2)

Cancer Site	T2					T1		
	NHR			MB		NHR		MB
	Rate		Count	Rate	Count	Rate		Rate
Lung and Bronchus	48.5%		50	47.7%	1,324	50.0%		48.8%
Colorectal	29.4%	H	32	20.2%	505	27.0%	H	19.4%
Prostate	11.1%		8	17.2%	369	12.7%		16.4%
Breast	7.8%		6	6.6%	167	5.4%		6.6%

H/L Significantly higher or lower than the MB average for that time period.

Source: CancerCare Manitoba 2019

Regional Key Findings

- In the NHR, the proportion of cancer patients who were diagnosed at stage four of their cancer changed from 22.9% in 2011-2013 to 23.9% in 2014-2016.
- In the NHR from 2014-2016 the percentage of lung and bronchus, breast and colorectal cancer patients diagnosed in late stage were higher than the Manitoba average with colorectal being statistically significant, whereas the percent of prostate patients diagnosed in the late stage was lower than the Manitoba average.
- Comparing the 2011-2013 and 2014-2016 time periods in the NHR, the percent of cancers diagnosed at the late stage for lung and bronchus and prostate cancer decreased and the percent of cancers diagnosed at the late stage for colorectal and breast cancer increased.

Cancer Survival – All and Top Four Diagnosis

Definition

The percent of residents still alive five years after a cancer diagnosis, for a five-year time period.

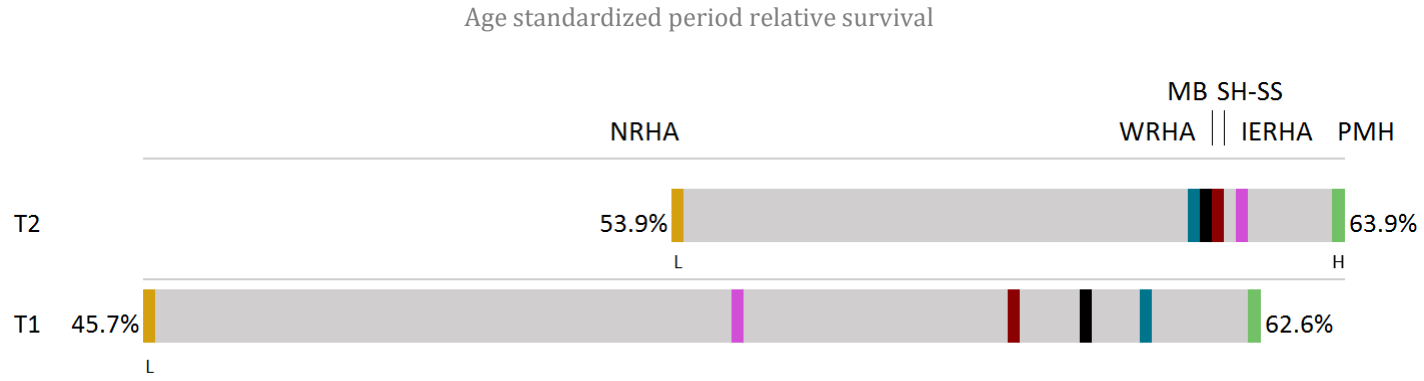
Why is this indicator important?

Data on cancer survival can be used to assess the effectiveness of cancer treatment and prevention strategies.

Provincial Key Findings

- Cancer survival rates have remained relatively stable in the province (60.0% in 2007-2011 compared to 62.0% in 2012-2016).
- Cancer survival rate was high among cancer patients in the age group of 15-44 and females.
- Of the top four cancers, age-standardized five-year relative survival rate in 2012-2016 was 64.9% for colorectal cancer, 88.0% for breast cancer, 23.1% for lung & bronchus cancer and 91.1.% for prostate cancer.
- Cancer survival rate was high among female cancer patients and patients aged 15-54 for colorectal and lung & bronchus cancers. Cancer survival rates were also high among females aged 65-74 for breast cancer and males aged 55-64 for prostate cancer.

Figure 15 Cancer Survival for all Invasive Cancers by RHA observed years 2007-2011, with follow-up to 2011 (T1) and observed years 2012-2016, with follow-up to 2016 (T2)



H/L Significantly higher or lower than the MB average for that time period.

	NHR		WRHA		MB		SH-SS		IERHA		PMH	
T2 RATE	53.9%	L	61.8%		62.0%		62.0%		62.3%		63.9%	H
T1 RATE	45.7%	L	61.0%		60.0%		58.9%		54.7%		62.6%	

Source: CancerCare Manitoba 2019

Table 15 Period Relative Survival for Top 4 Cancers, by NHR and MB observed years 2007-2011, with follow-up to 2011 (T1) and observed years 2012-2016, with follow-up to 2016 (T2)

Age-standardized period relative survival

Cancer Site	2012-2016				2007-2011			
	NHR Rate		MB Rate		NHR Rate		MB Rate	
Prostate	*		91.1%		*		86.3%	
Breast	65.2%		88.0%		*		87.5%	
Colorectal	60.6%		65.0%		*		64.5%	
Lung and bronchus	19.9%		23.1%		*		20.3%	

H/L Significantly higher or lower than the MB average for that time period. *Data not available or potentially unstable during the reporting time period.

Source: CancerCare Manitoba 2019

Regional Key Findings

- The age standardized five year relative survival rate has improved over time for NHR to 53.9% from 45.7%.
- In the NHR, of the top four cancers, the age-standardized five year relative survival rate in 2012-2016 was 60.6% for colorectal cancer, 65.2% for breast cancer, and 19.9% for lung & bronchus cancer.
- In 2012-2016, in the NHR, the age-standardized five year relative survival rate was lower for breast, colorectal and lung and bronchus cancer than the Manitoba average.

A CLOSER LOOK…COMMUNITY CANCER CARE PROGRAM

The **Northern Cancer Team** was assembled to reduce the burden that cancer brings to the northern people in 39 communities across the north. The team consists of two Psychosocial Oncology Clinicians, two Nurse Navigators, a Community Engagement Liaison, Chemotherapy Nurses in three Chemotherapy Departments and two Administrative Assistants.

In the beginning, Northern Health Region patients with cancer expressed how lost they felt navigating through the health care system with their cancer diagnosis, until they started to receive needed support:

Psychosocial Oncology Clinicians build rapport with the patients; then they are able to assist patients with accommodations, sharing the diagnosis with loved ones and employers and be a dependable listening ear.

Nurse Navigators work with other healthcare professionals to organize the patient treatment schedule and appointments and provide medical support through explaining treatments and terminology in an understandable way.

Patients spend a lot of time in the chemotherapy department, the atmosphere is home like and comfortable. The **Chemotherapy Nurses** joke, talk, and get to know their patients; they educate that no two people are alike in treatment effects.

The **Community Engagement Liaison** participates in and creates community events to provide awareness regarding the cancer resources available in the NHR. In the outlying communities the Community Engagement Liaison meets with community influencers in the morning and hosts information booths in the afternoon regarding self screening, cancer prevention and the importance of attending treatments.

Pictured above: Cancer Navigation and Chemotherapy Team in the Thompson General Hospital Chemotherapy Department

Cardiovascular

Hypertension Prevalence

Definition

The percent of residents, aged 19 and older, diagnosed with hypertension (high blood pressure), for a one-year time period.

Why is this indicator important?

Hypertension is a risk factor for a number of cardiovascular conditions. Accurate assessment of the hypertension burden helps to guide prevention efforts and treatment choices, which may lead to reductions in heart-related morbidity and mortality.

Provincial Key Findings

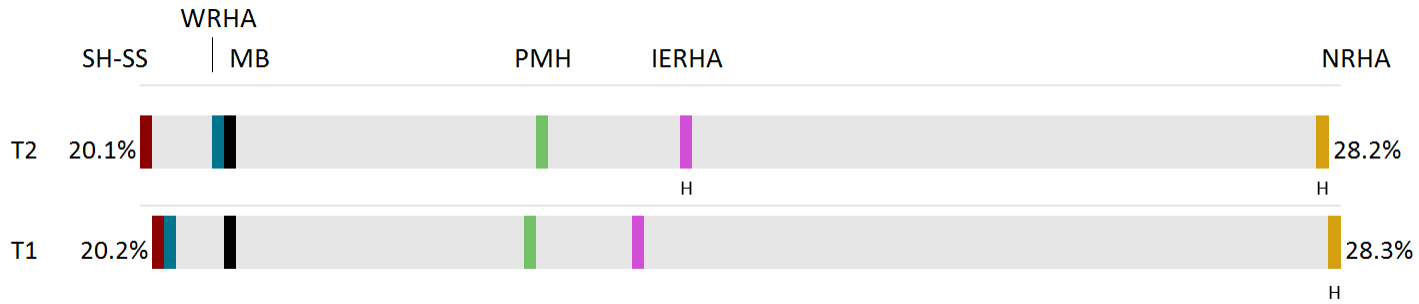
- In Manitoba, 291,507 residents were diagnosed with high blood pressure in 2016/17. Hypertension prevalence in the province remained steady at 20.7% over time.
- Hypertension prevalence in the NHR was significantly higher than the prevalence of hypertension in Manitoba in both time periods. Hypertension prevalence was also significantly higher than the provincial rate in Interlake-Eastern Regional Health Authority in 2016/17.
- Income: The hypertension prevalence among low income residents was about 1.2 times higher than the highest income residents in 2016/2017.

Rural Quintiles

T2 | ***1.2x***

Figure 16 Prevalence of Hypertension by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of residents aged 19+ diagnosed with disorder



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		MB		PMH		IERHA		NHR	
T2 COUNT	26,699		125,460		219,507		31,977		25,134		9,392	
T2 RATE	20.1%		20.7%		20.7%		22.8%		23.8%	H	28.2%	H
T1 RATE	20.2%		20.2%		20.7%		22.8%		23.5%		28.3%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The proportion of NHR residents with hypertension remained stable at 28.2% from 2007-2011 to 2012-2016.
- All three of the NHR zones had significantly higher hypertension rates than the Manitoba average in both time periods.
- Zone one in the NHR had a significant decrease in the hypertension rate from 24.3% to 23.2% from 2007-2011 to 2012-2016.
- The districts range from 20.6% in Flin Flon, Snow Lake, Cranberry Portage and Sherridon/Cold Lake to 39.2% in Pimicikamak (Cross Lake) Cree Nation and Incorporated Community of Cross Lake; this is a district disparity of 1.9 times.

Table 16 Prevalence of Hypertension by NHR, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of residents aged 19+ diagnosed with disorder

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**219,507**	**20.7%**		**20.7%**		**Northern Health Region**	**9,392**	**28.3%**	**H**	**28.3%**	**H**
Zone 1	**5,355**	**23.2%**	**H-**	**24.3%**	**H**	**Zone 2**	**3,083**	**29.7%**	**H**	**29.3%**	**H**
Flin, Snow, Cran, Sher	1,389	20.6%		21.9%		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	136	21.0%		20.4%	
The Pas/OCN, Kels	1,639	23.6%	H	22.4%		Nelson House/NCN	237	21.5%		22.1%	
Thompson, Myst Lake	1,726	24.4%	H-	27.3%	H	Puk/Mat Col CN	121	23.3%		19.7%	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	204	25.3%		27.4%	H	GR/MisCN, ML/MosCN, Eas/CheCN	374	25.2%	H	24.4%	H
Thick, Pik, Wab, Ilf/WLFN, Corm	211	29.1%	H	28.4%	H	Bu(OH)CN, MS(GR)CN, GLN/GLFN	428	28.4%	H	28.6%	H
Gillam Fox	186	31.0%	H	35.8%	H	Sham, YorkFN, TatCN(SPL)	355	30.2%	H	27.4%	H
NHR District Disparity Ratio						Norway House/NH CN	740	34.8%	H	35.7%	H
 T1 Disparity ***2.0***						Cross Lake/Cross Lake FN	692	39.2%	H	39.6%	H
T2 Disparity ***1.9***											
Change ***-0.1 ↓***						**Zone 3**	**954**	**37.6%**	**H**	**34.8%**	**H**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	954	38.2%	H	35.2%	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Ischemic Heart Disease Prevalence

Definition

The percent of residents, aged 19 and older, diagnosed with IHD, for a five-year time period.

Why is this indicator important?

IHD (also known as coronary artery disease) is a major cause of death and disability in Canada. IHD prevalence helps to gain insight into the success of prevention, program planning and IHD management efforts.

Provincial Key Findings

- In Manitoba, 82,339 residents were diagnosed with IHD in 2012/13-2016/17. The prevalence has significantly increased in the province from 8.1 to 8.3%.
- IHD prevalence varied across the province with the highest prevalence in Prairie Mountain Health (8.7%) and the lowest prevalence in Southern Health-Santé Sud (7.1%) in 2012/13-2016/17.
- In NHR and Prairie Mountain Health, IHD prevalence decreased over time, while in the Winnipeg Regional Health Authority, IHD prevalence increased (from 8.1% in 2007/08-2011/12 to 8.6% in 2012/13-2016/17).
- Income: The prevalence of IHD among low income residents was 1.5 times greater than highest income residents in 2012/13-2016/17.

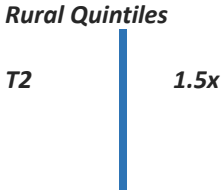
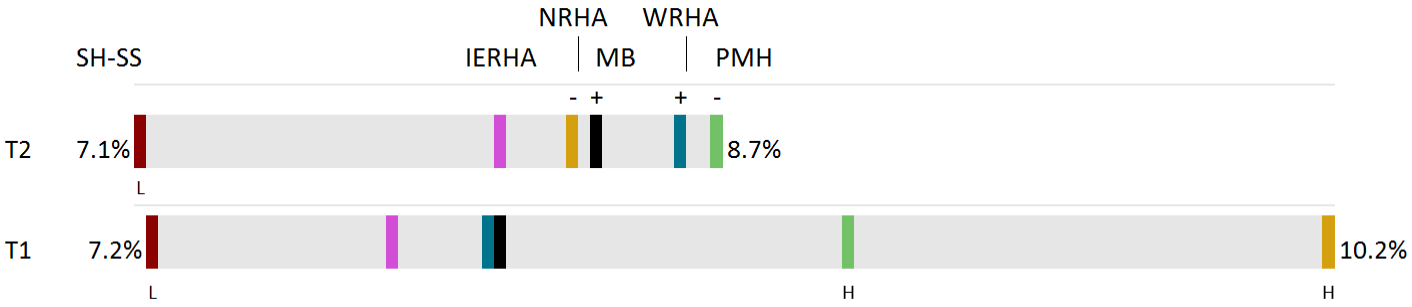


Figure 1718 Prevalence of Ischemic Heart Disease by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Age and sex adjusted percent of residents aged 19+ diagnosed with disorder



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		IERHA		NHR		MB		WRHA		PMH	
T2 COUNT	9,458		8,908		2,539		82,339		47,935		13,094	
T2 RATE	7.1%	L	8.1%		8.3%	-	8.3%	+	8.6%	+	8.7%	-
T1 RATE	7.2%	L	7.8%		10.2%	H	8.1%		8.1%		9.0%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- Prevalence for ischemic heart disease significantly declined in the the NHR from 10.2% in 2007-2011 to 8.3% in 2012 to 2016.
- Zone one in the NHR was below the Manitoba average for prevalence of ischemic heart disease for both time periods and also experienced a significant decline of 7.89% to 6.56% from 2007-2011 to 2012-2016.
- Zone two and three in the NHR was above the Manitoba average for ischemic heart disease in both time periods.
- The NHR district disparity ratio indicates that differences do exist between districts and over time there was little change. Residents in Pimicikamak Cree Nation and Incorporated Community of Cross Lake are three and one half times more likely to experience a heart attack than those living in Churchill/Sayisi Dene (Tadoule Lake) First Nation, Barren Lands First Nation, Brochet and Northlands (Lac Brochet) First Nation.

Table 17 Prevalence of Ischemic Heart Disease by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Age and sex adjusted percent of residents aged 19+ diagnosed with disorder

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**82,339**	**8.3**		**8.1%**		**Northern Health Region**	**2,539**	**8.3%**	**-**	**10.2%**	**H**
Zone 1	**1,343**	**6.6%**	**L-**	**7.9%**		**Zone 2**	**934**	**11.3%**	**H-**	**14.7%**	**H**
Thompson, Myst Lake	308	6.7%	L-	9.9%	H	SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	29	6.4%	-	11.0%	
Flin, Snow, Cran, Sher	358	6.9%		7.9%		Nelson House/NCN	76	10.4%		12.3%	H
Thick, Pik, Wab, Ilf/WLFN, Corm	53	9.8%		9.4%		GR/MisCN, ML/MosCN, Eas/CheCN	113	11.5%	H	14.2%	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	61	10.0%		11.5%		Bu(OH)CN, MS(GR)CN, GLN/GLFN	136	12.6%	H	13.0%	H
The Pas/OCN, Kels	518	10.3%	H	11.2%	H	Sham, YorkFN, TatCN(SPL)	98	13.2%	H	15.1%	H
Gillam Fox	45	11.1%		15.4%	H	Puk/Mat Col CN	50	13.5%	H	10.9%	
						Norway House/NH CN	190	14.3%	H-	21.5%	H
						Cross Lake/Cross Lake FN	242	22.1%	H-	31.8%	H
						Zone 3	**262**	**13.5%**	**H**	**14.8%**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	262	16.3%	H	17.4%	H

NHR District Disparity Ratio

T1 Disparity ***4.0***

T2 Disparity ***3.5***

Change ***-0.5 ↓***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Heart Attack Incidence Rate

Definition

The annual rate of death or hospitalization due to acute myocardial infarction (AMI) (or heart attack) per 1,000 population, aged 40 and older, for a five-year time period.

Why is this indicator important?

Heart attacks are one of the leading causes of death in Manitoba. Understanding AMI rates, in combination with other cardiovascular indicators, is important in the planning of public awareness campaigns and health promotion interventions, as well as the allocation of resources in response to the demands on acute care services.

Provincial Key Findings

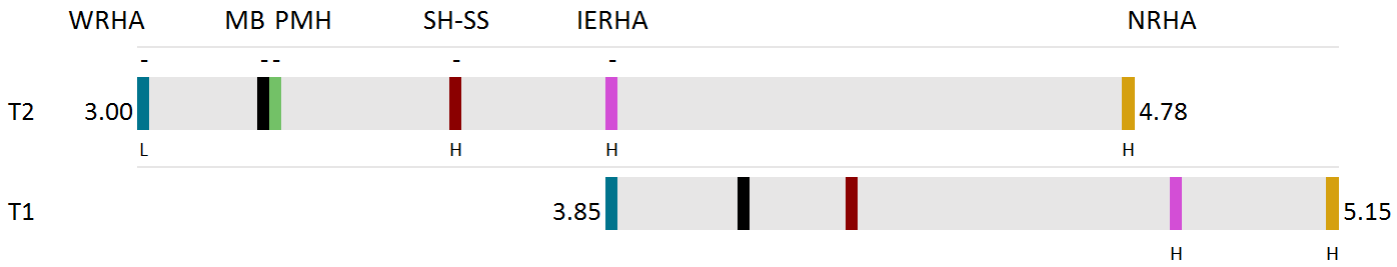
- About 10,235 adults in Manitoba received a new diagnosis of heart attack in 2012-2016. The heart attack rate has declined significantly over time, from 4.08 to 3.24 events per 1,000 residents aged 40 and older.
- The heart attack rate has declined significantly in all regions over time, except NHR, which had no significant change.
- Income: The incidence rate of heart attacks among the low income residents was 1.7 times higher than the highest income residents in 2012-2016.

Rural Quintiles

T2	***1.7x***

Figure 18 Heart Attack (AMI) Rate by RHA, 2007-2011 (T1) and 2012-2016 (T2)

Age and sex adjusted average annual rate of death or hospitalization for AMI per 1,000 residents aged 40+



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		MB		PMH		SH-SS		IERHA		NHR	
T2 COUNT	5,366		10,235		1,577		1,470		1,304		438	
T2 RATE	3.00	L-	3.24	-	3.24	-	3.58	H-	3.86	H-	4.78	H
T1 RATE	3.85		4.08		4.28		4.28		4.87	H	5.15	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The heart attack rate in the NHR moved from 5.15 to 4.78 events per 1,000 residents aged 40 and older from 2007-2011 to 2012-2016, with 438 residents having had a heart attack in 2012-2016. Both these rates are signifincantly higher than the Manitoba average.
- Zone three of the NHR had significantly high rates, they were more than double the Manitoba average and the rate increased over time.
- Zone two had significantly higher rates than the Manitoba average, but the rate significantly decreased from 2007-2011 to 2012-2016.
- All three of the NHR zones had significantly higher heart attack rates than the Manitoba average in both the 2007-2011 and 2012-2016 time periods.
- The geographic disparity ratio indicates that there was no widening or narrowing in disparity between districts across the two time periods.

Table 18 Heart Attack (AMI) Rate by NHR Zone and District, 2007-2011 (T1) and 2012-2016 (T2)

Age and sex adjusted average annual rate of death or hospitalization for AMI per 1,000 residents aged 40+

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**10,235**	**3.2**		**4.1**		**Northern Health Region**	**438**	**4.8**	**H**	**5.2**	**H**
Zone 1	**262**	**4.3**	**H**	**4.2**		**Zone 2**	**128**	**5.2**	**H-**	**6.8**	**H**
Flin, Snow, Cran, Sher	62	3.2		3.8		Bu(OH)CN, MS(GR)CN, GLN/GLFN	11	2.9		4.7	
Gillam Fox	s	s		4.9		Nelson House/NCN	12	4.7		5.6	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	13	6.1		3.6		Norway House/NH CN	23	4.9		8.3	H
Thompson, Myst Lake	75	4.6		4.4		Cross Lake/Cross Lake FN	22	5.6		4.4	
The Pas/OCN, Kels	97	5.4	H	4.7		Sham, YorkFN, TatCN(SPL)	16	5.9		10.3	H
Thick, Pik, Wab, Ilf/WLFN, Corm	10	5.0		5.0		Puk/Mat Col CN	10	8.3	H	6.0	
NHR District Disparity Ratio						GR/MisCN, ML/MosCN, Eas/CheCN	30	8.3	H	11.4	H
T1 Disparity ***3.0***						SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	s	s		S	
T2 Disparity ***3.0***											
						Zone 3	**48**	**8.7**	**H**	**8.5**	**H**
Change ***0***						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	48	8.8	H	8.6	H

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Congestive Heart Failure Prevalence

Definition

The percent of residents, aged 40 and older, diagnosed with congestive heart failure, for a three-year time period.

Why is this indicator important?

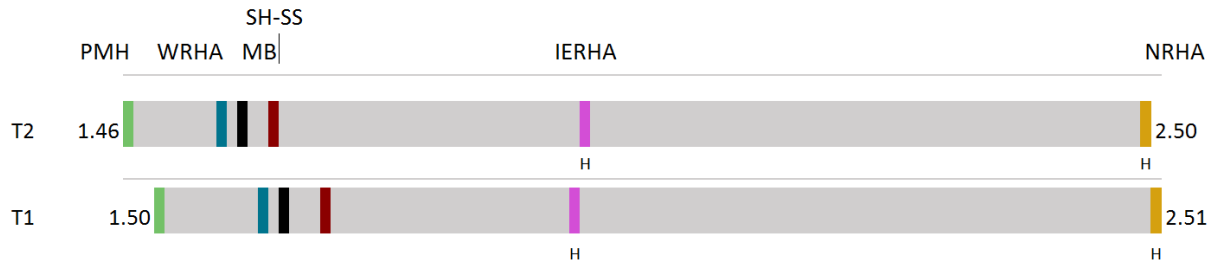
Cardiovascular disease, including congestive heart failure, is the leading cause of death in Manitoba. Understanding congestive heart failure prevalence is important in the planning of public education and health promotion initiatives, as well as allocation of resources in response to symptom severity, reserved prognosis and high costs of treatment.

Provincial Key Findings

- A number of 10,461 adults aged 40 years and older in Manitoba lived with diagnosed congestive heart failure in 2014/15-2016/17. The prevalence of congestive heart failure in the province remained stable in both time periods.
- However, the prevalence of congestive heart failure varied across the province with the highest prevalence in the NHR (2.52%) and the lowest prevalence in Prairie Mountain Health (1.46%) in 2014/15-2016/17.
- In Interlake-Eastern RHA and the NHR, the prevalence of congestive heart failure was significantly higher than the provincial prevalence during both time periods.

Figure 19 Prevalence of Congestive Heart Failure by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted average annual percent of residents, aged 40+ diagnosed with CHF



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	PMH		WRHA		MB		SH-SS		IERHA		NHR	
T2 COUNT	1,478		5,959		10,461		1,325		1,247		386	
T2 RATE	1.46%		1.57%		1.59%		1.62%		1.93%	H	2.50%	H
T1 RATE	1.50%		1.61%		1.63%		1.67%		1.93%	H	2.51%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The prevalence of congestive heart failure remained stable at 2.5% from 2011-2012 to 2016-2017 in the NHR.
- All three zones in the NHR had congestive heart failure prevelance rates higher than the Manitoba average in both time periods, with zones two and three being statistically significant.
- The geographic district disparity ratio indicates that there were differences in rates for congestive heart failure depending on the district lived in, the good news was that NHR saw a narrowing of 2.9 over time between the highest and lowest districts prevalence.

Table 19 Prevalence of Congestive Heart Failure by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted average annual percent of residents, aged 40+ diagnosed with CHF

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**10,461**	**1.6%**		**1.6%**		**Northern Health Region**	**386**	**2.5%**	**H**	**2.5%**	**H**
Zone 1	**199**	**1.8%**		**1.7%**		**Zone 2**	**141**	**3.5%**	**H**	**3.9%**	**H**
Flin, Snow, Cran, Sher	53	1.5%	+	0.9%	L	Nelson House/NCN	7	1.7%		3.0%	
The Pas/OCN, Kels	67	2.1%		2.5%	H	GR/MisCN, ML/MosCN, Eas/CheCN	16	3.0%		3.4%	H
Thompson, Myst Lake	54	2.2%		2.0%		Bu(OH)CN, MS(GR)CN, GLN/GLFN	21	3.3%	H	4.0%	H
Thick, Pik, Wab, Ilf/WLFN, Corm	7	2.3%		2.7%		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	9	3.6%		3.2%	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	8	2.5%				Cross Lake/Cross Lake FN	26	4.1%	H	4.8%	H
Gillam Fox	10	5.4%	H	3.5%		Norway House/NH CN	32	4.5%	H	4.2%	H
NHR District Disparity Ratio						Sham, YorkFN, TatCN(SPL)	25	6.3%	H	6.0%	H
T1 Disparity				***7.1***		Puk/Mat Col CN				3.6%	
T2 Disparity				***4.2***							
Change				***-2.9 ↓***		**Zone 3**	**46**	**5.3%**	**H**	**6.1%**	**H**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	46	5.7%	H	6.4%	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Stroke Rate

Definition

The number of hospitalizations or deaths due to stroke, per 1,000 residents, aged 40 and older, for a five-year time period.

Why is this indicator important?

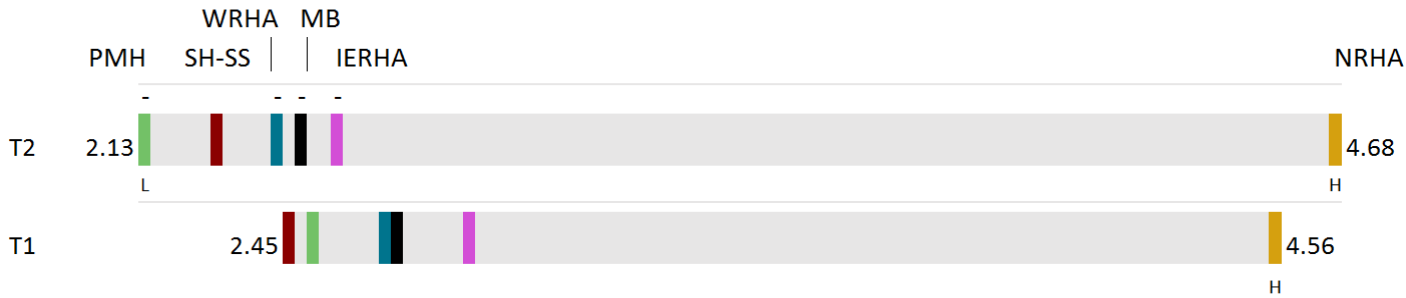
Stroke is one of the leading causes of adult disability and death. Stroke rates, along with other cardiovascular indicators, describe levels of cardiovascular health in the population.

Provincial Key Findings

- There were 7,857 strokes among Manitoba residents in 2012-2016. The stroke event rate in the province decreased from 2.69 to 2.48 strokes per 1,000 residents aged 40+ over time.
- Stroke event rates varied across the province, with the highest event rate in the NHR (4.68 events per 1,000 residents) and the lowest event rate in Prairie Mountain Health (2.13 events per 1,000 residents).
- In three regions (Prairie Mountain Health, Winnipeg Regional Health Authority, and Interlake Eastern Regional Health Authority), stroke event rates declined significantly between 2007-2011 and 2012-2016.

Figure 20 Stroke Rate by RHA, 2007-2011 (T1) and 2012-2016 (T2)

Age- and sex-adjusted average annual rate of death or hospitalization for stroke per 1,000 residents aged 40+



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	PMH		SH-SS		WRHA		MB		IERHA		NHR	
T2 COUNT	1076		921		4794		7857		816		357	
T2 RATE	2.13	L-	2.31		2.43	-	2.48	-	2.56	-	4.68	H
T1 RATE	2.52		2.45		2.65		2.69		2.84		4.56	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- During 2012-2016, there were a total of 357 hospitalizations or deaths due to stroke in the NHR.
- In the NHR the stroke rate increased from 4.56 to 4.68 in 2007-2011 to 2012-2016; both significantly higher than the Manitoba average.
- The NHR zone one had a rate of 3.0 strokes whereas zone three had a stroke rate of 12.5 in 2012-2016.
- Norway House and Norway House Cree Nation experienced a significant decrease in the stroke rate from 9.7 to 5.2 from 2007-2011 to 2012-2016, both were still significantly higher than the Manitoba average.

- The geographic disparity ratio presented shows significant disparity between our district of Pukatawagan and Mathias Colomb with the highest stroke rate of 15.3 and the district of Flin Flon, Sherridon, Cranberry Portage and Sherridon with the lowest stroke rate of 2.0 in 2012-2016. In addition, the disparity between districts increased 2.8 times over the two time periods.

Table 20 Stroke Rate by NHR Zone and District, 2007-2011 (T1) and 2012-2016 (T2)

Age- and sex-adjusted average annual rate of death or hospitalization for stroke per 1,000 residents aged 40+

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**7,857**	**2.5**	**-**	**2.7**		**Northern Health Region**	**357**	**4.7**	**H**	**4.6**	**H**
Zone 1	**154**	**3.0**		**3.3**		**Zone 2**	**151**	**7.6**	**H**	**6.4**	**H**
Flin, Snow, Cran, Sher	36	2.0		2.4		GR/MisCN, ML/MosCN, Eas/CheCN	8	2.8		s	
The Pas/OCN, Kels	55	3.4		3.5		Norway House/NH CN	19	5.2	H-	9.7	H
Thompson, Myst Lake	48	3.9		3.5		Nelson House/NCN	15	7.2	H	5.9	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	7	4.0		4.5		Bu(OH)CN, MS(GR)CN, GLN/GLFN	26	7.7	H	4.0	
Gillam Fox	s	s		11.6	H	Sham, YorkFN, TatCN(SPL)	22	10.7	H	7.8	H
Thick, Pik, Wab, Ilf/WLFN, Corm	s	s		6.1		Cross Lake/Cross Lake FN	40	12.5	H	10.2	H
NHR District Disparity Ratio						Puk/Mat Col CN	16	15.3	H+	5.8	
T1 Disparity ***4.9***						SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	s			s	
T2 Disparity ***7.7***											
Change ***2.8 ↑***						**Zone 3**	**52**	**12.5**	**H**	**11.5**	**H**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	52	12.6	H	11.7	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

A CLOSER LOOK… SPEECH LANGUAGE PATHOLOGY VIA TELEHEALTH FOLLOWING A STROKE

In 2013, the **Northern Health Region** together with **Speechworks Inc**. (now known as Hello SpeechWorks) received the Manitoba Patient Access Network Innovation Award in recognition of their partnership in service delivery via **MB Telehealth**. Since then, over 4000 hours of **speech, language, and swallowing therapy** have been delivered on camera to adults living in the north. In addition, presentations about this service have been enjoyed by professionals in Canada, United States, and England at Provincial and National Speech Language Pathology and Stroke Conferences.

Paddy Massan, originally from Shamattawa, then Norway House and now Opaskwayak Cree Nation had a stroke in 2014 and as a result was unable to swallow safely or communicate at all. His swallowing complications were treated "on camera" and once they resolved he was treated for his communication difficulties. He says speech therapy has been really helpful and people can understand him now.

Not only does Speechworks Inc. deliver speech therapy on camera but they also work to **reduce the isolating effects of communication disorders post stroke**. During some of Paddy's sessions from The Pas's telehealth site he communicated with his son Jordan who was at Shamattawa's telehealth site. Paddy would get very excited about the possibility of seeing his granddaughter on camera and about the chance to give his son fatherly advice. Jordan says he really enjoys seeing his dad on camera rather than just talking on the phone.

Paddy also participated in group therapy on camera from Norway House to Winnipeg and presented a powerpoint about snaring a rabbit (complete with visuals) to the Winnipeg stroke group who meet at Hello SpeechWorks biweekly. Paddy enjoys this group and considers the people in it to be his friends. During group meetings he participates on camera in the speed chatting sessions where learners talk about a single topic for a short burst of time, then move on to a new partner and repeat the process. He chats with other group members, volunteers, and speech language pathologists.

It takes a great team of the nurses, administration staff, occupational therapists, social workers, dieticians, rehab assistants, health care aids, telehealth personnel, and of course client's family members to work with Hello Speechworks staff to make this therapy happen for Patty and other Northern Health Region residents.

We can be very proud of this service in Manitoba. It is innovative, effective, and a huge cost saver for the citizens of the province.

Diabetes

Diabetes Incidence

Definition

The average number of residents newly diagnosed with diabetes (Type 1 and 2) per 100 person years, for a three-year time period.

Why is this indicator important?

Diabetes is a significant public health issue. Diabetes incidence provides perspective on the number of new cases of diabetes and can help focus prevention and management efforts going forward.

Provincial Key Findings

- In 2014/15-2016/17, 25,603 Manitobans were newly diagnosed with diabetes. Overall, diabetes incidence in Manitoba has remained relatively stable; while the rate increased from 0.74 to 0.80 cases per 100 person-years for residents, the increase was not statistically significant.
- Diabetes incidence increased over time in most regions (all except NHR), though only the increase in Prairie Mountain Health reached statistical significance.
- The diabetes incidence rate in Southern Health-Santé Sud was significantly lower than the provincial rate in both time periods. The incidence rates were significantly higher than the provincial rate during both time periods in Interlake Eastern Regional Health Authority, as well as the NHR.
- Income: The diabetes incidence among low income residents was about 2.2 times higher than the highest income residents in 2014/15-2016/17.

Rural Quintiles

T2 | ***2.2x***

Figure 21 Incidence of Diabetes by RHA, 2009/10-2011/12 (T1) and 2014/15-2016/17 (T2)

Age and sex adjusted incidence rate per 100 person-years for residents (all ages)

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		MB		PMH		IERHA		NHR	
T2 COUNT	2,847		13,901		25,603		3,599		3,044		2,052	
T2 RATE	0.66	L	0.74		0.80		0.92	H+	0.97	H	1.88	H
T1 RATE	0.62	L	0.69		0.74		0.81		0.91	H	1.95	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- There were a total of 2,052 residents newly diagnosed with diabetes from 2014/15-2016/17 in NHR.
- The diabetes incidence rate declined slightly in the the NHR going from 1.95 in 2009/10-2011/12 to 1.88 in 2014/15-2016/17. In both time periods it remains significantly higher than the Manitoba average.
- In the NHR the lowest diabetes incidence rate was in zone one and the highest incident rates was in zone three. All but one district over both time periods had diabetes incidence rates higher than the provincial average.
- The geographic district disparity ratio highlights that the dispartity between districts is decreasing; it was five times lower in 2014/15-2016/17 than in 2009/10-2011/12. Disparity remains high between districts with the diabetes rates in Garden Hill First Nation, Red Sucker Lake First Nation, St. Theresa Point First Nation, Wasagamack First Nation, Island Lake and Red Sucker Lake's five and a half times higher than Flin Flon, Snow Lake, Cranberry Portage and Sherridon.

Table 21 Incidence of Diabetes by NHR Zone and District, 2009/10-2011/12 (T1) and 2014/15-2016/17 (T2)

Age and sex adjusted incidence rate per 100 person-years for residents (all ages)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**25,603**	**0.8**		**0.7**		**Northern Health Region**	**2,052**	**1.9**	**H**	**2.0**	**H**
Zone 1	**927**	**1.2**	**H+**	**1.1**	**H**	**Zone 2**	**796**	**2.3**	**H-**	**2.6**	**H**
Flin, Snow, Cran, Sher	186	0.8	+	0.6		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	29	1.1		1.1	
Thompson, Myst Lake	326	1.2	H	1.1	H	Nelson House/NCN	71	1.6	H	1.5	H
Gillam Fox	35	1.3		1.1		Puk/Mat Col CN	36	1.8	H	2.4	H
The Pas/OCN, Kels	295	1.3	H	1.4	H	Bu(OH)CN, MS(GR)CN, GLN/GLFN	104	2.0	H	2.3	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	40	s	H	1.3	H	GR/MisCN, ML/MosCN, Eas/CheCN	110	2.1	H	2.5	H
Thick, Pik, Wab, Ilf/WLFN, Corm	45	s	H	1.5	H	Norway House/NH CN	194	2.8	H	3.1	H
NHR District Disparity Ratio						Cross Lake/Cross Lake FN	144	2.8	H-	3.9	H
T1 Disparity ***9.5***						Sham, YorkFN, TatCN(SPL)	108	2.9	H	3.0	H
T2 Disparity ***5.5***											
Change ***-5.0↓***						**Zone 3**	**329**	**4.4**	**H-**	**5.7**	**H**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts.						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	329	4.4	H-	5.7	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Diabetes Prevalence

Definition

The percent of residents, all ages, diagnosed with and treated for diabetes (Type one and two), for a three-year time period.

Why is this indicator important?

Diabetes can lead to serious complications (such as cardiovascular disease, vision loss, kidney failure, nerve damage or amputation) and premature death. As the Canadian population continues to grow and age, the number of Canadians living with diabetes is also expected to continue to increase[i].

Provincial Key Findings

- In 2014/15-2016/17, about 120,201 Manitobans aged 19 and older were living with diagnosed diabetes. Diabetes prevalence increased significantly over time in the province, from 7.6% to 8.6%.
- In all five regions, the prevalence of diabetes increased significantly over time.
- The prevalence of diabetes in Interlake-Eastern RHA and NHR were consistently higher than the prevalence of diabetes in Manitoba in both time periods, while Southern Health-Santé Sud's diabetes prevalence rate was significantly lower than the province's in both time periods.
- Income: The diabetes prevalence among low income residents was 2.2 times higher than the highest income residents in 2014/15-2016/17.

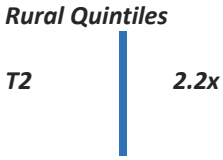


Figure 22 Prevalence of Diabetes by RHA, 2009/10-2011/12 (T1) and 2014/15-2016/17 (T2)

Age and sex adjusted percent of residents (all ages) diagnosed with disorder

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		MB		PMH		IERHA		NHR	
T2 COUNT	13,103		65,004		120,201		17,593		14,040		9,733	
T2 RATE	7.3%	L+	7.9%	+	8.6%	+	10.1%	H+	10.3%	H+	20.9%	H+
T1 RATE	6.3%	L	7.0%		7.6%		8.1%		9.1%	H	18.3%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- There were 9,733 residents who had diabetes in the NHR in 2014/15-2016/17.
- The diabetes prevelance rate in the NHR rose significantly from 18.3% to 20.9% from 2009/10-2011/12 to 2014/15-2016/17. The rates in both time periods are significantly higher than the Manitoba average.
- In the NHR at the zone level, diabetes prevalence was the highest in zone three at 44.93% and the lowest in zone one at 12.7% in 2014/15-2016/17. All but one district had diabetes prevalence rates above the Manitoba average for both time periods.

Table 22 Prevalence of Diabetes by NHR Zone and District, 2009/10-2011/12 (T1) and 2014/15-2016/17 (T2)

Age and sex adjusted percent of residents (all ages) diagnosed with disorder

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**120,201**	**8.6%**	**+**	**7.6%**		**Northern Health Region**	**9,733**	**20.9%**	**H+**	**18.3%**	**H**
Zone 1	**4,118**	**12.7%**	**H+**	**10.9%**	**H**	**Zone 2**	**3,888**	**24.7%**	**H+**	**22.2%**	**H**
Flin, Snow, Cran, Sher	717	7.8%		6.9%		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	103	10.3%		7.6%	
Thompson, Myst Lake	1,337	12.2%	H+	10.3%	H	Nelson House/NCN	331	19.3%	H+	15.1%	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	170	14.1%	H	12.1%	H	Puk/Mat Col CN	179	21.3%	H	18.9%	H
The Pas/OCN, Kels	1,496	15.8%	H+	14.0%	H	Bu(OH)CN, MS(GR)CN, GLN/GLFN	545	24.1%	H+	20.4%	H
Gillam Fox	180	S	H	14.4%	H	GR/MisCN, ML/MosCN, Eas/CheCN	567	24.9%	H	21.6%	H
Thick, Pik, Wab, Ilf/WLFN, Corm	218	S	H	16.9%	H	Norway House/NH CN	858	26.0%	H	25.7%	H
NHR District Disparity Ratio T1 Disparity 6.2 T2 Disparity 5.6 Change -0.6↓ Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts						Cross Lake/Cross Lake FN	780	28.6%	H	27.3%	H
						Sham, YorkFN, TatCN(SPL)	525	28.9%	H	25.2%	H
						Zone 3	**1,727**	**43.7%**	**H**	**42.8%**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	1,727	44.9%	H	43.2%	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Lower Limb Amputation Due To Diabetes

Definition

The percent of residents with diabetes, aged 19 and older, who had a lower limb amputation either below or including the knee, for a five-year time period.

Why is this indicator important?

Individuals with diabetes are more likely to be hospitalized with a non-traumatic lower limb amputation than the non-diabetic population[ii]. Lower limb amputations amongst diabetics are an indication of poor disease management and can lead to increased morbidity and mortality. There is a strong relationship between lower limb amputation due to diabetes and overall health status of vulnerable populations. This indicator helps to plan focused upstream education and equitable access to disease prevention efforts.

Provincial Key Findings

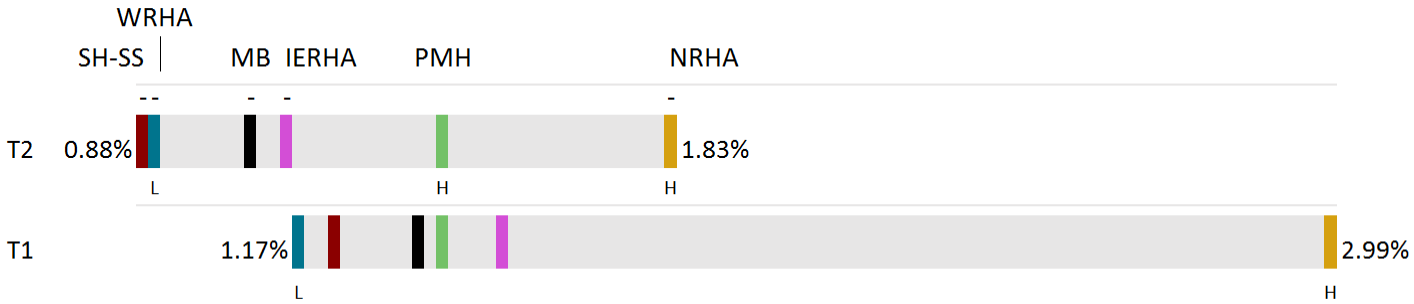
- About 1,197 Manitobans aged 19 and older had lower limb amputation due to diabetes in 2012/13-2016/17. The percent of diabetes-associated lower limb amputations in the province has declined significantly over time, from 1.39% to 1.09%.
- The percentage of amputations declined significantly over time in all regions except Prairie Mountain Health, where the percentage remained the same.
- NHR had the highest rates in the province but also the largest decrease over time. The percentage of amputations was significantly lower than the provincial percentage during both time periods in Winnipeg Regional Health Authority.
- Income: The percentage of lower limb amputations due to diabetes among low income residents was 3.8 times higher than the highest income residents in 2012/13-2016/17.

Rural Quintiles

T2 | ***3.8x***

Figure 23 Lower Limb Amputations amongst Residents with Diabetes by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Age and sex adjusted percent of residents with diabetes aged 19+ who had an amputation



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		MB		IERHA		PMH		NHR	
T2 COUNT	107		538		1,197		157		235		142	
T2 RATE	0.88%	-	0.91%	L-	1.09%	-	1.16%	-	1.42%	H	1.83%	H-
T1 RATE	1.23%		1.17%	L	1.39%		1.54%		1.42%		2.99%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- One hundred fourty two residents had lower limb amputations from 2013/14-2016/17.
- The NHR experienced a significant decline in the proportion of residents who had a lower limb amputations, at 2.99% in 2007/08-2011/12 to 1.83% in 2012/13-2016/17. The rates in both time periods are significantly higher than the Manitoba average.
- Consistent with other diabetes findings, the NHR zone one had smaller lower limb amputation prevelance rates (1.4%) than zone two (1.9%) and zone three (2.8%) in 2012/13-2016/17. All zone rates declined over the two time periods. Note some district data was suppressed.

Table 23 Lower Limb Amputations Amongst Residents with Diabetes by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Age and sex adjusted percent of residents with diabetes aged 19+ who had an amputation

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**1,197**	**1.1%**	**-**	**1.4%**		**Northern Health Region**	**142**	**1.8%**	**H-**	**3.0%**	**H**
Zone 1	**49**	**1.4%**		**2.0%**		**Zone 2**	**58**	**1.9%**	**H-**	**3.9%**	**H**
Flin Flon, Snow, Cran, Sher	6	0.9%		S		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	0	0%		0%	
The Pas/OCN, Kels	20	1.5%		2.6%	H	Sham, YorkFN, TatCN(SPL)	9	2.2%		3.1%	
Thompson, Myst Lake	17	1.6%		2.2%		Norway House/NH CN	18	2.7%	H-	5.1%	H
Gillam Fox	s	s		s		Cross Lake/Cross Lake FN	17	2.7%	H	4.2%	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	s	s		s		GR/MisCN, ML/MosCN, Eas/CheCN	s	s		5.1%	H
Thick, Pik, Wab, Ilf/WLFN, Corm	s	s		s		Bu(OH)CN, MS(GR)CN, GLN/GLFN	s	s		s	
						Nelson House/NCN	s	s		4.67%	H
						Puk/Mat Col CN	s	s		s	
						Zone 3	**35**	**2.8%**	**H**	**3.7%**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	35	2.8%	H	3.6%	H

NHR District Disparity Ratio

T1 Disparity ***5.1***

T2 Disparity ***2.8***

Change ***-2.3*** ↓

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Diabetes Care- Eye Exams

Definition

The percent of residents with diabetes, aged 19 and older, who had an eye exam in a given year, as defined by a visit to an ophthalmologist or an optometrist.

Note: Eye exam rates may be underestimated in Manitoba. Services provided by general practitioners and family physicians may not be included, as there is no specific tariff for this service. Furthermore, although all residents with diabetes qualify for annual eye exams without having to pay for the service, some may not indicate their diabetic status to the provider, in which case the provider may bill the patient directly. If that occurs, there would be no record of the visit in medical claims data.

Why is this indicator important?

Diabetic eye problems (such as diabetic retinopathy, cataract and glaucoma) are common complications of diabetes and may lead to visual loss or even blindness. The Canadian Association of Optometrists recommends that individuals with diabetes should see their optometrists for an eye examination when they are first diagnosed and at minimum, once a year after. More frequent eye exams may be recommended[iii].

Provincial Key Findings

- About 50,112 Manitobans with diabetes had eye exam in 2016/17. The percentage of adults with diabetes in Manitoba who had an eye examination increased significantly over time, from 38.3% to 41.7%.
- The percentage of adults with diabetes who had eye examinations increased over time in the five regions, though the increase was not statistically significant in Southern Health-Santé Sud.
- Rates for residents of the NHR may be under-estimated because the Manitoba Retinal Screening Vision Program affects these rates-- services from nurse screeners are not documented into the medical claims system.
- Income: In rural settings, the percentage of eye exams among low income residents was 0.9 times lower that the highest income residents.

Rural Quintiles

T2 | ***0.9x***

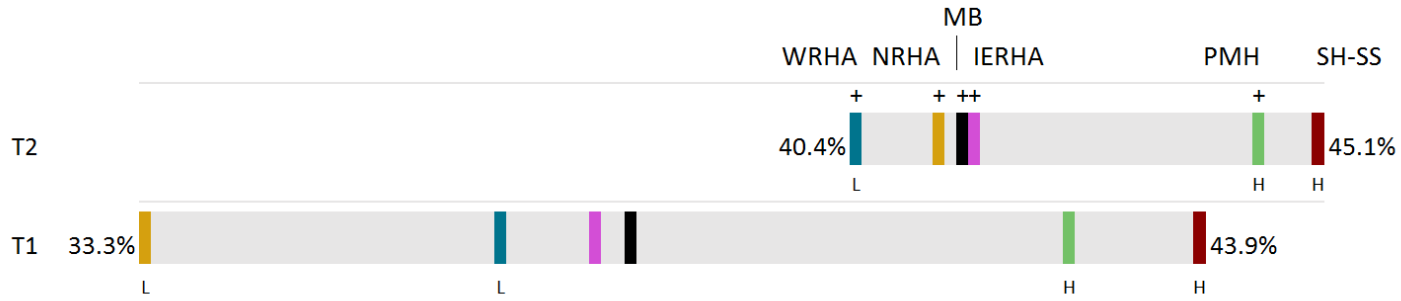
The Northern Health Region regional diabetes program staff routinely provide cab slips to clients in the large centres and home visits to clients when doing community travel in order to improve access to diabetes self-management education.

Grocery store and northern store tours are also provided by program dieticians to educate clients on healthy food choices.

Telehealth self-management education is provided to clients who live in zone two. In addition, regional diabetes program educators liaise with the health care providers in zone two regarding diabetes assessments including annual foot assessment and retinal screening.

Figure 24 Diabetes Care: Eye Examinations by RHA, 2011/12 (T1) and 2016/17 (T2)

Crude percent of residents (age 19+) with diabetes who had an eye exam



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		NHR		MB		IERHA		PMH		SH-SS	
T2 COUNT	26,292		4,026		50,112		5,857		7,831		5,909	
T2 RATE	40.4%	L+	41.4%	+	41.7%	+	41.7%	+	44.5%	H+	45.1%	H
T1 RATE	37.0%	L	33.3%	L	38.3%		37.9%		42.6%	H	43.9%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- Five thousand nine hundred nine residents had diabetes care eye exams in 2016/17.
- The NHR experienced a significant increase in the proportion of residents who had a diabetes care eye exam, at 33.3% in 2011/12 to 41.4% in 2016/17.
- The NHR zone one had higher diabetes care eye exams prevelance rates (47.4%) than zone two (38.1%) and zone three (34.3%) in 2011/12. All zone rates increased significantly over the two time periods.

Table 24 Diabetes Care: Eye Examinations by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Crude percent of residents (age 19+) with diabetes who had an eye exam

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**50,112**	**41.7%**	**+**	**38.3%**		**Northern Health Region**	**4,026**	**41.4%**	**+**	**33.3%**	**L**
Zone 1	**1,950**	**47.4%**	**H+**	**39.4%**		**Zone 2**	**1,483**	**38.1%**	**L+**	**28.7%**	**L**
Flin Flon, Snow, Cran, Sher	374	52.2%	H	46.0%	H	Norway House/NH CN	380	44.3%	+	26.6%	L
The Pas/OCN, Kels	724	48.4%	H+	40.7%		Bu(OH)CN, MS(GR)CN, GLN/GLFN	216	39.6%		34.8%	
Gillam Fox	86	47.8%	+	31.8%		GR/MisCN, ML/MosCN, Eas/CheCN	217	38.3%		37.5%	
Thompson, Myst Lake	611	45.7%	+	36.7%		Cross Lake/Cross Lake FN	298	38.2%	+	19.6%	L
Thick, Pik, Wab, Ilf/WLFN, Corm	88	40.4%		36.7%		Nelson House/NCN	114	34.4%	+	24.8%	L
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	67	39.4%		28.8%		Sham, YorkFN, TatCN(SPL)	179	34.1%		30.0%	
NHR District Disparity Ratio						SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	35	34.0%		37.7%	
						Puk/Mat Col CN	44	24.6%	L	35.7%	
						Zone 3	**593**	**34.3%**	**L+**	**29.5%**	**L**
T1 Disparity				***2.3***		IsL/GHFN, RSL/RSLFN, STPFN, WasFN	593	34.3%	L+	29.5%	L
T2 Disparity				***2.1***							
Change				***-0.2↓***							

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

A CLOSER LOOK… THE DIABETES SERVICE COORDINATION NETWORK

The **Diabetes Service Coordination Network** has been meeting since February 2016. This Network started meeting to work on the Diabetes Equity Indicator and address gaps in service coordination. The Network includes, **Northern Health Region**, **Keewatin Tribal Council**, **Swampy Cree Tribal Council**, **Diabetes Integration Project**, and **First Nations and Inuit Health Branch**. This network has worked on **pediatric service** needs for children living with Diabetes in Northern Manitoba, **footcare services**, **coordinating travel** with multiple programs/services, supporting **telehealth** appointments, sharing **resources**, **education**, etc. This network continues to meet and is evolving to include a variety of programs and services in the Northern Region.

NHR Regional Diabetes Program Staff at a Vegetables For Diabetes Information Booth

Injury

Injury Hospitalization - Intentional

Definition

The number of residents who stayed in hospital at least one day with a primary diagnosis of intentional injury (e.g. self-inflicted, assault) per 1,000 population, for a one-year time period.

Why is this indicator important?

This indicator helps us to understand the effectiveness of intentional injury public awareness efforts and informs program planning and resource allocation.

Provincial Key Findings

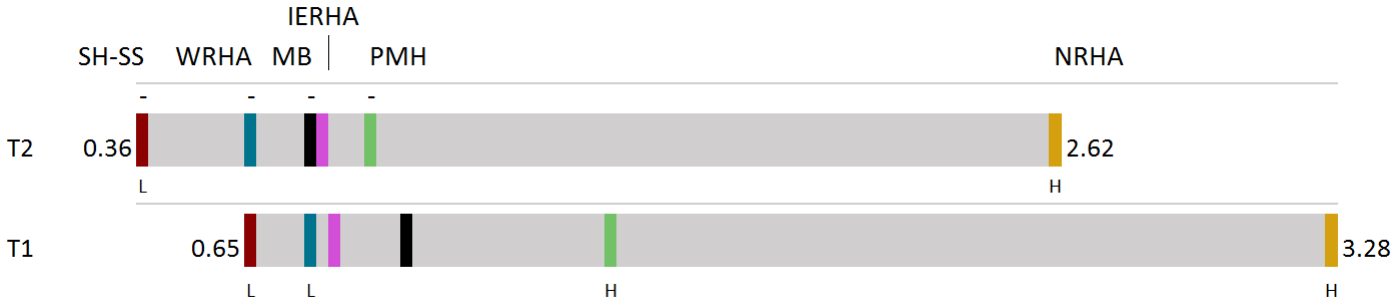
- There were 1,015 intentional injury hospitalizations in 2016-2017.
- The age-standardized intentional injury hospitalization rate decreased significantly in the province, from 1.04 to 0.8 per 1,000 residents.
- Three regions (Southern Health-Santé Sud, Winnipeg Regional Health Authority and Prairie Mountain Health) saw significant decreases in their rates of intentional injury hospitalizations over time.
- NHR had the highest rates in both time periods and the rates were also significantly higher than the provincial average.
- Income: The income disparity was large where hospitalization rates due to intentional injuries among low income residents were about 8.6 times higher than the highest income residents in 2016-2017.

Rural Quintiles

T2	***8.6x***

Figure 25 Intentional Injury Hospitalization Rates by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted rates per 1,000 residents



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		MB		IERHA		PMH		NHR	
T2 COUNT	66		480		1,015		94		146		200	
T2 RATE	0.36	L-	0.65	-	0.80	-	0.82		0.94	-	2.62	H
T1 RATE	0.65	L	0.81	L	1.04		0.87		1.54	H	3.28	H

Source: IMA MHSAL 2019

Regional Key Findings

- There were 200 residents hospitalized for intentional injuries in 2016/17.
- The NHR had a decrease in the intentional injury hospitalization rate, it went from 3.28 to 2.62 per 1,000 residents in 2011/12 to 2016/17. Both these rates were significantly higher than the provincial rates.
- The NHR zones findings reveal that the intentional injury hospitalization rates for zone two and three were significantly higher than the provincial rates, it was highest in zone three followed by zone two and lowest in zone one in 2016/17.

Table 25 Intentional Injury Hospitalization Rates for NHR Zones, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted rates per 1,000 residents

	T2			T1	
	Count	Rate		Rate	
Manitoba	**1,015**	**0.8**	**-**	**1.04**	
Northern Health Region	**200**	**2.62**	**H**	**3.28**	**H**
Zone 1	53	1.56		1.94	
Zone 2	104	4.18	H	6.37	H
Zone 3	43	5.48	H	5.38	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: IMA MHSAL 2019

Injury Hospitalization - Unintentional

Definition

The number of residents who stayed in hospital at least one day with a primary diagnosis of unintentional injury (e.g. falls, motor vehicle accidents, drowning) per 1,000 population, for a one-year time period.

Why is this indicator important?

Measuring unintentional injury hospitalization rates helps to understand the adequacy and effectiveness of prevention efforts.

Provincial Key Findings

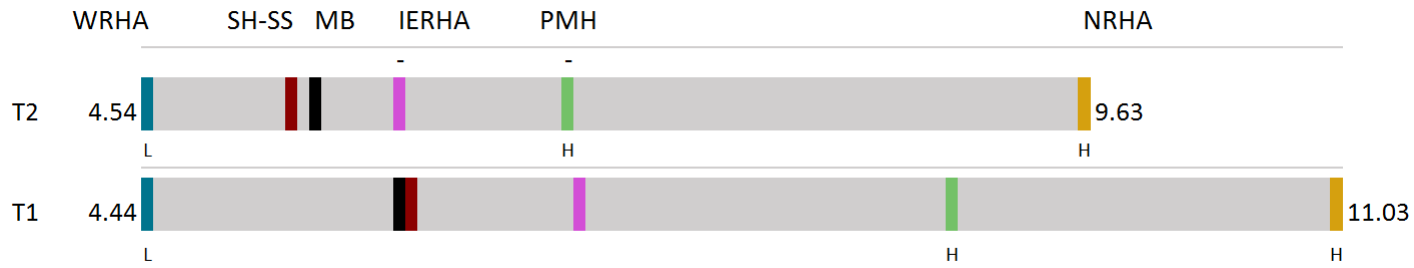
- There were 7,449 unintentional injury hospitalizations in 2016-2017. The age-standardized unintentional injury hospitalization rate decreased slightly in the province, from 5.90 to 5.42 per 1,000 residents. However, this decrease was not statistically significant.
- Two regions (Prairie Mountain Health and Interlake Eastern Regional Health Authority) saw significant decreases in their rates of unintentional injury hospitalizations over time.
- The rate of unintentional injury hospitalizations in the Winnipeg Regional Health Authority was significantly lower than the province's rate; while the rates of unintentional injury hospitalization in Prairie Mountain Health and the NHR were consistently higher than the province's rate in both time periods.
- In 2016–2017, the most frequent causes of injury hospitalizations in Manitoba were falls (49.6%, count=4,406), suffocation (9.7%, count=859), poisoning (9.1%, count=812), struck by or against an object (5.6%, count=501), and occupant, MVA (4.4%, count=387).
- Falls were the most frequent cause of injury hospitalization in all health regions in both time periods. Hospitalizations for injuries caused by other mechanisms occurred less frequently than falls.
- Income: In rural settings, the hospitalization rates due to unintentional injuries among low income residents were 1.9 times higher than the highest income residents.

Rural Quintiles

T2 | ***1.9x***

Figure 26 Unintentional Injury Hospitalization Rates by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted rates per 1,000 residents



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		SH-SS		MB		IERHA		PMH		NHR	
T2 COUNT	3,738		971		7,449		763		1,298		512	
T2 RATE	4.54	L	5.32		5.42		5.89	-	6.78	H-	9.63	H
T1 RATE	4.44	L	5.97		5.90		6.90		8.91	H	11.03	H

Source: IMA MHSAL 2019

Regional Key Findings

- The NHR unintentional injury hospitalization rate decreased from 11.03 to 9.63 per 1,000 residents from 2011/12 to 2016/17.
- In 2016/17 all three zone rates were higher than Manitoba's with zone three being the highest, followed by zone two and zone one.
- Most of the district data was suppressed.
- Of the district data available, the district disparity saw an improvement of 1.6 times over the two time periods.
- In the NHR the top three most frequent causes of injury were falls (34.0%), poisoning (15.7%) and struck by or against an object (9.0%) in 2016-2017, with the same top three in 2011-2012.
- Falls followed by poisoning were the top two causes of injury hospitalizations in all three zones in 2016-2017.

NHR District Disparity Ratio		
	T1 Disparity	***5.9***
	T2 Disparity	***4.3***
	Change	***-1.6 ↓***

Disparity with a value of "0" suggest no inequities exist.
Change over time informs whether or not disparity is widening or narrowing between districts

Table 26 Unintentional Injury Hospitalization Rates by NHR Zone, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted rates per 1,000 residents

	T2			T1	
	Count	Rate		Rate	
Manitoba	**7,449**	**5.42**		**5.9**	
Northern Health Region	**512**	**9.63**	**H**	**11.03**	**H**
Zone 1	230	7.51	H	7.9	
Zone 2	204	11.61	H	15.42	H-
Zone 3	78	16.06	H	15.91	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: IMA MHSAL 2019

Table 27 Most Frequent Causes of Injury Hospitalizations by NHR, 2011/12(T1) and 2016/17(T2)

Rank	2016-2017		2011-2012	
1	Fall	34.0%	Fall	34.1%
2	Poisoning	15.7%	Poisoning	14.1%
3	Struck by or against an object	9.0%	Struck by or against an object	12.1%
4	Suppl. Factors	8.3%	Cut or Pierce	8.0%
5	Suffocation	7.9%	Suppl. Factors	6.1%

Source: IMA MHSAL 2019

Table 28 Injury Causes Hospitalizations by NHR Zone, 2016/17

Zone 1		Zone 2		Zone 3	
Fall	40.9%	Fall	30.2%	Fall	29.1%
Poisoning	13.5%	Poisoning	16.4%	Poisoning	18.2%
Suffocation	8.8%	Struck by or against an object	9.7%	Suppl. Factors	16.2%
Struck by or against an object	7.8%	Suppl. Factors	9.1%	Struck by or against an object	10.1%
Other specified, classifiable	5.1%	Suffocation	7.9%	Suffocation	6.1%

Source: IMA MHSAL 2019

Hip Fracture Hospitalization Rate

Definition

The rate of individuals admitted to an acute care hospital with a hip fracture, per 100,000 population, aged 65 and older, for a five-year time period.

Why is this indicator important?

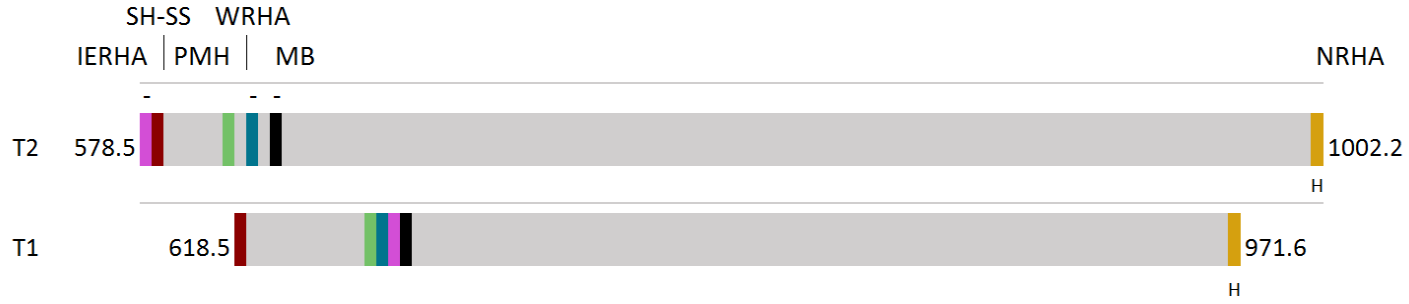
Hip fractures are associated with high morbidity and mortality rates in older adults. Individuals with hip fractures are at significantly increased risk for further fractures.

Provincial Key Findings

- There were 5,637 Manitobans admitted to an acute care hospital with a hip fracture in 2012/13-2016/17. Hip fracture hospitalization rates in the province have declined significantly over time, from 674.0 events to 627.9 events per 100,000 residents.
- The rates have significantly decreased in Winnipeg RHA and Interlake-Eastern RHA over time.
- NHR had the highest rates in both time periods and they were significantly higher than the provincial average.

Figure 27 Hip Fracture Hospitalization Rate by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Age and sex adjusted rate per 100,000 residents (65 years and older)



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	IERHA		SH-SS		PMH		WRHA		MB		NHR	
T2 COUNT	478		643		927		3,295		5,637		159	
T2 RATE	578.5	-	584.0		612.3		621.6	-	627.9	-	1002.2	H
T1 RATE	673.0		618.5		664.1		667.9		674.0		971.6	H

Source: IMA MHSAL 2019

Regional Key Findings

- There were 159 hospitalizations due to hip fractures in the NHR in 2012/13-2016/17.
- In the NHR the hip fracture hospitalization rates have increased from 971.6 events to 1002.2 events per 100,000 residents age 65 and older from 2007/08-2011/12 to 2012/13-2016/17.
- Like many other indicators within this chapter, the NHR hip fracture hospitalization rates are highest in zone three, then zone two and lowest in zone one over both time periods.

Table 29 Hip Fracture Hospitalization Rate by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Age and sex adjusted rate per 100,000 residents (65 years and older)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**5,637**	**627.9**	**-**	**674.0**		**Northern Health Region**	**159**	**1002.2**	**H**	**971.6**	**H**
Zone 1	**73**	**639.7**		**740.8**		**Zone 2**	**71**	**1910.9**	**H**	**1413.8**	**H**
Gillam Fox	s	s		s		Bu(OH)CN, MS(GR)CN, GLN/GLFN	13	1667.7	H	s	
Flin, Snow, Cran, Sher	24	498.2		597.2		GR/MisCN, ML/MosCN, Eas/CheCN	9	1802.3	H	1373.7	
The Pas/OCN, Kels	26	716.9		659.0		Sham, YorkFN, TatCN(SPL)	7	1918.4	H	3617.7	H
Thompson, Myst Lake	19	910.3		915.1		Cross Lake/Cross Lake FN	12	1941.9	H	1417.3	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	s	s		s		Nelson House/NCN	7	2197.4	H	s	
Thick, Pik, Wab, Ilf/WLFN, Corm	s	s		s		Norway House/NH CN	15	2443.1	H	1417.3	
NHR District Disparity Ratio						SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	s	s		s	
						Puk/Mat Col CN	s	s		s	
						Zone 3	**15**	**2032.7**	**H**	**2068.9**	**H**
T1 Disparity				***6.0***		IsL/GHFN, RSL/RSLFN, STPFN, WasFN	15	2026.6	H	2063.7	H
T2 Disparity				***4.9***							
Change				***-1.1 ↓***							

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: IMA MHSAL 2019

A CLOSER LOOK…HOPE NORTH RECOVERY CENTRE FOR YOUTH

The Hope North Recovery Centre for Youth is a **mobile crisis team**, **crisis stabilization unit**, and **youth substance stabilization unit** located in Thompson.

In 2016, Hope North Recovery Centre began piloting the implementation of a **Protocol for the Assessment and Discharge of Suicidal Children and Youth**. The goals of this protocol were to reduce youth suicide attempts and death, facilitate the coordination of services between health settings and encourage meaningful involvement of the youth and their caregiver(s) in safety and wellness planning. The results have been impressive, when surveyed 96% of youth felt **welcomed** at Hope North Recovery Centre, 80% of youth felt Hope North Recovery Centre services were **right for them**.

In addition youth increased their knowledge about places to go for help, and who to call in a crisis and their feelings of hope for the future increased. Caregivers also increased their capacity to manage a crisis.

Mental Illness

Mood and Anxiety Disorders

Definition

The percent of residents (aged 18+) diagnosed with mood and anxiety disorders, for a five-year time period.

Why is this indicator important?

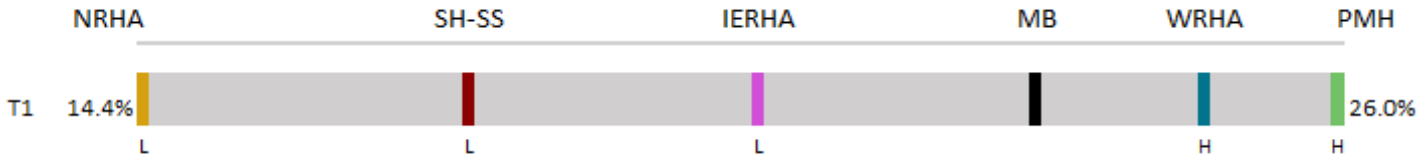
Mood and anxiety disorders frequently coexist with other chronic diseases and/or conditions. For example, the early onset of depressive and anxiety disorders are associated with an increased risk of developing heart disease, asthma, arthritis, chronic back pain and chronic headaches in adults[iv].

Provincial Key Findings

- There were 228,982 Manitobans diagnosed with mood and anxiety disorders. The diagnostic prevalence of mood and anxiety disorders for adults aged 18+ in Manitoba was 23.2% in 2010/11-2014/15.
- The rate was lower in Southern Health-Santé Sud, Interlake-Eastern and Northern; however, it was significantly higher than the provincial average in Prairie Mountain Health and in the Winnipeg health region.
- A higher prevalence of mood and anxiety disorders was found in urban areas compared to rural areas.

Figure 28 Prevalence of Mood and Anxiety Disorders among Adults by RHA, 2010/11 – 2014/15 (T1)

Age and sex adjusted percent of adults aged 18+ diagnosed with disorder in five-year time period



H/L Significantly higher or lower than the MB average for that time period.

	NHR		SH-SS		IERHA		MB		WRHA		PMH	
T1 COUNT	7,148		23,814		20,287		228,982		142,171		34,287	
T1 RATE	14.4%	L	17.7%	L	20.4%	L	23.2%		24.7%	H	26.0%	H

Source: MCHP Mental Health Among Adult Manitobans 2018

Regional Key Findings

- The overall rate of mood and anxiety disorders (14.4%) in the NHR is significantly lower than the Manitoba average for 2010/11-2014/15, which totaled 7,148 residents.
- In the NHR every single district had a mood and anxiety disorder rate that was significantly lower than the Manitoba average.
- Many districts have nursing stations under federal jurisdiction and these statistics are not in this report, this could account for why NHR mood and anxiety disorder rates were lower than expected considering our NHR rates were higher than the provincial average on many similar indicators.

- Churchill/Sayisi Dene (Tadoule Lake) First Nation, Barren Lands (Brochet) First Nation, Brochet and Northlands (Lac Brochet) First Nation had the lowest mood and anxiety rates of 7.7% and Gilliam and Fox Lake had the highest rates at 19.1%.

Table 30 Mood & Anxiety Disorders among Adults by NHR Zone and District, 2010/11 – 2014/15 (T1)

Age and sex adjusted percent of adults aged 18+ diagnosed with disorder in five-year time period

	T1				T1		
	Count	Rate			Count	Rate	
Manitoba	**228,982**	**23.2%**		**Northern Health Region**	**7,148**	**14.4%**	**L**
Zone 1				**Zone 2**			
Flin Flon, Snow, Cran, Sher	1,056	16.7%	L	SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	80	7.7%	L
Thompson, Myst Lake	1,642	14.8%	L	Nelson House/NCN	172	8.8%	L
Gillam Fox	201	19.1%	L	Puk/Mat Col CN	85	8.4%	L
The Pas/OCN, Kels	1,404	16.5%	L	Bu(OH)CN, MS(GR)CN, GLN/GLFN	213	8.7%	L
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	169	16.0%	L	GR/MisCN, ML/MosCN, Eas/CheCN	253	10.8%	L
Thick, Pik, Wab, Ilf/WLFN, Corm	138	14.4%	L	Norway House/NH CN	533	15.0%	L
				Cross Lake/Cross Lake FN	321	11.3%	L
				Sham, YorkFN, TatCN(SPL)	161	8.0%	L
				Zone 3			
				IsL/GHFN, RSL/RSLFN, STPFN, WasFN	720	15.9%	L

H/L Significantly higher or lower than the MB average for that time period.

Source: MCHP Mental Health Among Adult Manitobans 2018

Dementia Prevalence

Definition

The percent of residents, aged 55 and older, diagnosed with dementia for a five-year time period.

Why is this indicator important?

Dementia refers to symptoms and signs associated with a progressive deterioration of cognitive functions that affects many Canadians' daily activities[v]. Prevalence estimates are useful to better understand the burden of this disease in the community.

Provincial Key Findings

- There were 34,912 Manitobans diagnosed with dementia. The diagnostic prevalence of dementia for adults aged 55+ in Manitoba was 10.3% in 2010/11-2014/15.
- The rate was significantly lower in Prairie Mountain Health and Interlake-Eastern than the Manitoba average.
- Income: In rural settings, the dementia prevalence among low income residents was 1.2 times higher than the highest income residents.

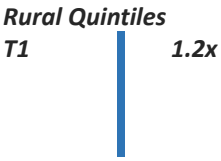


Figure 29 Prevalence of Dementia among Adults by RHA, 2010/11–2014/15 (T1)

Age and sex adjusted percent of adults aged 55+ diagnosed with disorder in five-year time period

H/L Significantly higher or lower than the MB average for that time period.

	PMH		IERHA		NHR		SH-SS		MB		WRHA	
T1 COUNT	5,073		2,785		565		4,191		34,912		20,952	
T1 RATE	8.8%	L	8.9%	L	8.9%		10.0%		10.3%		10.7%	

Source: MCHP Mental Health Among Adult Manitobans 2018

Regional Key Findings

- The proportion of residents diagnosed with dementia in the NHR was 8.9% in 2010/11-2014/15.
- There was a large range of dementia rates in the districts within the NHR.
- Shamattawa First Nation, York Factory First Nation and Tataskweyak (Split Lake) Cree Nation had the highest reported dementia rates at 11.9% and Pukatawagan and Mathias Colomb had the lowest at 1.9%.

Table 31 Dementia Prevalence among Adults by NHR Zone and District, 2010/11–2014/15 (T1)

Age and sex adjusted percent of adults aged 55+ diagnosed with disorder in five-year time period

	T1				T1		
	Count	Rate			Count	Rate	
Manitoba	**34,912**	**10.3%**		**Northern Health Region**	**565**	**8.9%**	
Zone 1				**Zone 2**			
Flin Flon, Snow, Cran, Sher	153	8.2%		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	s	2.7%	
Thompson, Myst Lake	63	7.1%	L	Nelson House/NCN	9	4.8%	
Gillam Fox	11	10.1%		Puk/Mat Col CN	s	1.9%	
The Pas/OCN, Kels	156	10.7%		Bu(OH)CN, MS(GR)CN, GLN/GLFN	31	8.2%	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	16	11.4%		GR/MisCN, ML/MosCN, Eas/CheCN	17	5.5%	
Thick, Pik, Wab, Ilf/WLFN, Corm	13	6.4%		Norway House/NH CN	20	6.4%	
				Cross Lake/Cross Lake FN	27	10.5%	
				Sham, YorkFN, TatCN(SPL)	19	11.9%	
				Zone 3			
				IsL/GHFN, RSL/RSLFN, STPFN, WasFN	23	7.6%	

H/L Significantly higher or lower than the MB average for that time period.

Source: MCHP Mental Health Among Adult Manitobans 2018

Antidepressant Prescription

Definition

The percent of residents with a physician diagnosis of depression, plus a new prescription for antidepressants filled within two weeks, and who had at least the recommended follow-up of three subsequent physician visits within four months, for a five-year time period.

Why is this indicator important?

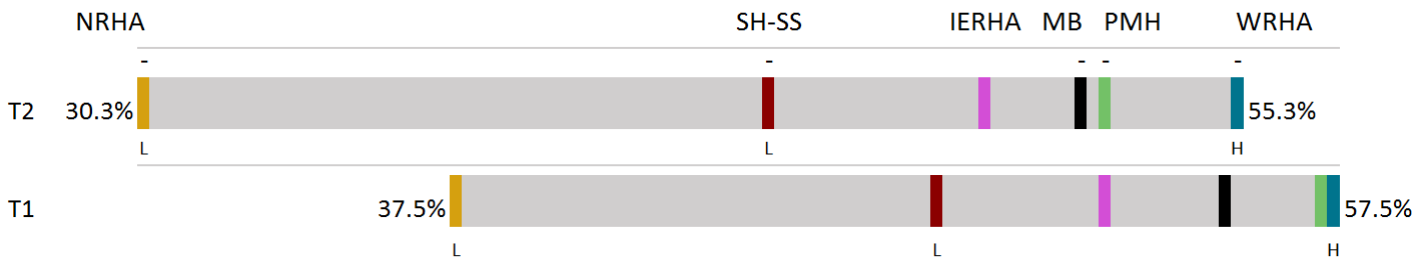
Regular follow-up after initial diagnosis of depression is essential to track patient response to antidepressant medication and modify treatment if necessary. Antidepressants may not have a clinical effect for some time after initiation of therapy and patients with major depression are at risk for suicide. Antidepressant prescription follow-up is a quality of care indicator and important part of a treatment regime.

Provincial Key Findings

- About 13,717 residents with a diagnosis of depression had a new prescription for antidepressants in 2012/13—2016/17. The rate of antidepressant prescription follow–up decreased significantly over time, from 54.9% to 51.7%. Rates decreased in all regions, though the decrease in Interlake-Eastern was not statistically significant.
- Winnipeg RHA had the highest rates, while NHR had the lowest rates in the province. The rates in NHR should be interpreted with caution because many residents receive much of their primary care from nurses in local nursing stations. This care is not captured in the medical claims data system.

Figure 30 Antidepressant Prescription Follow-up by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Crude percent of patietns with new depression who received 3+ physician visits in four months



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		SH-SS		IERHA		MB		PMH		WRHA	
T2 COUNT	350		1,676		1,413		13,717		2,140		8,092	
T2 RATE	30.3%	L-	44.7%	L-	49.7%		51.7%	-	52.4%	-	55.3%	H-
T1 RATE	37.5%	L	48.5%	L	52.3%		54.9%		57.2%		57.5%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- In the NHR the rate of antidepressant prescription follow–up decreased significantly over time, from 37.5% to 30.3% from 2007/08-2011/12 to 2012/13-2016/17. These rates were significantly lower than the Manitoba average.
- The 2012/13-2016/17 NHR zone antidepressant follow-up prescription rates ranged from 30.0% in zone one to 33.7% in zone three.
- Likewise, the districts rates varied widely from 18.6% in Gilliam and Fox Lake to 2.1 times the rate in Pimicikamak (Cross Lake) Cree Nation and Incorporated Community of Cross Lake at 39.5%.

Table 32 Antidepressant Prescription by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Crude percent of patients with new depression who received 3+ physician visits in four months

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**13,717**	**51.7%**	**-**	**54.9%**		**Northern Health Region**	**350**	**30.3%**	**L-**	**37.5%**	**L**
Zone 1	**238**	**30.0%**	**L-**	**41.9%**	**L**	**Zone 2**	**82**	**30.3%**	**L**	**28.4%**	**L**
Gillam Fox	8	18.6%	L	42.4%		Norway House/NH CN	20	27.8%		31.7%	
Thompson, Myst Lake	86	27.7%	L-	41.6%	L	Puk/Mat Col CN	7	28.0%		s	
The Pas/OCN, Kels	70	31.7%	L	40.1%		Nelson House/NCN	7	29.2%		s	
Flin Flon, Snow, Cran, Sher	69	36.5%	L	45.3%		GR/MisCN, ML/MosCN, Eas/CheCN	14	30.4%		33.3%	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	s	s		30.8%		Bu(OH)CN, MS(GR)CN, GLN/GLFN	12	34.3%		24.6%	L
Thick, Pik, Wab, Ilf/WLFN, Corm	s	s		40.0%		Cross Lake/Cross Lake FN	17	39.5%		41.9%	
NHR District Disparity Ratio T1 Disparity 1.8 T2 Disparity 2.1 Change 0.3↑ Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts						SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	s	s		s	
						Sham, YorkFN, TatCN(SPL)	s	s		s	
						Zone 3	**30**	**33.7%**		**33.3%**	
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	30	33.7%		33.3%	

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period.
s – data suppressed.

Source: MCHP RHA Indicators Atlas 2019

Suicide Rates

Definition

The average annual rate for which suicide was listed as the cause of death, per 1,000 population, aged 10 and older, for a five-year time period.

Why is this indicator important?

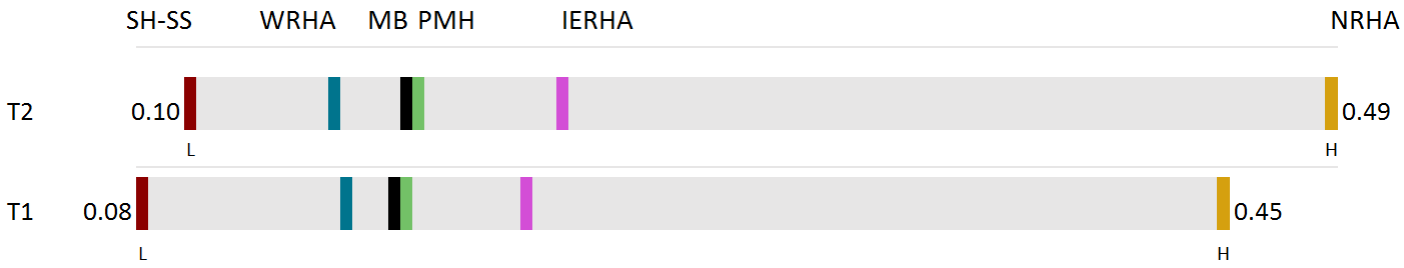
High rates of suicide are an important indication of the mental health of communities and underlying trauma. Suicide rates are one indication of the effectiveness of mental health prevention and promotion initiatives.

Provincial Key Findings

- About 993 suicides took place in Manitoba in 2012-2016. The suicide death rate in the province increased slightly over time; however, the increase was not statistically significant.
- The suicide rates decreased slightly in Winnipeg RHA, which the rates increased slightly in other health reigons, but none of these were significant.
- NHR had significantly higher suicide rates, while Southern Health-Santé Sud had significantly lower suicide rates than the Manitoba average in 2007-2011 and 2012-2016.

Figure 31 Average Annual Suicide Rates by RHA, 2007-2011 (T1) and 2012-2016 (T2)

Age & Sex Adjusted per 1,000 age 10+



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		WRHA		MB		PMH		IERHA		NHR	
T2 COUNT	83		503		993		136		118		139	
T2 RATE	0.10	L	0.15		0.17		0.18		0.23		0.49	H
T1 RATE	0.08	L	0.15		0.17		0.17		0.21		0.45	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The NHR has significantly higher suicide rates than the Manitoba average and it is increasing; from 0.45 to 0.49 in the time periods 2007-2011 to 2012-2016.
- The count for the NHR was 139 suicides per 1,000 residents age 10 and up.
- All three zones have significantly higher suicides rates than the provincial average. Zone one rate was 0.49 suicides per 1,000 residents, zone two rate was 0.58 per 1,000 residents and zone three rate was 0.79 per 1,000 residents in 2012-2016.

Table 33 Average Annual Suicide Rates by RHA, 2007-2011 (T1) and 2012-2016 (T2)

Age & Sex Adjusted per 1,000 age 10+

	T2			T1	
	Count	Rate		Rate	
Manitoba	**993**	**0.17**		**0.17**	
Northern Health Region	**139**	**0.49**	**H**	**0.45**	**H**
Zone 1	56	0.35	H	0.24	
Zone 2	60	0.58	H	0.64	H
Zone 3	23	0.79	H	0.83	H

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

A CLOSER LOOK… NORTHERN VIEW LODGE SUPPORTIVE HOUSING

Supportive Housing was developed as part of a provincial **Aging in Place** initiative and became available on March 17, 2012 at Northern View Lodge in The Pas. It includes **16 rooms** on **two secure floors** staffed by NHR employees within a Manitoba Housing elderly person home.

- Tenants gather in the dining room to have their meals.
- Living room and craft room are available for gatherings and events.
- Meals, snacks, house cleaning, laundry, recreational activities and outings are all part of the service package.
- Staff are on site to assist with all daily living activities, promoting tenants independence, self-confidence and dignity.

From the start of the program to fall 2019, there have been 47 tenants from across the Northern Health Region who have received care-giver support, **preventing premature admission to long term care**. The average length of tenant residency is 2.5 years; this is much longer than the provincial average of 18 months.

Musculoskeletal

Arthritis Prevalence

Definition

The percent of residents, aged 19 and older, diagnosed with arthritis (rheumatoid or osteoarthritis), for a two-year time period.

Why is this indicator important?

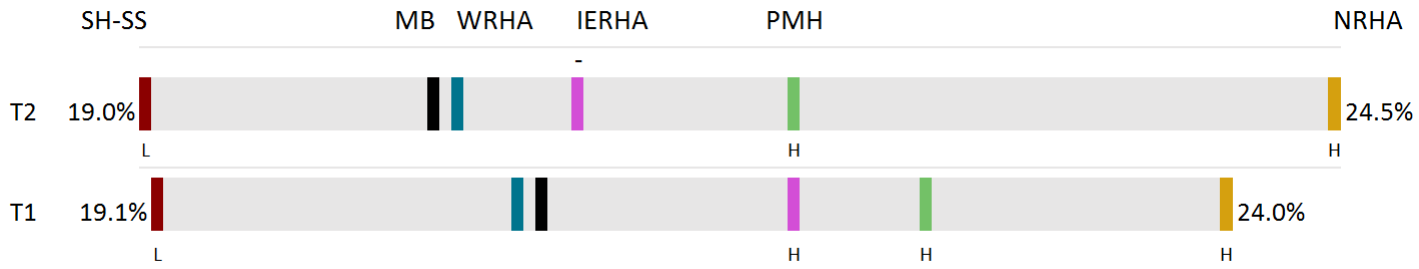
Arthritis is a chronic condition that seriously impacts quality of life, functional independence, and physical ability of many Manitobans.

Provincial Key Findings

- There were 213,054 Manitobans with a diagnosis of arthritis in 2015/16-2016/17. The prevalence of arthritis in Manitoba decreased slightly from 20.9% to 20.4% although the decrease was not of statistical significance.
- The prevalence also decreased in most health regions, though only the decrease in Interlake-Eastern was statistically significant.
- In both time periods, arthritis prevalence in the NHR and Prairie Mountain Health Authority were higher than the provincial average, while those in Southern Health-Santé Sud were lower.

Figure 32 Prevalence of Arthritis by RHA, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted percent of residents aged 19+ diagnosed with disorder



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		MB		WRHA		IERHA		PMH		NHR	
T2 COUNT	26,121		213,054		124,475		21,994		29,921		10,304	
T2 RATE	19.0%	L	20.4%		20.4%		21.0%	-	22.0%	H	24.5%	H
T1 RATE	19.1%	L	20.9%		20.8%		22.0%	H	22.6%	H	24.0%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The prevalence of arthritis in the NHR increased slightly from 24.0% to 24.5% from 2010/11-2011/12 to 2015/16-2016/17.
- In the NHR all three zones in both time periods had significantly higher arthritis prevalence rates than the Manitoba average. Zone three had a significant increase in its rate over time, from 22.1% to 28.9%.
- The district disparity ratio shows that the prevelance of arthritis is 2.7 times greater in Gilliam and Fox Lake Cree Nation than in Churchill/Sayisi Dene (Tadoule Lake) Frist Nation, Barren Lands (Brochet) First Nation, Brochet and Northlands (Lac Brochet) First Nation. It also shows that the disparity has remained stable over time.

Table 34 Prevalence of Arthritis by NHR Zone and District, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted percent of residents aged 19+ diagnosed with disorder

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**213,054**	**20.4%**		**20.9%**		**Northern Health Region**	**10,304**	**24.5%**	**H**	**24.0%**	**H**
Zone 1	**6,063**	**24.6%**	**H**	**24.9%**	**H**	**Zone 2**	**3,250**	**24.8%**	**H**	**24.3%**	**H**
The Pas/OCN, Kels	1,503	20.8%		20.7%		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	112	14.2%	L-	22.5%	
Thick, Pik, Wab, Ilf/WLFN, Corm	168	22.4%		20.9%		Sham, YorkFN, TatCN(SPL)	296	19.8%		17.7%	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	211	23.8%	-	34.6%	H	Puk/Mat Col CN	145	20.0%		23.1%	
Flin, Snow, Cran, Sher	1,481	23.9%	H	24.1%	H	Nelson House/NCN	295	20.5%	+	17.0%	L
Thompson, Myst Lake	2,404	28.3%	H	27.5%	H	Bu(OH)CN, MS(GR)CN, GLN/GLFN	430	22.7%		25.9%	H
Gillam Fox	296	39.0%	H-	48.4%	H	GR/MisCN, ML/MosCN, Eas/CheCN	444	24.5%	H	26.2%	H
NHR District Disparity Ratio T1 Disparity ***2.8*** T2 Disparity ***2.7*** Change ***-0.1 ↓*** Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts						Cross Lake/Cross Lake FN	645	28.7%	H	26.7%	H
						Norway House/NH CN	883	33.2%	H+	28.0%	H
						Zone 3	**991**	**28.9%**	**H+**	**22.1%**	
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	991	28.9%	H+	22.0%	

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Osteoperosis Prevalence

Definition

The percent of residents, aged 50 and older, diagnosed with osteoporosis, for a one-year time period.

Why is this indicator important?

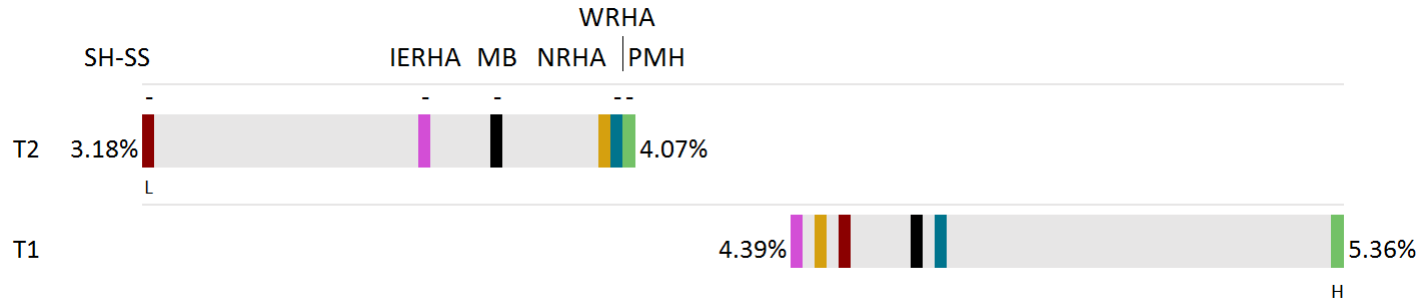
Osteoporosis is a disease that leads to a reduction in bone density and causes bones to become weak and more likely to fracture. The most common injuries associated with osteoporosis are fractures of the wrist, spine and hip. Osteoporosis prevalence provides valuable insight for planning patient education regarding preventive measures and treatment options to reduce fractures and hospitalizations, and improve quality of life.

Provincial Key Findings

- 17,104 Manitobans were diagnosed with osteoporosis in 2016/17. The prevalence of osteoporosis in Manitoba decreased significantly from 4.60% to 3.83%. The prevalence also decreased in all regions, though the decrease in NHR was not statistically significant.
- Osteoporosis prevalence for Southern Health-Santé Sud was significantly lower than the provincial average in 2016/17, while the prevalence for Prairie Mountain Health was significantly higher than the provincial average in 2011/12.

Figure 33 Prevalence of Osteoporosis by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of residents aged 50+ diagnosed with disorder



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	SH-SS		IERHA		MB		NHR		WRHA		PMH	
T2 COUNT	1,635		1,626		17,104		450		10,721		2,600	
T2 RATE	3.18%	L-	3.70%	-	3.83%	-	4.03%		4.05%	-	4.07%	-
T1 RATE	4.48%		4.39%		4.60%		4.42%		4.65%		5.36%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- Four hundred fifty people in NHR were diagnosed with osteoarthritis in 2016/17.
- The prevelance of NHR residents with osteoporosis declined from 4.42% in 2011/2012 to 4.03% in 2016/17.
- In the NHR zones one and two had a decrease in the prevelance of osteoporosis whereas zone three had an increase in the prevelance of osteoporosis over time, none were statistically significant.

- The highest rate of osteoarthritis is in Norway House and Norway House Cree Nation at 5.6 and it is 1.9 times greater than the 2.9 rate in Lynn Lake, Leaf Rapids, South Indian Lake, O-Pipon-Na-Piwin (South Indian Lake) Cree Nation, Granville Lake and Marcel Colomb First Nation as displayed in the geographic disparity ratio for time two.
- This district disparity ratio shows that the gap bwtween the highest and lowest prevalence of osteoporosis decreased 0.8 times over the two time periods.

Table 35 Prevalence of Osteoporosis by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

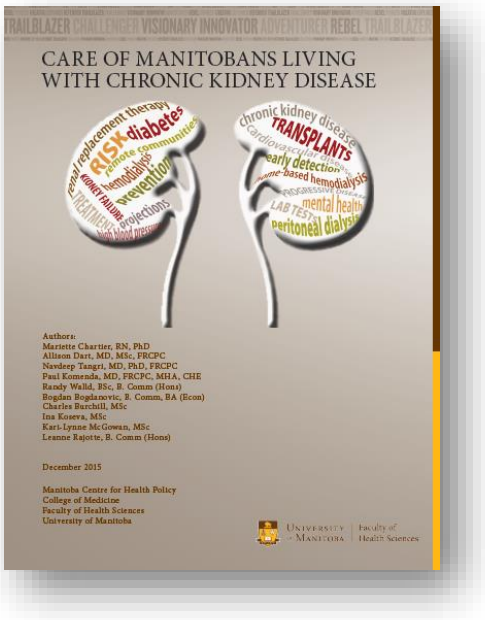
Age and sex adjusted percent of residents aged 50+ diagnosed with disorder

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**17,104**	**3.8**	**-**	**4.6**		**Northern Health Region**	**450**	**4.0**		**4.4**	
Zone 1	**305**	**4.0**		**4.4**		**Zone 2**	**118**	**4.1**		**4.8**	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	7	2.9		3.9		Sham, YorkFN, TatCN(SPL)	9	3.0		3.3	
The Pas/OCN, Kels	71	3.0		4.0		GR/MisCN, ML/MosCN, Eas/CheCN	12	3.1		5.9	
Thick, Pik, Wab, Ilf/WLFN, Corm	10	4.5		6.2		Bu(OH)CN, MS(GR)CN, GLN/GLFN	20	4.2		3.4	
Gillam Fox	7	4.5		5.3		Cross Lake/Cross Lake FN	24	5.0	-	9.0	H
Flin, Snow, Cran, Sher	113	s		4.1		Puk/Mat Col CN	8	5.2		s	
Thompson, Myst Lake	97	s		5.3		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	10	5.4		s	
						Norway House/NH CN	31	5.6		4.8	
						Nelson House/NCN	s			4.4	
						Zone 3	**27**	**4.0**		**3.7**	
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	27	4.1		3.8	

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Renal



Chronic Kidney Disease Prevalence

Definition

The percent of residents, aged 18 years and older, diagnosed with chronic kidney disease.

Why is this indicator important?

Chronic kidney disease often starts slowly and develops without symptoms over a number of years, sometimes leading to serious damage before diagnosis. Understanding how many residents live with chronic kidney disease and where they live helps with program planning and resource allocation. Appropriate care can slow the progression of the disease, reduce complications and enhance quality of life.

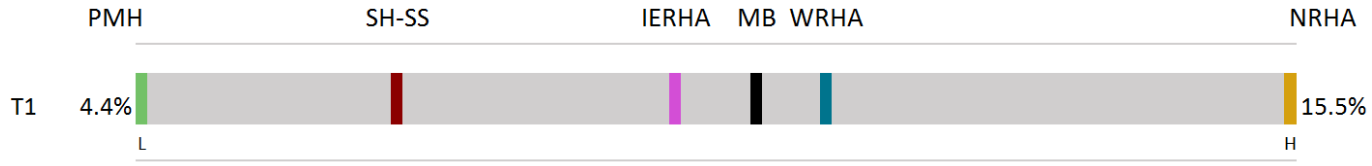
To learn more about Chronic Kidney Disease including ESKD in Manitoba visit: http://mchp-appserv.cpe.umanitoba.ca/reference//ckd_final.pdf

Provincial Key Findings

- In 2012, the prevalence of adult chronic kidney disease in Manitoba with laboratory data was 10% (n=37,534). The prevalence among all adults with chronic kidney disease who were identified in administrative and laboratory data was 7.4% (n=71,758).
- Age and Sex: The renal disease prevalence among residents aged 65+ was more than seven times higher than residents aged 18-44. The prevalence was one and one half times higher in females than in males.
- There were regional differences in the prevalence of chronic kidney disease, which follow the general pattern of health status by region: from healthier populations in southern areas of the province to more prevalent health issues in northern areas.
- The prevalence of chronic kidney disease in the NHR and remote communities was significantly higher than the provincial average. This could be attributed both to the lower health status of these populations and to the smaller number of people living in these areas.

Figure 34 Prevalence of Adults with Chronic Kidney Disease by RHA, March 31, 2012

Age and Sex Adjusted Percent of Residents, Age 18+, Lab Data Only



H/L Significantly higher or lower than the MB average for that time period.

	PMH		SH-SS		IERHA		MB		WRHA		NHR	
T1 COUNT	730		1,964		3,262		37,534		30,084		1,491	
T1 RATE	4.4%	L	6.9%		9.6%		10.4%		11.0%		15.5%	H

Source: IMA MHSAL 2019

Regional Key Findings

- There were 1,491 residents diagnosed with chronic kidney disease in 2012.
- The prevalence of adult chronic kidney disease in the NHR was 15.5% in 2012, significantly higher than the Manitoba average.

End Stage Kidney Disease

Definition

The number of residents with end stage kidney disease per 1,000 population. End stage kidney disease is based on a patient's use of renal replacement therapies (dialysis or kidney transplant).

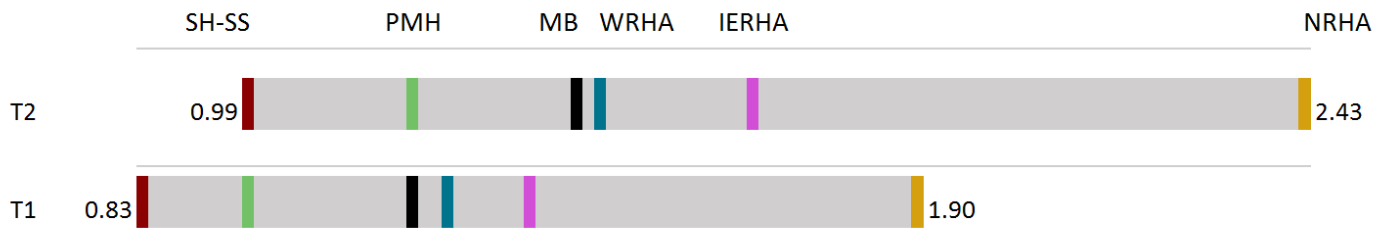
Why is this indicator important?

End stage kidney disease is increasing in Canada, and Manitoba has the highest rate of kidney disease in the country. End stage kidney disease is a serious chronic condition because of associated high mortality, negative impact on quality of life and high cost of kidney transplants. Diabetes is the most common cause of end stage kidney diseas, so it is important to address comorbidities in prevention education, treatment options and resource allocation.

Provincial Key Findings

- There were 1,853 residents diagnosed with end stage kidney disease in Manitoba in 2012 (1.45 per 1,000)
- End stage kidney disease prevalence significantly increased in all regions over time from 2007 to 2012.
- In Manitoba, in 2012, 1,236 adults with end stage kidney disease had dialysis (1.28 per 1,000 residents) and 597 adults had kidney transplant (0.63 per 1,000 residents).
- The crude rates of renal replacement therapy for adult end stage kidney disease were higher in 65+ and males.

Figure 35 End Stage Kidney Disease Prevalence by RHA, 2007 Q2 (T1) and 2012 Q2 (T2)



	SH-SS	PMH	MB	WRHA	IERHA	NHR
T2 COUNT	180	200	1,833	1,066	206	181
T2 RATE	0.99	1.21	1.45	1.47	1.68	2.43
T1 RATE	0.83	1.00	1.22	1.26	1.37	1.90

Source: IMA MHSAL 2019

Regional Key Findings

- A total of 181 residents in NHR diagnosed with end stage kidney disease had renal replacement therapy which includes both dialysis and kidney transplantation in 2012.
- End stage kidney disease prevalence increased from 1.90 to 2.43 per 1,000 residents from 2007 to 2012.

Observed and Projected End Stage Kidney Disease

Definition

The observed (2004-2012 (Q2)) and projected (2012 (Q3)-2024) number of residents living with end stage kidney disease, by treatment type.

Why is this indicator important?

Manitoba has the highest prevalence of end stage kidney disease in Canada and current projections predict a significant increase by 2024. End stage kidney disease projections help to plan prevention initiatives, deliver coordinated health care services and allocate appropriate resources to meet the service demand.

Provincial Key Findings

- The number of Manitobans with end stage kidney disease will increase by 68% between 2012 and 2024. The projections estimate that 3,077 people will require renal replacement therapy in 2024.
- For the province overall, a 4.3% annual increase was predicted in the number of people receiving centre-based hemodialysis, a 3.2% annual increase for home-based dialysis (peritoneal and home hemodialysis), and 4.5% for kidney transplants.
- The highest increases are projected in the Southern Health-Santé Sud and NHR. The NHR will continue to have the highest number of people needing renal replacement therapy per capita in Manitoba.
- Half of end stage kidney disease patients in Manitoba also have diabetes, and by 2024 the of number people who are on hemodialysis and have diabetes will increase by 89%. The need for hemodialysis among people without diabetes will see a more modest increase of 35%.
- Age: The number of end stage kidney disease patients aged 65+ on hemodialysis will increase by 89% by 2024. In the younger age groups, the need for hemodialysis will see increases of 50% (0 to 44 years) and 65% (45 to 64).

Figure 36 Observed and Projected Number of Patients with ESKD by RHA, 2012 and 2024

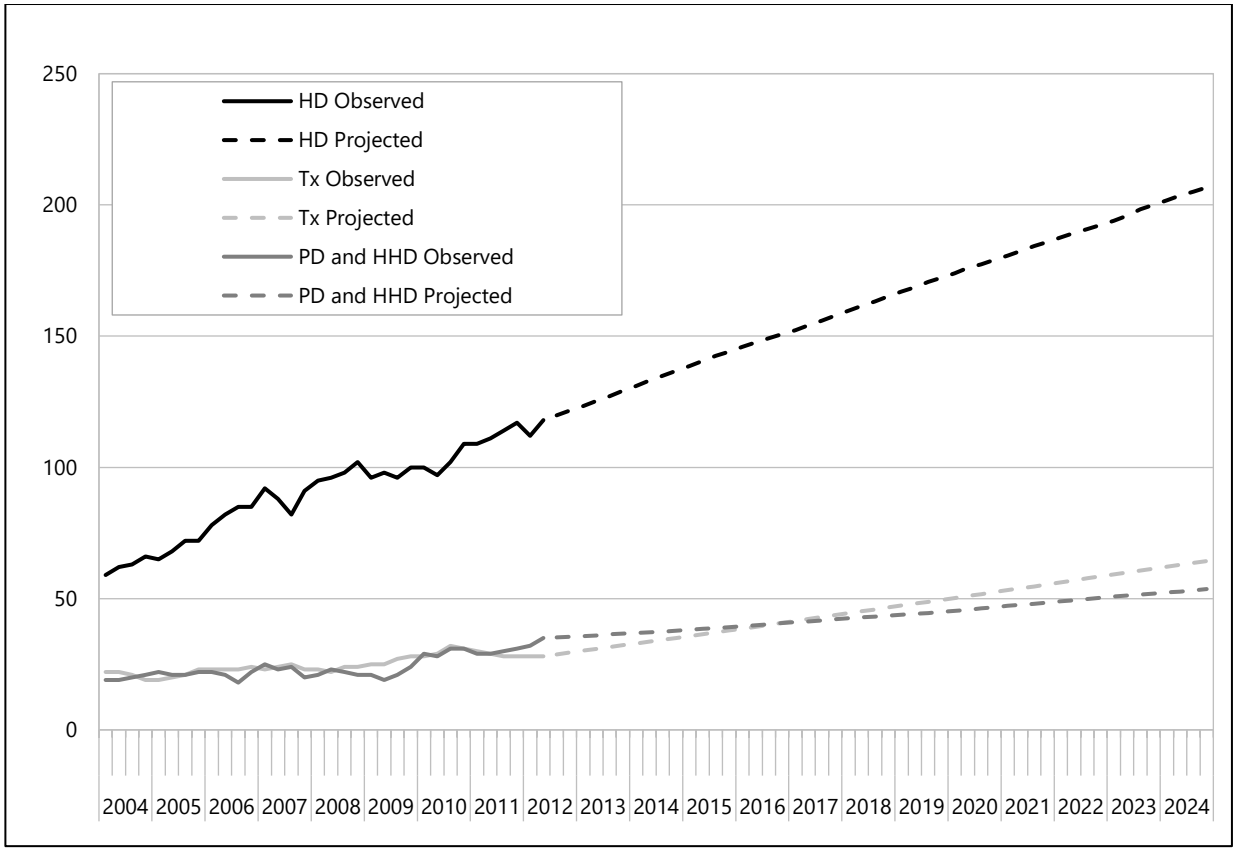
	SH-SS	PMH	MB	WRHA	IERHA	NHR
Observed ESKD (2012)	180	200	1,833	1,066	206	181
Projected ESKD (2024)	323	328	3,077	1,769	333	325

Source: IMA MHSAL 2019

Regional Key Findings

- By 2024 it is projected that a total of 325 residents of NHR will require renal replacement therapy.
- The projection estimates that our region will see an increase by 79.6% between 2012 to 2024 for end stage kidney disease. This is the second highest in the province.
- The figure below shows the projected number of residents in NHR over 12 years who will require centre-based hemodialysis, kidney transplant, and peritoneal and home dialysis.
- It is projected that in 2024; 207 residents will require centre-based hemodialysis; 64 residents will require a kidney transplant; and 54 residents will require peritoneal dialysis and home dialysis.

Figure 37 Observed and Projected Number of Patients with End Stage Kidney Disease by Treatment Type in NHR, 2004-2024



HD = Centre-based Hemodialysis, Tx = Kidney Transplant, PD and HHD = Peritoneal dialysis and home dialysis

Source: IMA MHSAL 2019

When a dialysis patient was transferred back home to Flin Flon, the dialysis nurses saw tremendous improvement in his attendance to treatments and adherence to fluid restriction and dietary constraints, as evidenced by a stabilized dry weight and stabilized blood sugar. In addition, he has utilized the Flin Flon General Hospital dietician services frequently, and accessed services from the Community Diabetic Team as well. He has commented to the nurses on numerous occasions that he enjoys our small unit, appreciates familiar nurses each treatment and that he likes living in Flin Flon as a whole.

A CLOSER LOOK… THOMPSON NURSE-LED RENAL HEALTH CLINIC

The **Thompson Renal Health Clinic** was initiated as a Pilot Project in July, 2011. The goal of the clinic is to provide patients with chronic kidney disease Stages 1 – 5 with access to **specialized renal health services** closer to home.

There are Renal Health Clinics in Winnipeg and one in Brandon. The clinic at Thompson General Hospital was designed to test a Renal Health Clinic model that improved patient monitoring, reduced the need for patients to travel to Winnipeg and could be replicated in other rural, northern and remote communities across the province.

The service is delivered by a renal health nurse clinician, who becomes the patient's primary contact, utilizing a **telehealth link to nephrologists** in Winnipeg. This not only delivers care closer to the patient's home but also optimizes patient care, prepares the patient in the event of worsening kidney disease and reduces the burden of transportation to Winnipeg for both the patient and the health care system.

The **Renal Nurse** clinician performs pre-clinic assessments. This include physical assessment, monitoring of vital signs, arranging and reviewing laboratory tests and uses telehealth technology to connect the patient with services available from the Renal Health interdisciplinary team at the Health Sciences Center. The interdisciplinary team includes Nephrologist, Pharmacist, Dietician and Social Worker. **Team rounds** are also conducted every other week to plan care and manage any patient concerns.

Follow-up monitoring of the patients is done in the clinic on a regular basis between telehealth appointments. Patient education regarding Treatment Modality for those patients going on to Dialysis has been a key success of the program. While **patient education** is geared towards reducing the risk of rapid progression of chronic kidney disease to more severe levels, the patients who do go on to dialysis are already well educated and prepared for that step. They are well-suited to participate in decision making around the type of dialysis they might choose and perhaps most importantly they are psychologically and mentally prepared for the impacts of dialysis on their lives which, at least anecdotally, increases the compliance with the therapy and treatment plan.

The Renal Nurse Clinician also liaises with **Diabetic Educators** in Thompson. Diabetic education is incorporated into Renal Clinic visits while the patient is on site at Thompson General Hospital. This partnership also improves compliance and education with regards to the patients Diabetes. Improvement in compliance with diabetes care regimen does lend itself to slowing the progression of kidney disease.

Having a Renal Health Clinic has provided further opportunity to get involved in **Kidney Health Outreach**. The Renal Health Nurse Clinician meets with the Renal Health Outreach Team from Winnipeg and works with local diabetes educators to provide presentations to and engagement with the general public. The presentations are done locally in Thompson as well as in outlying communities in the Thompson area. The Renal Health Nurse Clinician has also been invited to speak at the Public Health Conference in February 2019 and the Aboriginal Diabetes Initiative North gathering in April of 2019.

The creation of the Renal Health Clinic has had far reaching impacts. In 2019 to date there have been 190 visits to the clinic, 176 nephrology appointments via telehealth, and 99 referrals to diabetes education. It has been an effective outreach and education conduit, but is also providing care to 200 patients in Thompson at, or closer to, their home.

Respiratory

Total Respiratory Morbidity Prevalence

Definition

The percent of residents diagnosed with a respiratory disease (asthma, chronic or acute bronchitis, emphysema, or chronic airway obstruction).

Why is this indicator important?

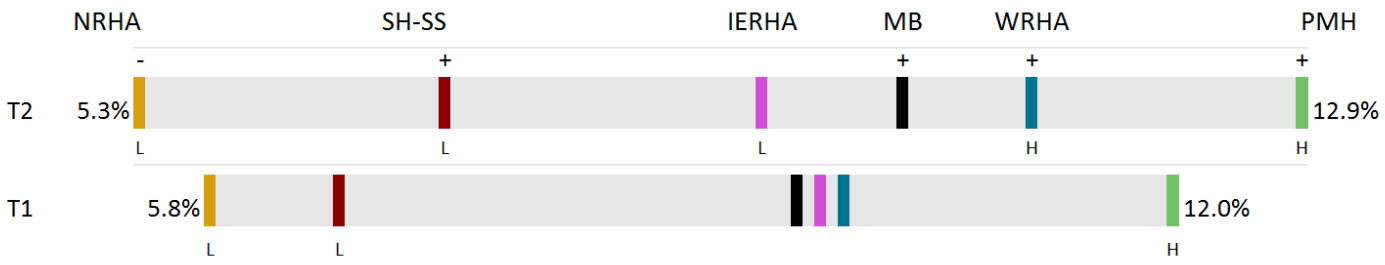
TRM is a good overall measure of the proportion of the population that experiences breathing issues. Understanding prevalence helps to plan prevention efforts, coordinate services between community and acute care, and provide effective supports to enhance quality of life.

Provincial Key Findings

- 143,607 Manitoba residents were diagnosed with a respiratory disease in 2016/17. Total respiratory morbidity prevalence significantly increased in Manitoba, from 9.6% to 10.3%. The increase was also significant in Southern Health-Santé Sud, Winnipeg, and Prairie Mountain health regions, but there was a significant decrease in NHR.
- There was a big variation in prevalence in both time periods. Rates were the lowest in NHR.

Figure 38 Prevalence of Total Respiratory Morbidity by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of residents (all ages) diagnosed with disorder



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		SH-SS		IERHA		MB		WRHA		PMH	
T2 COUNT	3,829		14,679		12,632		143,607		88,789		23,371	
T2 RATE	5.3%	L-	7.3%	L+	9.4%	L	10.3%	+	11.1%	H+	12.9%	H+
T1 RATE	5.8%	L	6.6%	L	9.8%		9.6%		9.9%		12.0%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The total respiratory morbidity prevalence significantly decreased in the NHR from 5.8% in 2011/12 to 5.3% in 2016/17.

- Every district in the NHR for both time periods had a lower rate of total respiratory morbidity than the rest of the provincial average, with all but one being statistically significant.
- The low rate of respiratory morbidity was a surprise given that the NHR has the highest reported smoking rates in the province.
- The geographic district disparity in total respiratory morbidity prevalence ranges from 11.8 in Gillam and Fox Lake Cree Nation to as low as 1.8 in Pukatawagan and Mathias Colomb Cree Nation, with 2.5 times more disparity between districts over time.

Table 36 Total Respiratory Morbidity Prevalence by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**143,607**	**10.3**	**+**	**9.6**		**Northern Health Region**	**3,829**	**5.3**	**L-**	**5.8**	**L**
Zone 1	**2,342**	**6.0**	**L-**	**7.0**	**L**	**Zone 2**	**1,169**	**4.3**	**L**	**4.4**	**L**
Thick, Pik, Wab, Ilf/WLFN, Corm	48	3.7	L	5.3	L	Puk/Mat Col CN	33	1.8	L	2.4	L
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	81	4.7	L-	7.7		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	42	2.7	L-	4.6	L
The Pas/OCN, Kels	584	5.0	L-	5.9	L	Bu(OH)CN, MS(GR)CN, GLN/GLFN	114	2.7	L-	4.8	L
Thompson, Myst Lake	877	5.8	L-	7.2	L	GR/MisCN, ML/MosCN, Eas/CheCN	128	3.2	L	3.7	L
Flin Flon, Snow, Cran, Sher	579	6.9	L	7.1	L	Sham, YorkFN, TatCN(SPL)	113	3.4	L	3.1	L
Gillam Fox	173	11.8		9.8		Nelson House/NCN	137	4.2	L	3.5	L
						Norway House/NH CN	315	5.7	L+	4.1	L
						Cross Lake/Cross Lake FN	287	5.8	L	5.7	L
						Zone 3	**318**	**3.8**	**L+**	**2.6**	**L**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	318	3.8	L+	2.6	L

NHR District Disparity Ratio

T1 Disparity ***4.1***

T2 Disparity ***6.6***

Change ***2.5*** ↑

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Asthma Prevalence for Children

Definition

The percent of residents, aged 5 to 19 years, diagnosed with asthma, over a two-year time period.

Why is this indicator important?

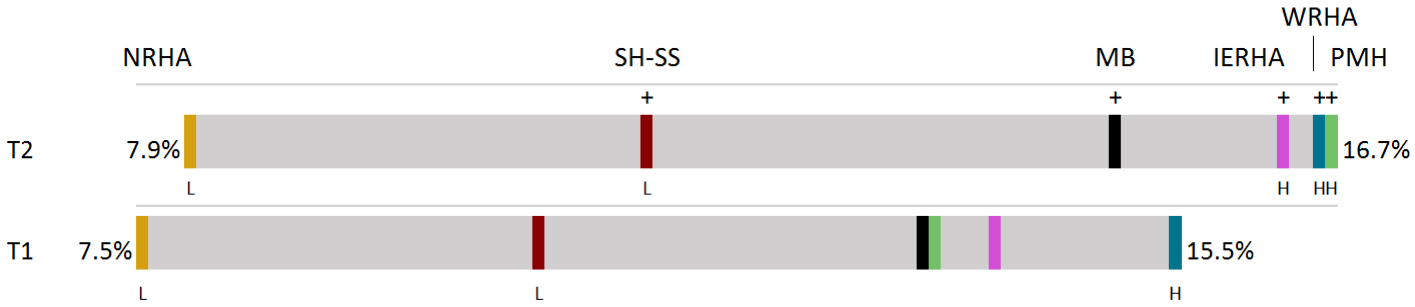
Asthma is the most common chronic disease in children[vi]. Timely and appropriate education and treatment help children and their families living with asthma learn how to manage the condition effectively.

Provincial Key Findings

- There were 38,424 children aged 5 to 19 years diagnosed with asthma in 2015/16-2016/17. The prevalence of asthma for children in Manitoba increased significantly over time from 13.6% to 15.1%. Rates also increased in all regions, though the increase in NHR was not statistically significant.
- In both time periods, rates in NHR and Southern Health-Santé Sud were significantly lower than the provincial average, while those in Winnipeg were significantly higher. Rates in Prairie Mountain and Interlake–Eastern were only significantly higher than the provincial average in 2015/16-2016/17.
- Asthma prevalence rates for children were higher for urban than rural, this may mean people residing in urban areas have a higher rate of visits to physicians and nurse practitioners.

Figure 39 Asthma Prevalence by RHA, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted average annual percent of residents aged 5-19



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		SH-SS		MB		IERHA		WRHA		PMH	
T2 COUNT	1,680		5,085		38,424		3,738		22,037		5,325	
T2 RATE	7.9%	L	11.4%	L+	15.1%	+	16.4%	H+	16.7%	H+	16.7%	H+
T1 RATE	7.5%	L	10.6%	L	13.6%		14.1%		15.5%	H	13.7%	

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- There were 1,680 children aged 5-19 years diagnosed with asthma in 2015/16-2016/17.
- The prevalence of children's asthma in the NHR increased from 7.5% in 2010/11-2011/12 to 7.9% in 2015/16-2016/17.

- In 2015/16-2016/17 NHR zone three had the lowest children's asthma rate at 3.9%, next to zone two at 5.2% followed by zone one at 12.3%.
- The disparity between districts has increased 3.1 times over the two time periods.

Table 37 Asthma Rate For Children by NHR Zone and District, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted average annual percent of residents aged 5-19

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**38,424**	**15.1**	**+**	**13.6**		**Northern Health Region**	**1,680**	**7.9**	**L**	**7.5**	**L**
Zone 1	**1,063**	**12.3**	**L+**	**11.1**	**L**	**Zone 2**	**492**	**5.2**	**L**	**5.3**	**L**
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	39	7.9	L	6.4	L	Puk/Mat Col CN	18	2.6	L	4.0	L
Thick, Pik, Wab, Ilf/WLFN, Corm	30	9.2		7.9	L	Sham, YorkFN, TatCN(SPL)	38	3.3	L	4.6	L
The Pas/OCN, Kels	278	10.3	L	11.7		Bu(OH)CN, MS(GR)CN, GLN/GLFN	47	3.4	L	3.1	L
Thompson, Myst Lake	421	12.1	L	11.9		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	16	3.8	L	2.7	L
Gillam Fox	56	13.8		10.1		Cross Lake/Cross Lake FN	81	4.8	L	4.8	L
Flin Flon, Snow, Cran, Sher	239	19.5	H+	10.7		GR/MisCN, ML/MosCN, Eas/CheCN	80	5.8	L	7.6	L
NHR District Disparity Ratio						Nelson House/NCN	66	5.9	L	4.7	L
T1 Disparity ***4.4***						Norway House/NH CN	146	8.8	L	7.8	L
T2 Disparity ***7.5***											
Change ***3.1*** ↑						**Zone 3**	**125**	**3.9**	**L**	**3.1**	**L**
Disparity with a value of "0" suggest no inequities exist. Change over time informs whether or not disparity is widening or narrowing between districts						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	125	3.9	L	3.1	L

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Asthma Care: Controller Medication Use

Definition

The percent of residents (all ages) diagnosed with asthma receiving medication recommended for long–term control of their disease.

Why is this indicator important?

Asthma controller medications control the inflammation in the airways and prevent asthma symptoms[vii].

Provincial Key Findings

- There were 25,107 Manitobans diagnosed with asthma receiving medication in 2012/13-2016/17. The rates of asthma care in Manitoba remained stable at 64% over time. This stability was reflected in all regions.

Figure 40 Asthma Care Controller Medication Use by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Crude percent of residents with asthma receiving at least one prescription for inhaled steroids

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	PMH		SH-SS		IERHA		MB		NHR		WRHA	
T2 COUNT	3,218		2,716		2,652		25,107		1,503		14,813	
T2 RATE	61.7%		62.3%		63.5%		64.3%		65.2%		65.3%	
T1 RATE	62.5%		65.2%		63.3%		64.1%		66.9%		64.1%	

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The rate of asthma care controller mediciation use in the NHR decreased from 66.9% in 2007/08-2011/12 to 65.2% in 2012/13-2016/17.
- The rates of controller medication use went down in zones one and two and up in zone three over time.
- There is a district disparity in asthma care controller medication use of 0.8; this disparity did not change over time.

Table 38 Asthma Care Controller Medication Use by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Crude percent of residents with asthma receiving at least one prescription for inhaled steroids

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**25,107**	**64.3**		**64.1**		**Northern Health Region**	**1,503**	**65.2**		**66.9**	
Zone 1	**948**	**62.7**		**64.5**		**Zone 2**	**446**	**70.1**		**72.6**	
Flin Flon, Snow, Cran, Sher	193	57.8		62.5		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	23	62.2		61.5	
Thompson, Myst Lake	327	62.4		65.7		Bu(OH)CN, MS(GR)CN, GLN/GLFN	49	69.0		82.6	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	36	64.3		73.7		Cross Lake/Cross Lake FN	72	69.2		73.0	
Gillam Fox	50	64.9		70.7		Norway House/NH CN	107	69.5		61.3	
The Pas/OCN, Kels	301	65.4		62.2		Sham, YorkFN, TatCN(SPL)	46	69.7		80.4	
Thick, Pik, Wab, Ilf/WLFN, Corm	41	66.1		61.5		GR/MisCN, ML/MosCN, Eas/CheCN	86	72.3		72.9	
NHR District Disparity Ratio						Nelson House/NCN	47	73.4		77.3	
						Puk/Mat Col CN	16	76.2		76.2	
T1 Disparity				***0.8***							
T2 Disparity				***0.8***		**Zone 3**	**109**	**70.3**		**65.9**	
Change				***0***		IsL/GHFN, RSL/RSLFN, STPFN, WasFN	109	70.3		65.9	

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Sexually Transmitted Infections

Chlamydia Rates

Definition

The number of reported cases of chlamydia per 100,000 population.

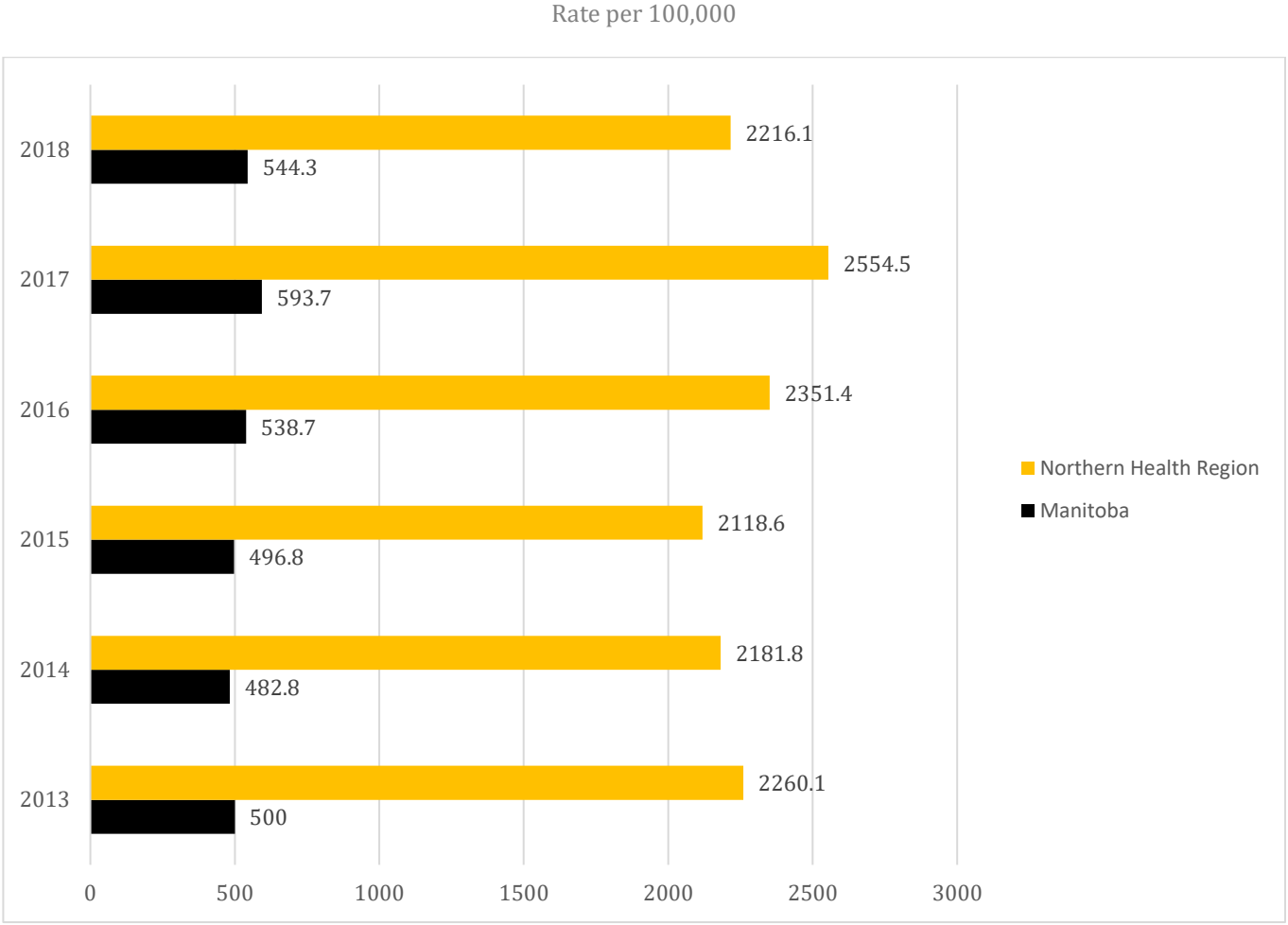
Why is this indicator important?

Chlamydia is the most common bacterial sexually transmitted infection (STI). Symptoms usually begin two to six weeks after infection but are often overlooked. Left untreated, chlamydia can lead to painful health problems and infertility. It can also be transmitted from mother to child during childbirth. Timely access to statistics, and early diagnoses and treatment, will help prevent many complications associated with this infection.

Provincial Key Findings

- In 2018, a total of 7,412 chlamydia infections were reported in Manitoba. This case count corresponds to a rate of 544.8 cases per 100,000 population.
- The crude rates of reported chlamydial infections increased from 482.5 to 544.8 cases per 100,000 population from 2014 to 2018.
- Age and Sex: Generally, the incidence of chlamydia was much higher among females than males with peaks in the 20 to 24 age group for both females and males. The highest incidence was observed among those in the age groups 20 to 24 and 25 to 34.
- The Southern Health-Santé Sud had lower incidence rate of chlamydia; while the NHR had considerably higher incidence rate than the rest of the province.

Figure 41 Crude Rate of Reported Chlamydia Infections, 2013, 2014, 2015, 2016, 2017, and 2018



Source: IMA MHSAL 2019

Regional Key Findings

- The number of reported chlamydia infections in the NHR is extremely high, at 2216.1 per 100,000 compared to the Manitoba average of 544.3 per 100,000 in 2018.
- From 2013 to 2018 these rates have remained an alarming four times higher than the Manitoba average.

Gonorrhea Rates

Definition

The number of reported cases of gonorrhea per 100,000 population.

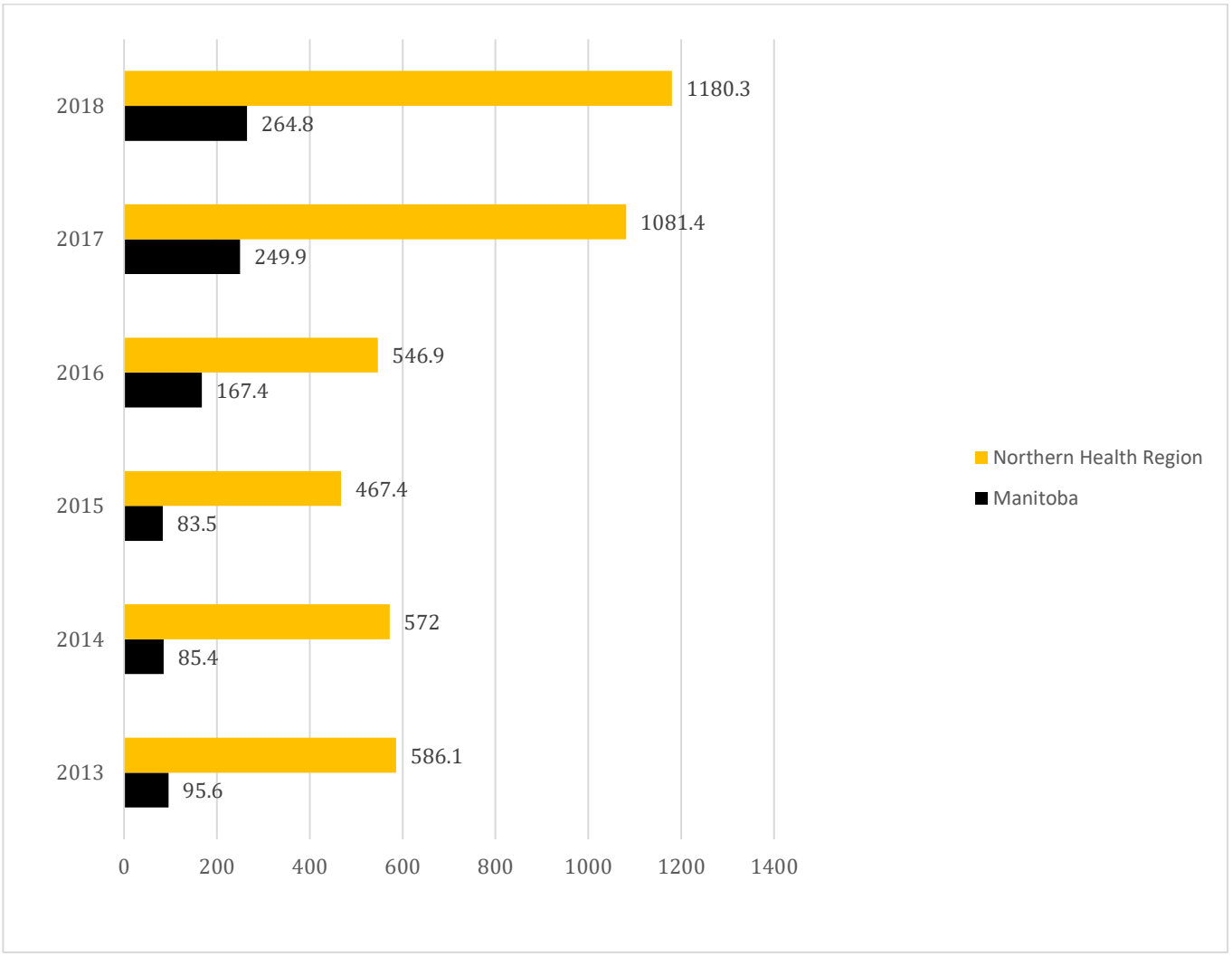
Why is this indicator important?

Gonorrhea, commonly referred to as the 'Clap', is on the rise in Canada and can cause very serious complications when left untreated. Gonorrhea can be cured with the right medication; however it is becoming increasingly resistant to antibiotics. Gonorrhea can lead to pelvic inflammatory disease in women and infertility in both women and men. Understanding gonorrhea incidence helps to plan public awareness campaigns to promote safer sex and regular screening. Timely access to early diagnoses and treatment will prevent many complications associated with this infection.

Provincial Key Findings

- In 2018, a total of 3,606 gonorrhea infections were reported in Manitoba, yielding a rate of 265 cases per 100,000 population.
- During 2014 and 2015, the rate of reported gonorrhea infection remained stable around 85 cases per 100,000 population. During 2015 and 2018, the rate of reported cases increased considerably from 83.2 to 265 cases per 100,000 population.
- Age and Sex: Generally, the incidence of gonorrhea was higher among females compared to males, and in particular in the 25 to 34 age group.
- The Prairie Mountain Health and Southern Health-Santé Sud had lower incidence rates of gonorrhea infections; while the NHR had considerably higher incidence rate than the rest of the province.

Figure 42 Crude Rate of Reported for Gonorrhea Infections, 2013, 2014, 2015, 2016, 2017, and 2018



Source: IMA MHSAL 2019

Regional Key Findings

- In 2018 the NHR had a considerably higher gonorrhea incidence rate of 1180.3 infections per 100,000 people, almost four and a half times, the Manitoba average of 264.8 infections per 100,000 people.
- Over the six year reporting period, cases of gonorrhea have increased by 101%.

HIV Rates

Definition

The rate of new HIV cases reported per 100,000 population.

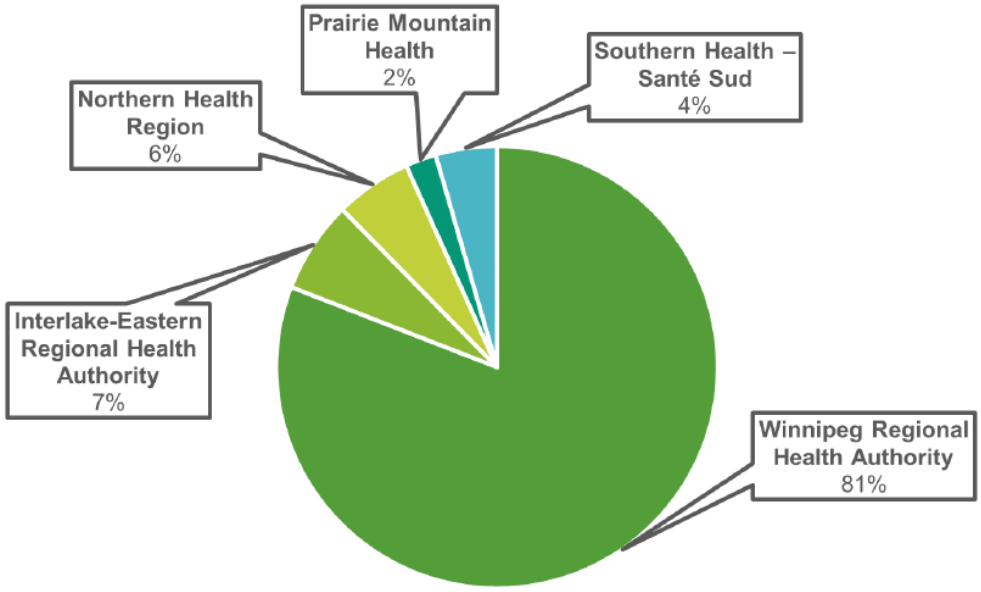
Why is this indicator important?

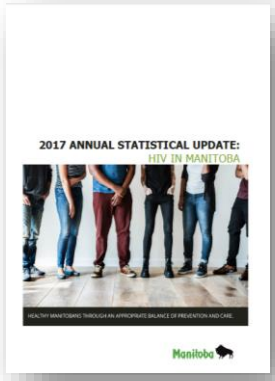
HIV is a retro virus that attacks the immune system and can cause a number of serious health problems and opportunistic infections. It is most commonly transmitted through sexual activity and sharing of needles and drug equipment. Timely access to early diagnoses and treatment helps people with HIV live longer, healthier lives and reduces the risk of HIV transmission. HIV is a measure of equity because vulnerable populations and those living in poverty are disproportionately at risk. Understanding HIV incidence helps to plan public awareness campaigns to promote safer sex and drug use, and allocate resources to support appropriate access to testing and treatment.

Provincial Key Findings – these #s different than the graphs

- There were 89 new positive HIV cases reported in 2017. This is a decrease of 20 cases compared to the 109 new HIV cases in 2016.
- The majority of new HIV cases reported are in residents in the Winnipeg Regional Health Authority, with six or fewer infections arising in each of the other Regional Health Authorities.

Figure 43 Proportion (%) of new HIV cases in Manitoba by RHA, 2017





To learn more about HIV in Manitoba visit: https://www.gov.mb.ca/health/publichealth/surveillance/hivaids/index.html

Manitoba Health, 2017 Annual Statistical Update

Regional Key Findings

- In 2017, NHR residents made up 6% of the new HIV positive cases.

Syphilis Rates

Definition

The number of reported cases of syphilis per 100,000 population.

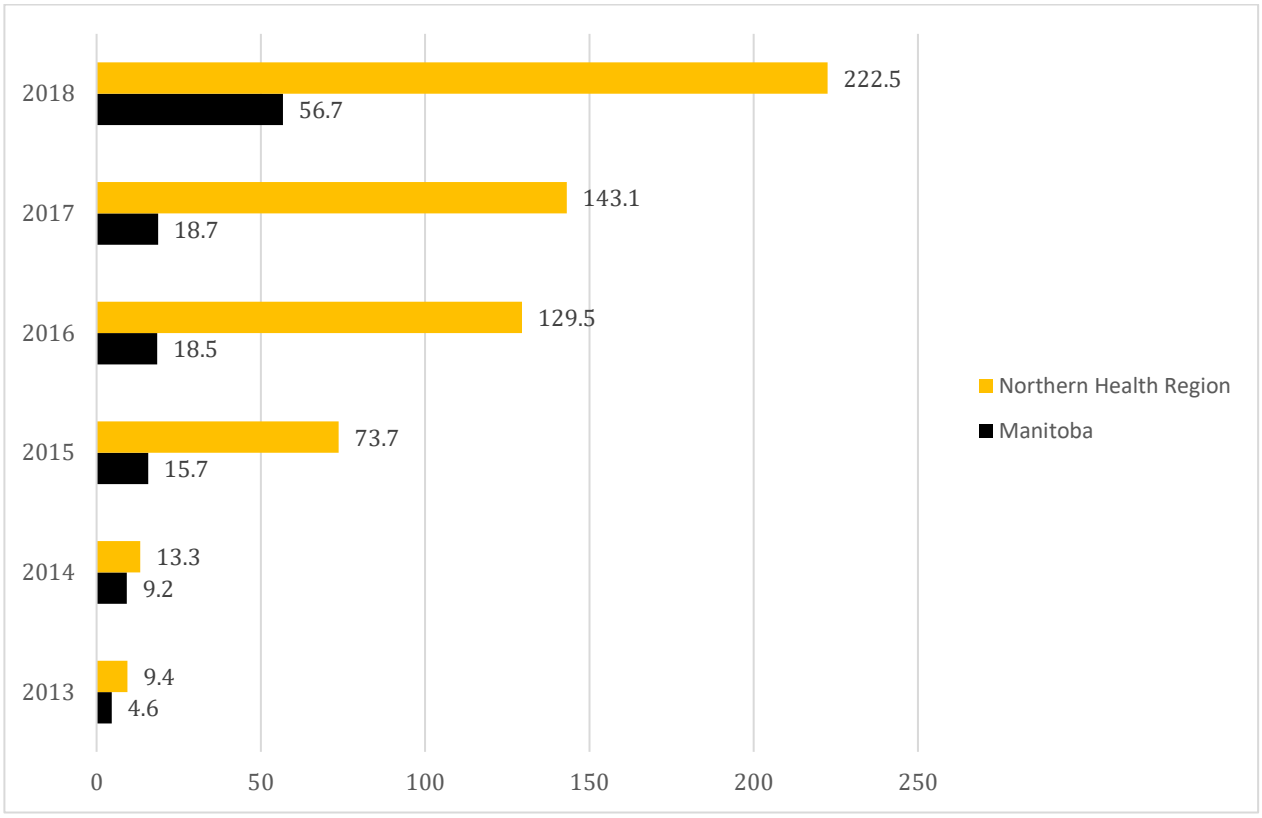
Why is this indicator important?

Syphilis is a bacterial infection, usually spread by sexual contact. It can have very serious complications if left untreated, but it is simple to cure with the right treatment. Manitoba has seen clustered outbreaks of this infection in recent years. Timely access to health information, and early diagnoses and treatment, will help prevent many complications associated with this infection.

Provincial Key Findings

- In 2018, a total of 792 syphilis infections were reported in Manitoba, yielding a rate of 58.2 cases per 100,000 population.
- From 2011 to 2018, the rate of reported syphilis infection increased dramatically in the province from 9.2 to 58.2 cases per 100,000 population.
- The Winnipeg RHA experienced unprecedented spike in syphilis infection rates in 2018.
- Age and Sex: The majority of infectious syphilis cases were reported in males, with the highest incidence in the age group 25-29.
- The NHR had considerably higher incidence of syphilis infections than other health regions.

Figure 44 Crude Rate of Reported for Syphilis Infections, 2013, 2014, 2015, 2016, 2017, and 2018



Source: IMA MHSAL 2019

Regional Key Findings

- From 2013 to 2018, the rate of reported syphilis infection increased over 23 times in the the NHR from 9.4 to 222.5 cases per 100,000 population.
- This increase has been alarming across the province but the NHR had the largest increase of all regions.

A CLOSER LOOK… COMMUNICABLE DISEASE AND HARM REDUCTION

Between 2013-2018, emphasis was placed on working in partnerships while providing service in **communicable disease** including sexually transmitted diseases and **harm reduction**. The program focused on partnering within the NHR with various service providers, to bring about consistency in process with client care from testing through to treatment. We partnered with Public Health Agency of Canada, MB HIV and the MB Harm Reduction Network for funding and joint work to carry out various projects, peer research, and peer needs assessment. **This led to development of an engaged peer group in Flin Flon. The peers are people who have expert knowledge on the needs of people who use substances. With this valuable input we are able to develop richer and more meaningful connections with our clients with a view to serving them in ways that have the most impact.** This included extended outreach into each of our communities and building community connections with services such as the Food Bank, Friendship Center, AFM, and the homeless shelter. The result has been stronger and more credible relationships with other service providers and our clients. It has opened up opportunities to share training across programs and given us a chance to plan for future needs with evidence based practice.

[i]Public Health Agency of Canada (2017). Diabetes in Canada. Highlights from the Canadian Chronic Disease Surveillance System. Accessed February 22, 2019 from https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/diseases-conditions/diabetes-canada-highlights-chronic-disease-surveillance-system/diabetes-in-canada-eng.pdf.

[ii] Public Health Agency of Canada. Report from the National Diabetes Surveillance System: Diabetes in Canada, 2009.

[iii] Canadian Association of Optometrists. Accessed November 28, 2019 from https://opto.ca/health-library/diabetes.

[iv] Public Health Agency of Canada. 2016. Report from the Canadian Chronic Disease Surveillance System: Mood and Anxiety Disorders in Canada, 2016.

[v] Canadian Institute for Health Information. How Dementia Impacts Canadians. Accessed November 28, 2019 from https://www.cihi.ca/en/dementia-in-canada/how-dementia-impacts-canadians.

[vi] U.S National Library of Medicine. 2012. Asthma-children. Accessed November 28, 2019. https://medlineplus.gov/ency/article/000990.htm.

[vii] Lung Association of Ontario. Asthma: Treatment and Medication. 2019, Accessed November 28, 2019. https://lungontario.ca/disease/asthma/treatment-and-medication.

CHAPTER FOUR: HOW WELL DOES OUR HEALTH SYSTEM MEET THE POPULATION'S NEEDS?

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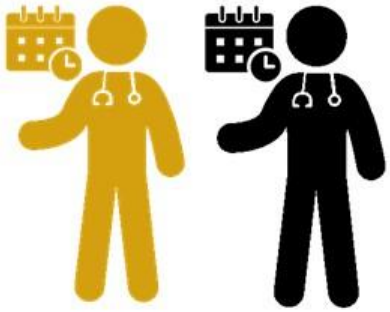
How Well Does our Health System Meet the Population's Needs?

Chapter Four Tables and Figures

At a Glance: How Well Does our Health System Meet the Population's Needs?

Access to a Provider



66.6% 66.6%

Alternate Level of Care Days per 1,000 population

256.5 191.7

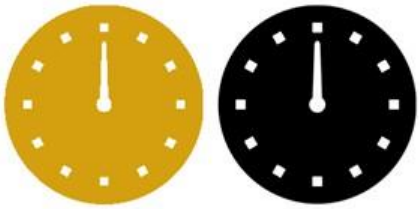
C-Section Rates

19.2% 22.5%

Physician Visits

3 per year 5 per year

Wait Times for Minor Health Care Problems



1-2 Weeks Same Day

% of Residents Admitted to Hospital

10% 5.8%

Chapter Four Key Findings

Primary Health Care

- 65.9% of NHR residents saw a physician or nurse practitioner at least once per year. This is significantly lower than the Manitoba average.
- NHR residents averaged 3.1 visits per year to physicians and nurse practitioners; the top reason to visit was for musculoskeletal concerns.
- 86% of the time NHR residents saw a general or family physician or a nurse practitioner within the NHR and 10.6% of the time NHR residents saw them in Winnipeg.
- The NHR ambulatory consultation rates are significantly lower than the Manitoba average.
- The zones had extreme variance in the percentage of residents who received at least 50% of their ambulatory care from the same physician with zone one at 63.8%, zone two at 73.9% and zone three at 54.3%.
- The rate of hospitalizations for ambulatory care sensitive conditions in the NHR is more than double the Manitoba average.
- 13.7% was the rate of community dwelling seniors aged 75+ who had used benzodiazepines in the NHR; this rate was the lowest of all health regions.
- 66.6% of residents reported they had access to a regular health care provider; this is significantly lower than the Manitoba average.
- The most commonly reported place for NHR residents to visit for a minor health care problem was walk in clinics followed by emergency departments.
- In the NHR the most commonly reported reasons why NHR residents do not have a health care provider was "none available in area" (28.2%) closely followed by "provider left/retired" (27.8%).
- NHR residents most frequently reported their wait times for minor health issues was 1-2 weeks.
- 45.6% of NHR residents reported the coordination of their care between health care providers as excellent or very good.

Acute Care

- The NHR had 6,317 residents who were hospitalized in acute care in a one year time period, which represents 9.7% of the population.
- The NHR inpatient hospitalization rate was 1.8 times the Manitoba average.
- The most frequent reason for an inpatient hospitalization and for hospital days in the NHR is pregnancy and birth.
- The rate of hospital days for acute care excluding newborns was 1198.9 days/1,000 residents likewise; the rate for hospital days including newborns was 1061.9 days/1,000 residents. Both were significantly higher than the Manitoba average.
- NHR residents were hospitalized 57.8% of the time in the NHR and, 40.5% of the time in Winnipeg.
- All of the RHA rates for alternate levels of care increased over time; the NHR rate excluding newborns was 256.5 per 1,000 residents and including newborns was 255.7 per 1,000 residents.

- 91.3% of patients using NHR hospitals were NHR residents and 6.9% were non-Manitoban residents.
- There were 806 hospital readmissions among NHR residents in a one year time period, at a rate of 9.3%.
- Caesarian section rates were significantly lower in the NHR than the rest of the province at 19.2% with 584 occurring in a two year time period.
- The NHR also had a significantly higher rate than the provincial average for vaginal birth after caesarian section at 41.7%.
- The overall percentage of respondents who had a "very good" hospital experience for NHR residents was 55%; this is below the Manitoba rate, which was 64%.

Home Care

- Over a one year time period the prevalence of using one or more home care services was 1.7%; totalling 1,304 NHR residents.
- An estimated 510 NHR residents received health care aide and home support worker home care services and 315 NHR residents received nursing home care services.
- The NHR had 310 residents aged 75 and older living in personal care homes, this is 12.7% of the residents aged 75 and older.
- In the NHR, the proportion of personal care home residents requiring high levels of care on admission decreased.
- In the most recent time period there were 45 NHR residents admitted from the hospital into a personal care home with a median wait time of 9.3 weeks and 53 NHR residents admitted from the community into a personal care home with a median wait time of 26 weeks.
- 27.2% of the personal care home residents aged 75 years and older received benzodiazepines inappropriately.

Primary Health Care

Physician and Nurse Practitioner Use

Use of Physicians and Nurse Practitioners

Definition

The percent of residents who received at least one ambulatory care visit in a fiscal year. Ambulatory visits include all contact with physicians and nurse practitioners, except during inpatient hospitalization and emergency department visits.

Why is this indicator important?

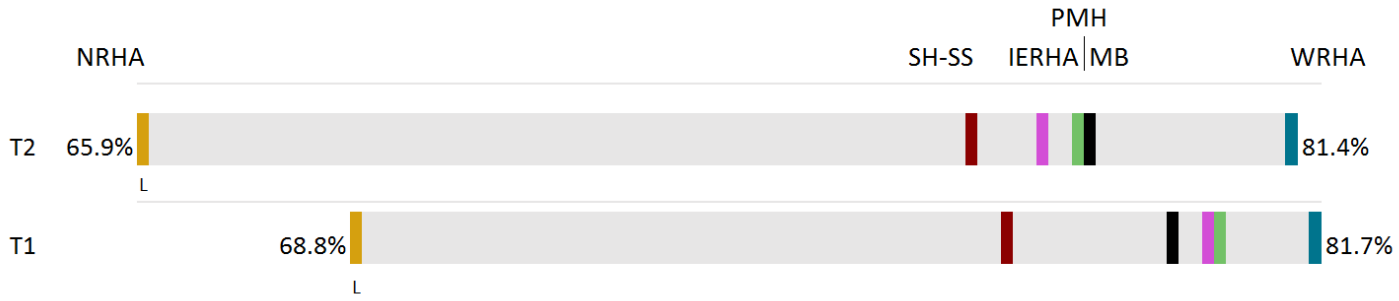
Regular examinations and consultations are important to help identify risk factors and concerns before they become serious. When conditions are identified early, treatments are usually much more effective. Understanding how many people see a physician or nurse practitioner may help to identify access barriers to services and reflects the effectiveness of the primary care system.

Provincial Key Findings

- In 2016/17, 78.7% of Manitoba residents saw a physician or nurse practitioner at least once.
- The proportion of Manitobans with at least one ambulatory visit in a year slightly decreased over time, but the change was not statistically significant. This trend was observed across all regions.
- Residents in NHR had significantly lower rate than the provincial average in both time periods. However, many residents receive their primary care from nurses in local nursing station. These visit records are not captured in the medical claim data system.

Figure 1 Use of Physicians and Nurse Practitioners by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of residents with at least one ambulatory visit per year (to any physician or nurse



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		SH-SS		IERHA		PMH		MB		WRHA	
T2 COUNT	47,460		149,798		101,307		135,770		1,072,087		636,040	
T2 RATE	65.9%	L	77.2%		78.1%		78.6%		78.7%		81.4%	
T1 RATE	68.8%	L	77.6%		80.2%		80.3%		79.9%		81.7%	

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- In 2016/17, 65.9% of NHR residents saw a physician or nurse practitioner at least once, totaling 47,460 residents. This is significantly lower than the Manitoba average. However, many residents receive their primary care from nurses in federal nursing station. These visit records are not captured in the medical claim data system.
- Among the NHR zones, zone one had the highest physician and nurse practitioner use at 68.0%, followed closely by zone three at 66.5% and zone two had the least use at 60.5% in 2016/17.
- The NHR district disparity ratio shows that Gillam and Fox Lake Cree Nation residents see their physician and nurse practitioner at least once per given year, two times more often than residents living in Churchill/Sayisi Dene (Tadoule Lake) First Nation, Barren Lands (Brochet) First Nation, Brochet and Northlands (Lac Brochet) First Nation.

Table 1 Use of Physicians and Nurse Practitioners by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of residents with at least one ambulatory visit per year (to any physician or nurse practitioner)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**1,072,087**	**78.7**		**79.9**		**Northern Health Region**	**47,460**	**65.9**	**L**	**68.8**	**L**
Zone 1	**25,539**	**68.0**	**L-**	**74.0**		**Zone 2**	**16,522**	**60.5**	**L**	**61.2**	**L**
Gillam Fox	1,165	78.7		77.9		Norway House/NH CN	4,131	73.9	+	63.1	L
Flin, Snow, Cran, Sher	5,690	71.2	L	72.4	L	Cross Lake/Cross Lake FN	3,173	65.1	L	66.2	L
Thompson, Myst Lake	10,323	69.9	L	74.3		Nelson House/NCN	1,787	55.1	L+	48.8	L
The Pas/OCN, Kels	6,925	61.3	L-	70.8	L	GR/MisCN, ML/MosCN, Eas/CheCN	2,133	55.0	L	55.0	L
Thick, Pik, Wab, Ilf/WLFN, Corm	719	56.3	L-	64.7	L	Puk/Mat Col CN	961	53.0	L	50.9	L
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	717	41.3	L-	72.0		Sham, YorkFN, TatCN(SPL)	1,655	50.1	L	47.9	L
						Bu(OH)CN, MS(GR)CN, GLN/GLFN	2,053	49.7	L-	60.0	L
						SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	629	39.9	L-	59.8	L
						Zone 3	**5,399**	**66.5**	**L+**	**61.0**	**L**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	5,399	66.3	L+	60.7	L

NHR District Disparity Ratio

T1 Disparity	***1.6***
T2 Disparity	***2.0***
Change	***0.4 ↑***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Ambulatory Visits to Physicians and Nurse Practitioners

Definition

The average number of visits to physicians and nurse practitioners per resident in a given year. Ambulatory visits include all contact with physicians and nurse practitioners: office visits, walk-in clinics, home visits, personal care home visits, visits to outpatient departments and prenatal visits. Exclusions include inpatient hospitalization and emergency department visits.

Why is this indicator important?

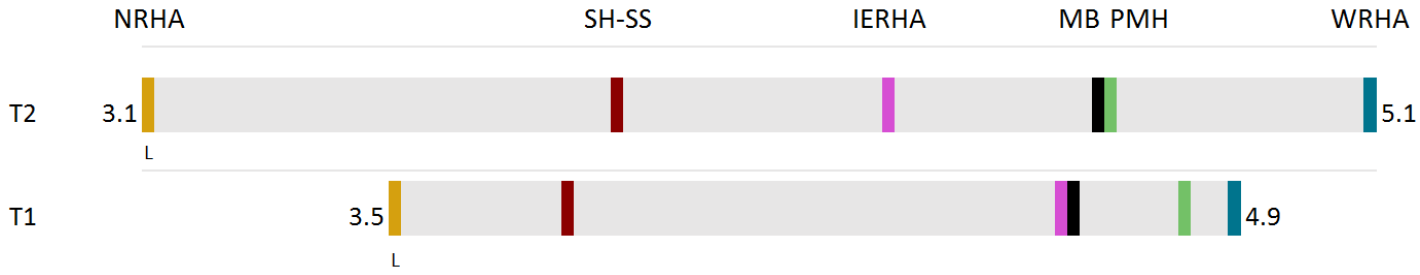
Ambulatory visit rates may reveal issues related to access to primary care, and how well the healthcare system manages ongoing care for patients outside the hospital setting, especially for individuals living with a chronic condition(s). This measure provides insight into whether a region is moving towards a primary care centered model that focuses on appropriate resources and supports in the community setting and reduces unnecessary hospitalizations.

Provincial Key Findings

- There was an average of 5 visits to physicians per Manitoba resident in 2016/17. The rate remained stable over time.
- Winnipeg RHA and Southern Health-Santé Sud experienced small rate increases while other health regions had small decreases but none of the changes were significant.
- The most frequent causes for ambulatory visits in Manitoba in 2016/17 were: circulatory (10.05%), health status and contact (9.52%), respiratory (9.44%), mental Illness (9.38%), and musculoskeletal (8.70%).
- The most frequent causes varied across the regions.

Figure 2 Ambulatory Visit Rate by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted rate of ambulatory visits to all physicians per resident



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		SH-SS		IERHA		MB		PMH		WRHA	
T2 COUNT	208,501		747,581		573,982		6,299,699		821,641		3,936,761	
T2 RATE	3.1	L	3.9		4.3		4.6		4.6		5.1	
T1 RATE	3.5	L	3.8		4.6		4.6		4.8		4.9	

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- NHR residents averaged 3.1 visits to physicians and nurse practitioners in 2016/17, this is significantly lower than the Manitoba average.
- Zone three had the highest physician and nurse practitioner visit rate at 3.9 in 2016/17 and this was a significant increase from 3.2 in 2011/12, although it was significantly lower than the Manitoba average. The rates in zone one and two were more similar at 3.0 and 3.1 in 2016/17, both significantly decreased from the 2011/12 rates and also were significantly lower than the Manitoba average.
- In 2016/17, residents in Gilliam and Fox Lake were 3.8 times more likely to have an ambulatory visit compared to the lowest ranked district of Lynn Lake, Leaf Rapids, South Indian Lake, O-Pipon-Na-Piwin Cree Nation, Granville Lake and Marcel Colomb First Nation.
- The most frequent causes for physician and nurse practitioner visits fluctuated slightly over time with musculoskeletal and endocrine & metabolic system being the top two.

Table 2 Ambulatory Visit Rate by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted rate of ambulatory visits to all physicians per resident

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**6,299,699**	**4.6**		**4.6**		**Northern Health Region**	**208,501**	**3.1**	**L**	**3.5**	**L**
Zone 1	**110,677**	**3.0**	**L-**	**3.6**	**L**	**Zone 2**	**70,379**	**3.1**	**L-**	**3.7**	**L**
Gillam Fox	6,191	4.9		4.5		Cross Lake/Cross Lake FN	15,729	4.4	-	7.3	H
Flin, Snow, Cran, Sher	28,705	3.4	L	4.0		Norway House/NH CN	19,303	4.1	+	3.0	L
Thompson, Myst Lake	41,549	3.0	L-	3.6		Bu(OH)CN, MS(GR)CN, GLN/GLFN	9,202	2.8	L-	4.3	
The Pas/OCN, Kels	29,449	2.9	L	3.2	L	GR/MisCN, ML/MosCN, Eas/CheCN	8,505	2.6	L	2.5	L
Thick, Pik, Wab, Ilf/WLFN, Corm	2,813	2.4	L-	3.1	L	Sham, YorkFN, TatCN(SPL)	5,949	2.5	L+	2.0	L
LL/MCFN, LR, O-P(SIL)CN,PN (GVL)	1,970	1.3	L-	4.1		Puk/Mat Col CN	3,452	2.5	L+	1.9	L
						Nelson House/NCN	6,337	2.3	L+	1.8	L
						SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	1,902	1.4	L-	2.9	L
						Zone 3	**27,445**	**3.9**	**+**	**3.2**	**L**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	27,445	3.9	+	3.2	L

NHR District Disparity Ratio

T1 Disparity	***4.0***
T2 Disparity	***3.8***
Change	***-0.2 ↓***

Disparity with a value of "0" suggest no inequities exist.
Change over time informs whether or not disparity is widening or narrowing between districts

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Table 3 Most Frequent Causes of Physician and Nurse Practitioner (Ambulatory) Visits by NHR, 2011/12 (T1) and 2016/17 (T2)

Condition	T2		T1
	Count	Percentage	Percentage
Musculoskeletal	21833	10.6%	10.0%
Endocrine and Metabolic	19962	9.7%	11.4%
Ill-Defined Conditions	16600	8.0%	8.1%
Nervous System	15383	7.4%	7.1%
Circulatory System	14808	7.2%	7.7%

Source: MCHP RHA Indicators Atlas 2019

Location Visits to Physicians or Nurse Practitioners

Definition

The percent of primary care visits by residents of each health region to general or family physicians or nurse practitioners: within the patient's health region district; elsewhere in their health region; in another health region or in Winnipeg.

Why is this indicator important?

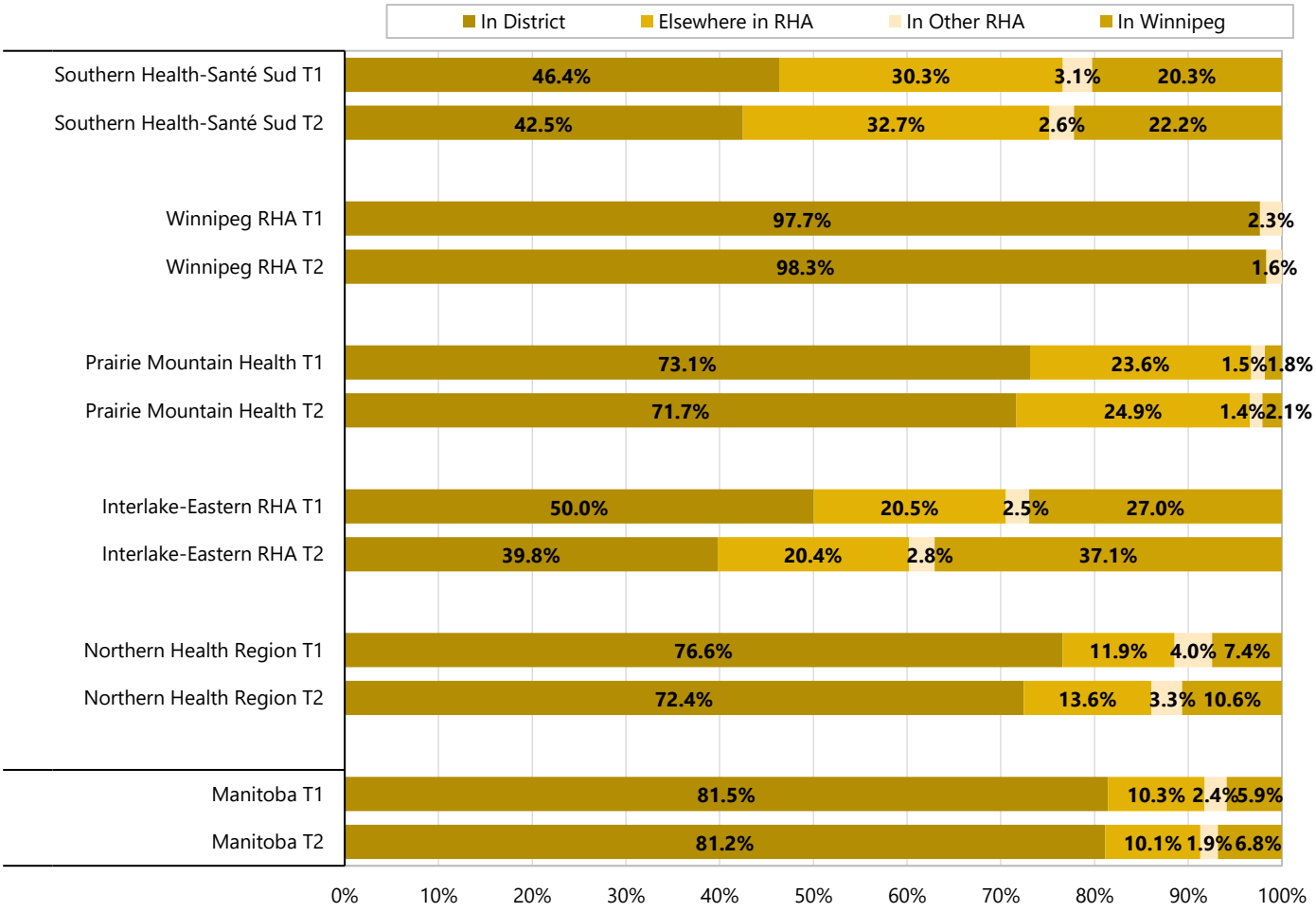
Where residents access primary care provides valuable insight regarding challenges related to availability and accessibility of services, which helps to plan and allocate resources appropriately.

Provincial Key Findings

- The location of visits to physicians or nurse practitioners in Manitoba was stable over time. More than 80% of all visits to physicians or nurse practitioners occurred in the district where the resident lived.
- In 2016/17, the location of visits to physicians or nurse practitioners varied dramatically across all health regions. Residents in Winnipeg RHA received over 98% visits within their health region's district; while residents in Southern Health-Santé Sud and Interlake–Eastern RHA were more likely to have to travel to visit a physicians or nurse practitioners as they received less than 50% of their visits within their health region's district and a large portion of visits occurred in Winnipeg.

Figure 3 Location of Primary Care Visits to Physicians and Nurse Practitioners by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted rate of ambulatory visits to all physicians per resident



Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- In 2016/17, 72.4% of the time NHR residents saw primary care physicians and nurse practitioners within the district that they lived, 13.6% of the time they saw physicians and nurse practitioners elsewhere in NHR, 3.3% of the time in other health regions and 10.6% of the time in Winnipeg. These numbers were consistent over time.
- This indicates that over 86% of resident's primary care physician and nurse practitioner care took place within NHR.

Ambulatory Consultation Rate

Definition

The percentage of ambulatory consultations in a given year. These consults occur when a physician, nurse, or other allied health professional refer a patient to another physician (usually a specialist or surgeon) or nurse practitioner.

Why is this indicator important?

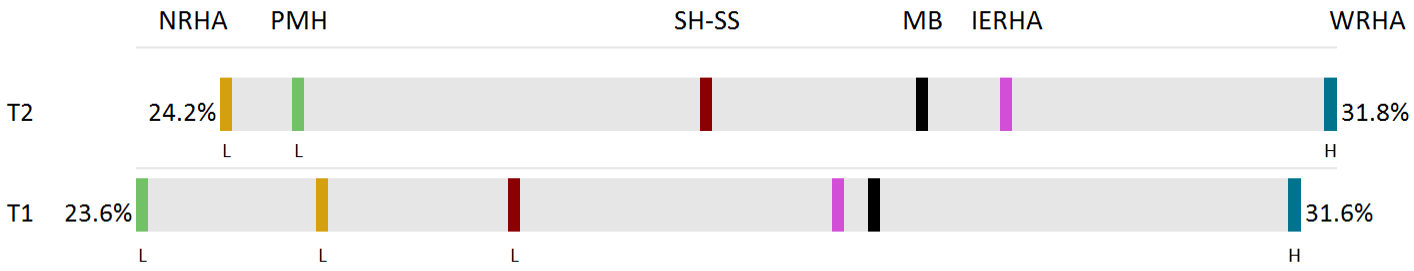
Health professionals will often refer patients to another provider due to the complexity, obscurity, or seriousness of a condition. Patients may also request a second opinion. This indicator yields important information about initial access to specialist care, which is particularly important in rural areas where patients use specialist services less frequently due to access issues.

Provincial Key Findings

- Ambulatory consultation rate remained stable over time. This trend was also observed across all regions.
- The rates in Winnipeg RHA were significantly higher than the provincial average in both time periods, while rates in NHR and Prairie Mountain Health were significantly lower.

Figure 4 Ambulatory Consultation by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of consults (first referral)



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		PMH		SH-SS		MB		IERHA		WRHA	
T2 COUNT	15,537		44,304		52,645		402,497		40,948		248,592	
T2 RATE	24.2%	L	24.8%	L	27.5%		29.0%		29.6%		31.8%	H
T1 RATE	24.9%	L	23.6%	L	26.2%	L	28.7%		28.4%		31.6%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- Consultations within the NHR decreased slightly over time from 24.9% to 24.2% per year, both rates were significantly lower than the Manitoba average.
- Zone three had a consultation rate in 2016/17 of 39.3%, significantly higher than the last time period and significantly higher, 10% higher, than the Manitoba average.

- Residents in Garden Hill First Nation, Red Sucker Lake First Nation, St. Theresa Point First Nation, Wasagamack First Nation, Island Lake and Red Sucker Lake were 2.7 times more likely to be referred to another physician or nurse practitioner than residents in Nisichawayasihk (Nelson House) Cree Nation and in the Incorporated Community of Nelson House. The disparity among districts worsened over time by 0.6 times.

Table 4 Ambulatory Consultation by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of consults (first referral)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**402,497**	**29.1**		**28.7**		**Northern Health Region**	**15,537**	**24.2**	**L**	**24.9**	**L**
Zone 1	**8,064**	**22.9**	**L**	**24.1**	**L**	**Zone 2**	**5,069**	**23.9**	**L-**	**26.4**	
Gillam Fox	356	29.9		31.4		Norway House/NH CN	1,237	29.23		35.8	
The Pas/OCN, Kels	2,789	25.5		21.2	L	Bu(OH)CN, MS(GR)CN, GLN/GLFN	847	27.3		24.1	
Flin, Snow, Cran, Sher	1,800	21.6	L	25.0		GR/MisCN, ML/MosCN, Eas/CheCN	781	25.0		20.4	L
Thompson, Myst Lake	2,675	20.5	L-	25.1		Puk/Mat Col CN	323	23.9		26.8	
Thick, Pik, Wab, Ilf/WLFN, Corm	222	19.4	L	19.7	L	Cross Lake/Cross Lake FN	784	21.8	L-	28.4	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	222	15.9	L	17.3	L	SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	260	21.4	L	23.2	
						Sham, YorkFN, TatCN(SPL)	485	19.9	L	22.4	
						Nelson House/NCN	352	14.2	L-	18.4	L
						Zone 3	**2,404**	**39.3**	**H+**	**31.2**	
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	2,404	38.2	+	31.3	

NHR District Disparity Ratio

T1 Disparity	**2.1**
T2 Disparity	***2.7***
Change	***0.6 ↑***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Majority of Care—Continuity

Definition

The percent of residents who received at least 50% of their ambulatory visits from the same physician (general practitioner, family practitioner, pediatrician or internal medicine specialist) or nurse practitioner over a two-year time period.

Why is this indicator important?

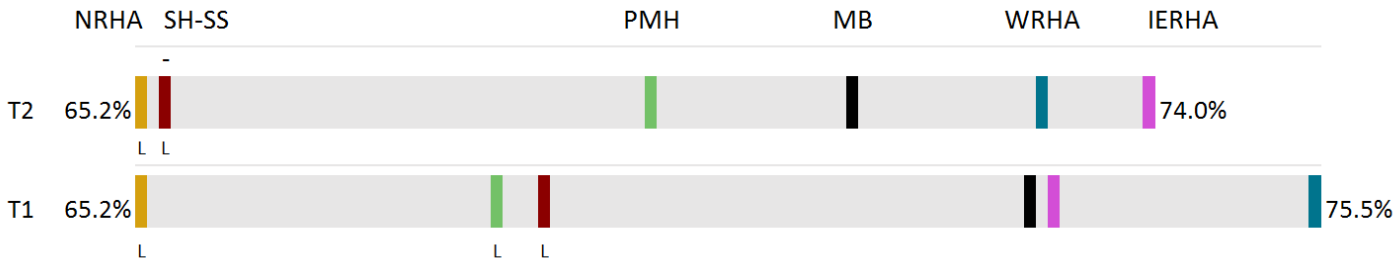
Continuity of care allows for a stronger patient-healthcare provider relationship and correlates with better health outcomes, improved patient satisfaction and fewer hospitalizations.

Provincial Key Findings

- The proportion of Manitoban residents receiving more than 50% of their visits from the same primary physician decreased slightly from 73.0% to 71.5% but not significantly. The only statistically significant decrease was in Southern Health-Santé Sud.
- NHR and Southern Health-Santé Sud RHAs had significantly lower rates than the provincial average in both time periods.

Figure 5 Majority of Care by Same Physician and NP by RHA, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted percent of residents with more than 50% of their (3+) visits from the same physician or NP



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		SH-SS		PMH		MB		WRHA		IERHA	
T2 COUNT	23,297		81,909		86,156		668,305		409,578		66,321	
T2 RATE	65.2%	L	65.5%	L-	69.7%		71.5%		73.1%		74.0%	
T1 RATE	65.2%	L	68.8%	L	68.4%	L	73.0%		75.5%		73.2%	

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The proportion of NHR residents receiving more than 50% of their visits from the same primary physician stayed constant over time at 65.2%.
- The zone rates were highly different in 2016/17, zone two had a rate of 73.9%, zone one had a rate of 63.8% and zone three had a rate of 54.3%. The districts had even more variance.

- Pimicikamak (Cross Lake) Cree Nation and Incorporated Community of Cross Lake residents were two times more likely to receive care from the same physician or nurse practitioner than Thompson and Mystery Lake residents in 2015-16-2016/17. There was no change in this disparity over time.

Table 5 Majority of Care by same Physician and NP by NHR Zone and District, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted percent of residents with more than 50% of their (3+) visits from the same physician or nurse practitioner

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**668,305**	**71.5%**		**73.0%**		**Northern Health Region**	**23,297**	**65.2%**	**L**	**65.2%**	**L**
Zone 1	**13,366**	**63.8%**	**L**	**64.2%**	**L**	**Zone 2**	**8,101**	**73.9%**		**72.3%**	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	447	80.5%	-	91.7%	H	Cross Lake/Cross Lake FN	2,258	93.7%	H	93.7%	H
The Pas/OCN, Kels	4,324	75.5%	+	65.9%	L	Nelson House/NCN	946	82.6%	H+	73.6%	
Flin, Snow, Cran, Sher	3,837	74.6%		75.7%		Sham, YorkFN, TatCN(SPL)	745	78.5%	+	59.8%	L
Gillam Fox	741	72.1%	-	93.4%	H	GR/MisCN, ML/MosCN, Eas/CheCN	1,116	77.8%	+	61.6%	L
Thick, Pik, Wab, Ilf/WLFN, Corm	283	48.0%	L	46.6%	L	Bu(OH)CN, MS(GR)CN, GLN/GLFN	964	77.5%		75.1%	
Thompson, Myst Lake	3,734	45.8%	L-	49.5%	L	Puk/Mat Col CN	342	58.1%	L-	78.1%	
						SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	136	57.8%		69.7%	
						Norway House/NH CN	1,594	52.8%	L-	57.6%	L
						Zone 3	**1,830**	**54.3%**	**L**	**56.1%**	**L**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	1,830	54.0%	L	55.7%	L

NHR District Disparity Ratio

T1 Disparity	***2.0***
T2 Disparity	***2.0***
Change	***0***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Ambulatory Care Sensitive Conditions (ACSC) Hospitalization Rates

Definition

The annual hospitalization rate per 1,000 population, aged 0 to 74 years, for ambulatory care sensitive conditions (ACSC) which include a group of 25 diseases and diagnoses (e.g., asthma, angina, gastroenteritis, congestive heart failure) for which primary health care may be more appropriate than hospital care.

Why is this indicator important?

Lower rates reflect better access to good quality primary health care. Appropriate management and control of ACS conditions in the community could potentially reduce the need for hospitalization and improve quality of life, improve efficiency in resource utilization and reduce health spending for chronic conditions.

Provincial Key Findings

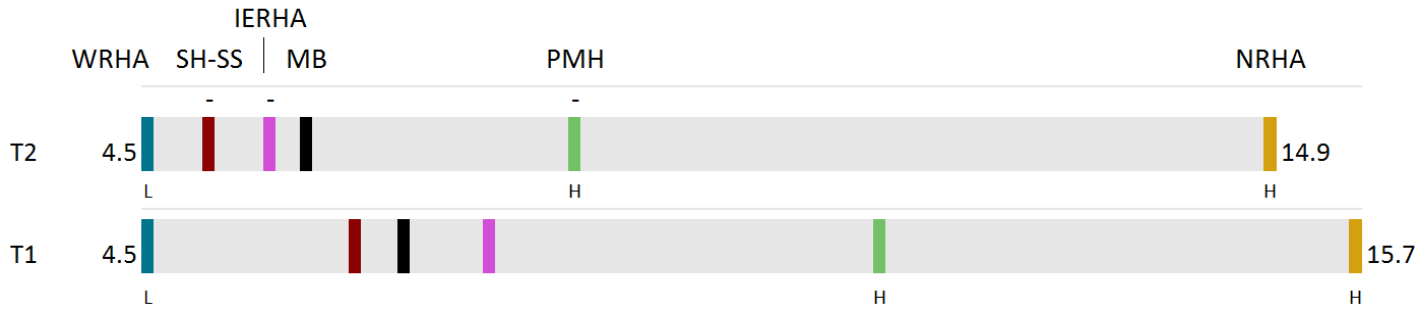
- The rate of hospitalization for ACSC in Manitoba decreased over time from 7.0 to 6.1 hospitalizations per 1,000 residents (0-74 years of age).
- Three regions (Southern Health-Santé Sud, Interlake-Eastern, and Prairie Mountain Health) showed significant decreases over time.
- Rates varied dramatically across districts of rural regions from one to over 36 ACSC hospitalizations per 1,000 residents per year. There was also substantial variation across the Winnipeg RHA from one to over 15.
- Income: The lowest income residents' hospitalization rate for ambulatory care sensitive conditions was 3.7 times higher than the highest income residents.

Rural Quintiles

T2 | ***3.7***

Figure 6 Hospitalization Rate Ambulatory Care Sensitive Conditions by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted per 1,000 residents aged 0-74



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		SH-SS		IERHA		MB		PMH		NHR	
T2 COUNT	3,467		1,010		861		8,023		1,522		995	
T2 RATE	4.5	L	5.2	-	5.7	-	6.1		8.5	H-	14.9	H
T1 RATE	4.5	L	6.6		7.7		7.0		11.4	H	15.7	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The rate of hospitalization for ACSC in NHR decreased over time from 15.7 to 14.9 hospitalizations per 1,000 residents (0-74 years of age). Both these rates are significantly higher than the Manitoba average.
- The NHR zone and district findings have extreme variation, in 2016/17 zone three had a rate of 34.0 hospitalizations per 1,000 residents, zone two's rate was 16.0 and zone one had a rate of 9.7 hospitalizations per 1,000 residents.
- Often NHR health indicators show that NHR residents are less healthy than the rest of the province; therefore it makes sense that the hospitalization rate for ACSC is also higher. In addition, ACSC may also be affected by lack of services in home communities.
- In 2016/17 the rate of hospitalization for ambulatory care sensitive conditions varied by 5.1 times between Norway House and Norway House Cree Nation and Garden Hill First Nation, Red Sucker Lake First Nation, St. Theresa Point First Nation, Wasagamack First Nation, Island Lake and Red Sucker Lake.

Table 6 Hospitalization Rate Ambulatory Care Sensitive Conditions by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted per 1,000 residents aged 0-74

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**8,023**	**6.1**		**7.0**		**Northern Health Region**	**995**	**14.9**	**H**	**15.7**	**H**
Zone 1	**383**	**9.7**	**H**	**12.0**	**H**	**Zone 2**	**379**	**16.0**	**H**	**19.4**	**H**
Flin, Snow, Cran, Sher	76	7.4		8.1		Norway House/NH CN	34	7.2		9.6	
Thick, Pik, Wab, Ilf/WLFN, Corm	11	8.5		4.5		GR/MisCN, ML/MosCN, Eas/CheCN	47	14.0	H	21.3	H
Gillam Fox	12	9.9		17.5	H	Nelson House/NCN	39	14.6	H	23.5	H
The Pas/OCN, Kels	115	10.1	H-	17.3	H	Cross Lake/Cross Lake FN	69	16.3	H	19.2	H
Thompson, Myst Lake	138	10.2	H	9.4		Puk/Mat Col CN	24	17.0	H	21.3	H
LL/MCFN, LR, O-P(SIL)CN,P N(GVL)	31	19.6	H	22.1	H	Bu(OH)CN, MS(GR)CN, GLN/GLFN	64	18.3	H	21.9	H
						SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	27	20.2	H	12.0	
						Sham, YorkFN, TatCN(SPL)	75	27.4	H	31.9	H
						Zone 3	**233**	**34.0**	**H+**	**20.8**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	233	36.5	H+	22.0	H

NHR District Disparity Ratio

T1 Disparity	***7.1***
T2 Disparity	***5.1***
Change	***-2.0↓***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Benzodiazepine Overprescribing Community-Dwelling Seniors (75+)

Definition

The percent of residents, aged 75 years and older, living in the community (excluding those who live in personal care homes) who had at least two prescriptions for benzodiazepines, or at least one prescription for benzodiazepine dispensed with more than a 30-day supply.

Why is this indicator important?

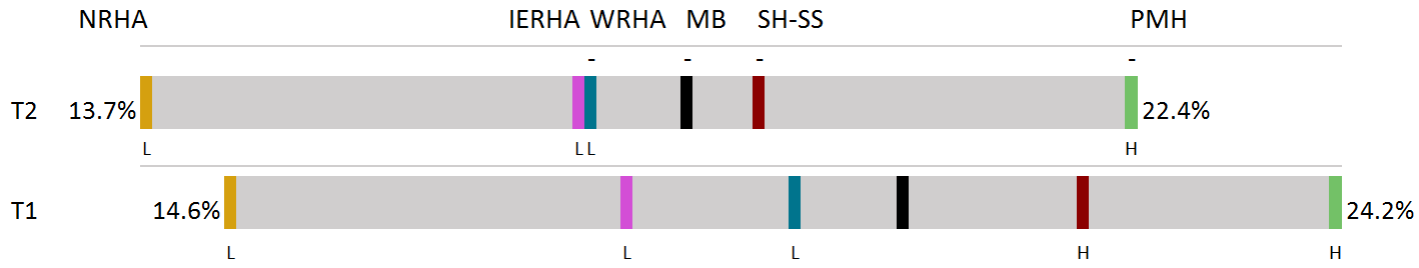
Benzodiazepines are medications widely used to treat seizures, anxiety and insomnia; however use by seniors is not recommended as it poses serious safety concerns including increased risk for confusion, memory loss, poor coordination and muscle control potentially leading to falls and fractures.

Provincial Key Findings

- In 2012/13-2016/17, there were 30,430 community dwelling seniors aged 75+ who had used benzodiazepines.
- The proportion of community-dwelling seniors aged 75+ using benzodiazepines significantly decreased over time, from 20.4% to 18.5%.
- In both time periods, the proportion of community-dwelling seniors aged 75+ using benzodiazepines in Prairie Mountain Health was higher than the provincial average; while other regions were lower (with the exception of Southern Health-Santé Sud).

Figure 7 Benzodiazepine Prescribing for Community-Dwelling Seniors by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Crude percent of non-personal care home seniors 75+ with 2 prescriptions or more than a 30-day supply



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		IERHA		WRHA		MB		SH-SS		PMH	
T2 COUNT	467		2,933		17,052		30,430		4,034		5,895	
T2 RATE	13.7%	L	17.6%	L	17.6%	L-	18.5%	-	19.2%	-	22.4%	H-
T1 RATE	14.6%	L	18.0%	L	19.5%	L	20.4%		22.0%	H	24.2%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The rates of community dwelling seniors aged 75+ who had used benzodiazepines in the NHR decreased from 14.6% to 13.7% from 2007/08 to 2016/17. These rates are both significantly lower than the provincial average and the lowest in all health regions. The significantly low rates could partially be due to the remote nature of many of the NHR residents.
- In 2012/13 zone one has a benzodiazepine prescription rate of 17.3%; whereas zone three and two have rates of 6.4% and 5.6%, both of which were significantly lower than the Manitoba average. This information should be used with caution as some of the district data is suppressed.
- The district disparity rate for benzodiazepine prescribing for community-dwelling seniors was very high and increased over time.

Table 7 Benzodiazepine Prescribing for Community-Dwelling Seniors by NHR Zone and District, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Crude percent of non-personal care home seniors 75+ with 2 prescriptions or more than a 30-day supply

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**30,430**	**18.5%**	**-**	**20.4%**		**Northern Health Region**	**467**	**13.7%**	**L**	**14.6%**	**L**
Zone 1	**407**	**17.3%**		**16.8%**	**L**	**Zone 2**	**50**	**5.6**	**L-**	**10.5%**	**L**
The Pas/OCN, Kels	119	15.7%		17.5%		Puk/Mat Col CN	0	0.0%		s	
Thompson, Myst Lake	77	16.5%		17.4%		Cross Lake/Cross Lake FN	8	4.9%	L-	11.9%	
Thick, Pik, Wab, Ilf/WLFN, Corm	14	17.3%		17.1%		Norway House/NH CN	8	6.4%	L	9.0%	
Flin, Snow, Cran, Sher	191	21.1%		17.1%		Bu(OH)CN, MS(GR)CN, GLN/GLFN	13	6.6%	L-	20.1%	
Gillam, Fox	s	s		s		GR/MisCN, ML/MosCN, Eas/CheCN	11	8.6%		16.1%	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	s	s		s		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	s	s		0.0%	
						Nelson House/NCN	s	s		s	
						Sham, YorkFN, TatCN(SPL)	s	s		s	
						Zone 3	**10**	**6.4%**	**L**	**6.6%**	**L**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	10	6.4%	L	6.6%	L

NHR District Disparity Ratio

T1 Disparity	***20.1***
T2 Disparity	***21.1***
Change	***1.0 ↑***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Access to a Regular Health Care Provider

Definition

The percent of Manitobans, aged 12 and older, participating in the Canadian Community Health Survey over a two-year time period, who reported that they have access to a regular health care provider.

Why is this indicator important?

A regular health care provider can offer preventive care, healthy lifestyle choices, treatment for common medical conditions and referrals to specialists when needed. Having a regular primary care provider can help improve lives and save money on hospital admissions, emergency room visits and surgeries. [i]

Provincial Key Findings

- Approximately four out of five Manitobans' reported having access to a regular health care provider.
- Access to a regular health care provider was found to be consistent between health regions, with exception to NHR which has a significantly lower rate than the provincial average.

Figure 8 Access to a Regular Health Care Provider by RHA, CCHS 2015-2016

Age and sex adjusted rate

H/L Significantly higher or lower than the MB average.

	NHR		MB		WRHA		SH-SS		IERHA		PMH	
T1 RATE	66.6%	L	83.2%		83.4%		83.6%		84.8%		85.8%	

Source: Statistics Canada CCHS 2015-2016

Regional Key Findings

- In the NHR 66.6% of residents reported that they had access to a regular health care provider when they completed the Canadian Community Health Survey.
- This data is not necessarily representative of the NHR population because the Canadian Community Health Survey excludes residents living on reserve land.

Type of Place for Minor Health Problem (Primary Care)

Definition

The percentage of Manitobans aged 12 and older who reported the type of place they usually went for a minor health problem, such as doctor's office, walk-in clinic or emergency department.

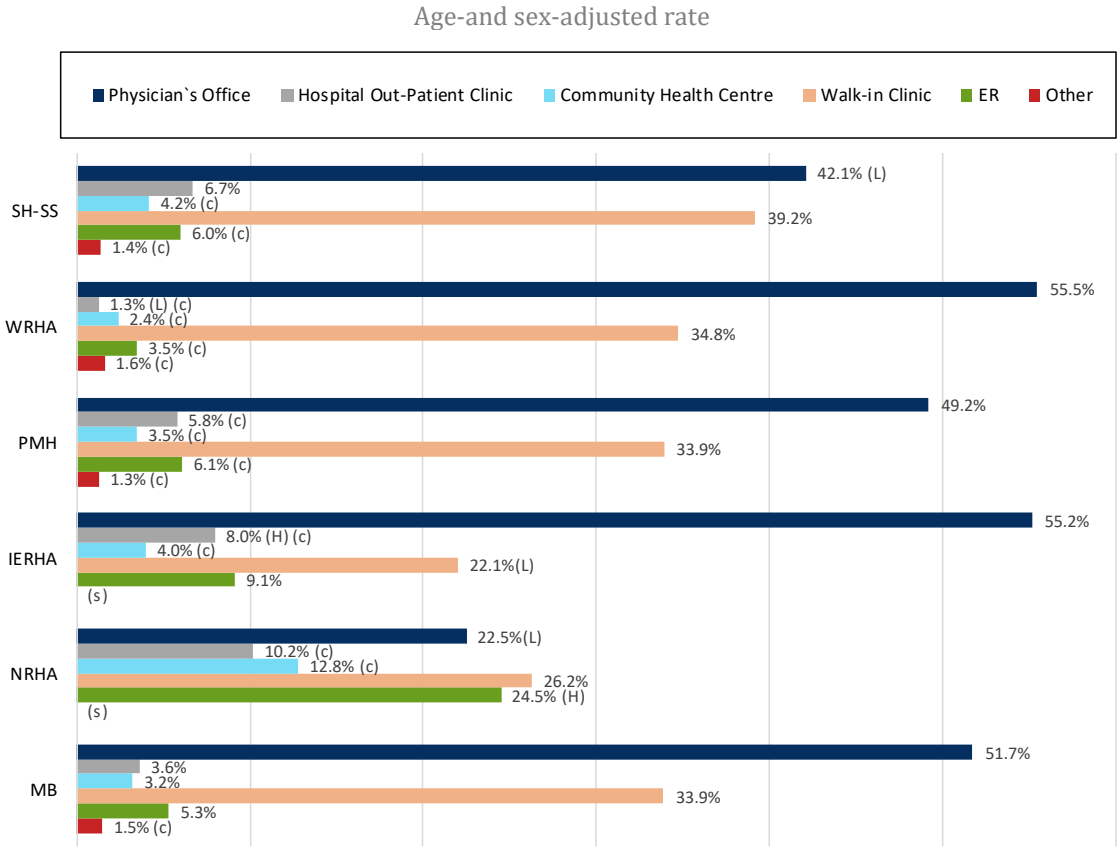
Why is this indicator important?

Many minor health problems can be treated through self-care or over the counter medicines from a pharmacist. Accurate understanding of where residents seek medical care for minor health problems better informs the region of the accessibility of primary care services and education required to ensure optimal use of healthcare resources.

Provincial Key Findings

- The most commonly reported place Manitoba residents went for a minor health problem were the physician's office followed by walk-in clinic.
- NHR had a significantly higher percentage of residents visiting the ER for minor health problems compared to other health regions as reported on the Canadian Community Health Survey in 2015-2016.

Figure 9 Type of Place for Minor Health Problem by RHA, CCHS 2015-2016



(H) =significantly higher than MB average for the time period. (L) = significantly lower than MB average for the time period. (c) = estimate displayed with caution. (s) = estimate suppressed.

Source: Statistics Canada CCHS 2015-2016

Regional Key Findings

- In 2015-2016 the most commonly reported place for NHR residents to visit for a minor health care problem was walk in clinics at 26.2%. The Manitoba rate was 33.9%.
- 24.5% of NHR residents reported using emergency departments for minor health care problems; this was significantly higher than the Manitoba average at 5.3%.
- Physician's office came in third, 22.5% of residents reported using them for minor health problems; this rate was significantly lower than the Manitoba average of 51.7%.
- This data is not necessarily representative of the NHR population because the Canadian Community Health Survey excludes residents living on reserve land.

Reasons for No Regular Health Care Provider

Definition

The most frequent reasons given for not having a regular health care provider, by Manitobans aged 12 and older.

Why is this indicator important?

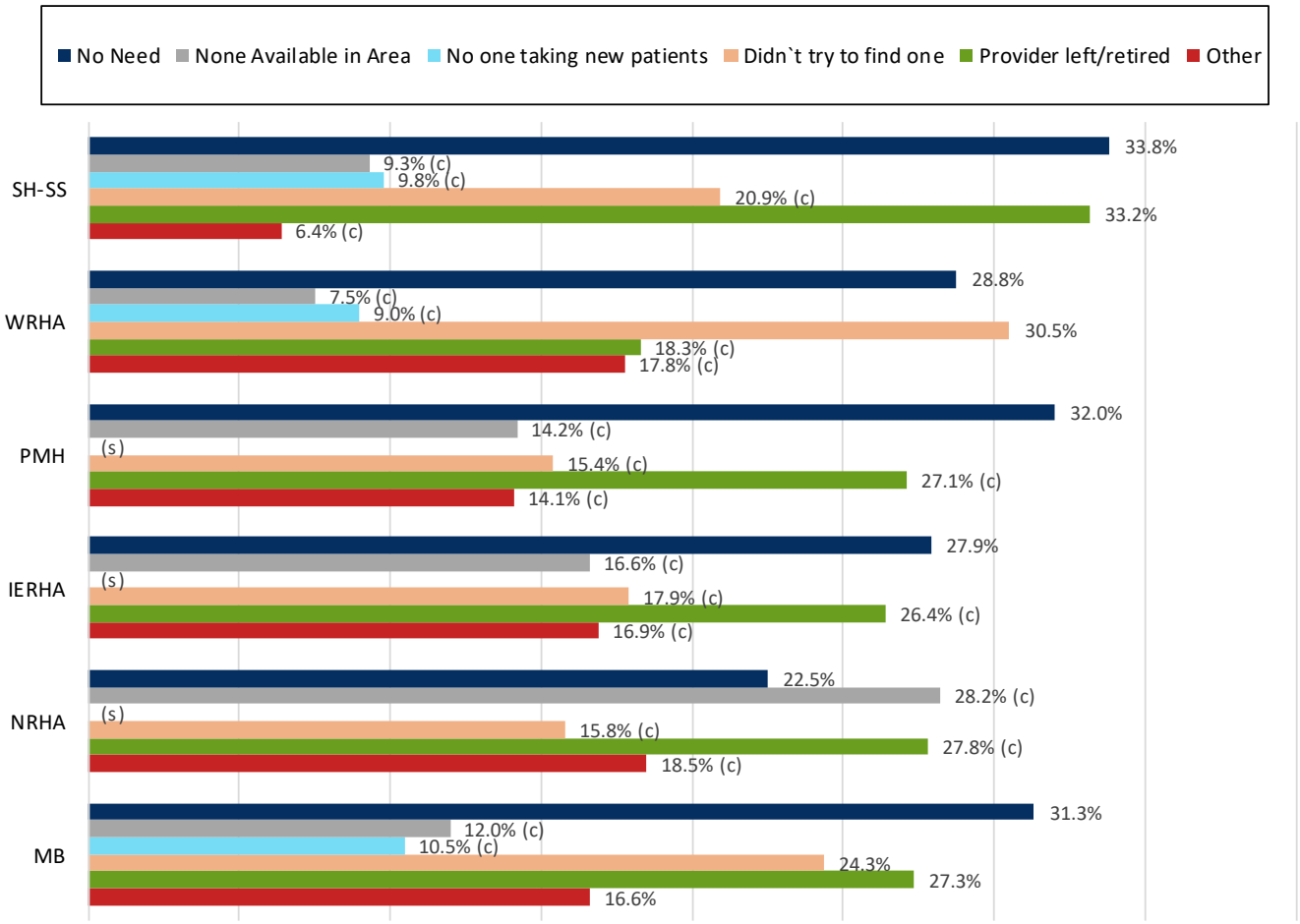
Understanding potential gaps in delivery of primary care services is important in policy planning and resource allocation to create conditions that reduce health inequities and improve patient outcomes.

Provincial Key Findings

- The most commonly reported reasons why Manitoba residents do not have a regular health care provider is "no need" followed by "provider left/retired".
- No health reigons responses were statistically significant compared to the Manitoba average.

Figure 10 Reasons for No Regular Health Care Provider by RHA, CCHS 2015-2016

Age and sex adjusted rate



(H) =significantly higher than MB average for the time period. (L) = significantly lower than MB average for the time period. (c) = estimate displayed with caution. (s) = estimate suppressed.

Source: Statistics Canada CCHS 2015-2016

Regional Key Findings

- In 2015-2016 the most commonly reported reasons why NHR residents do not have a health care provider was “none available in area” (28.2%) closely followed by “provider left/retired” (27.8%).
- 22.5% of NHR residents reported there was “no need” to have a health care provider, 18.5% cited “other reasons” and 15.8% “didn’t try to find one”.
- This Canadian Community Health Survey data should be used with caution due to sample size. In addition, it is not necessarily representative of the NHR population because it excludes residents living on reserve land.

Wait Time for Minor Health Problem

Definition

The wait time for a medical appointment with their regular health care provider for a minor health problem, by Manitobans aged 12 and older.

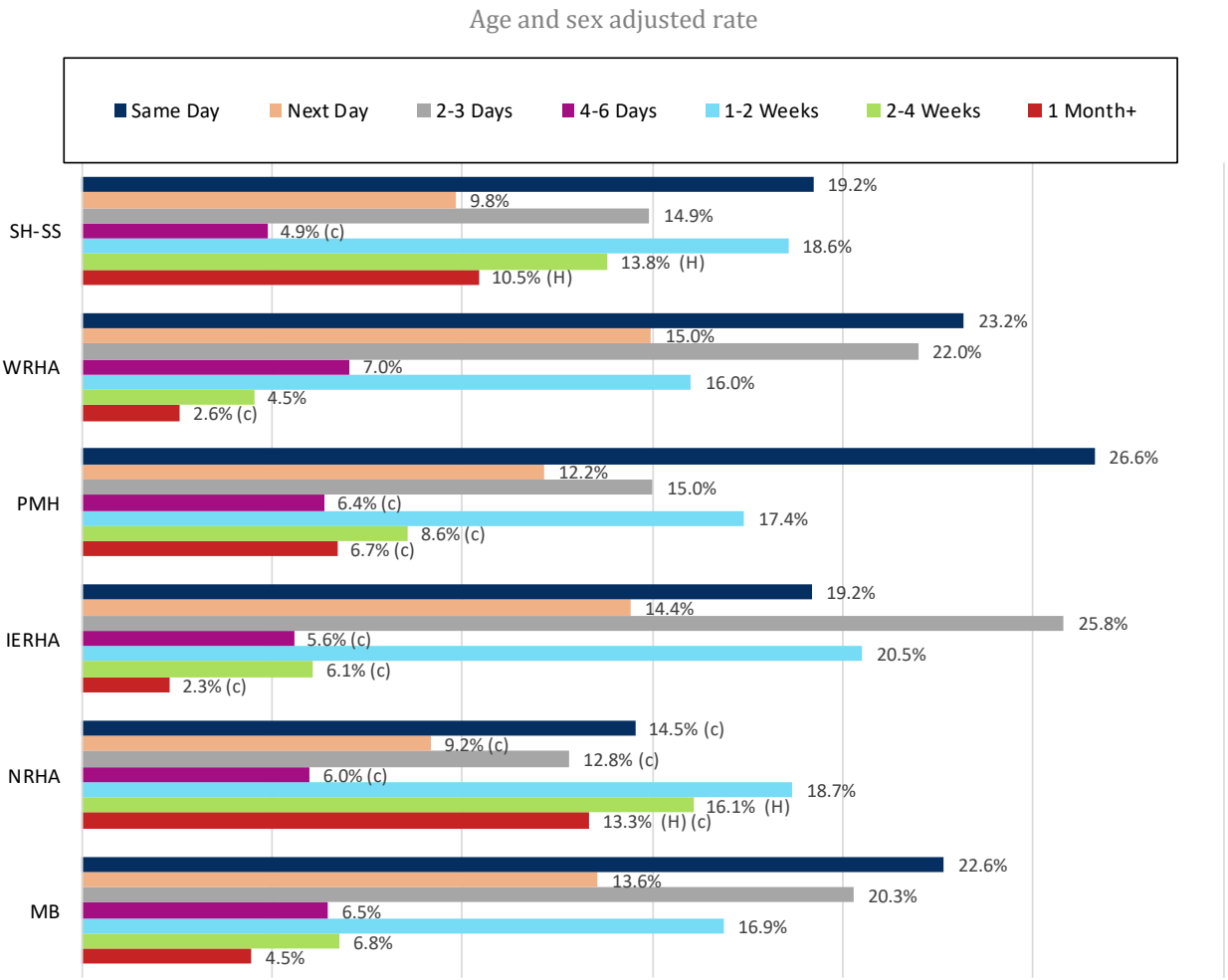
Why is this indicator important?

Whilst not all waits are avoidable, repetitive long waits could be a sign of inadequate resources or scheduling issues.

Provincial Key Findings

- Nearly 60% of Manitoba respondents indicated that the wait time for getting an appointment for a minor health problem is 3 days or less.
- Both Southern Health-Santé Sud and NHR have the largest percentage of residents waiting over 2 weeks for a minor health care problem appointment.

Figure 11 Wait Time for Minor Health Problem by RHA, CCHS 2015-2016



(H) =significantly higher than MB average for the time period. (L) = significantly lower than MB average for the time period. (c) = estimate displayed with caution. (s) = estimate suppressed.

Source: Statistics Canada CCHS 2015-2016

Regional Key Findings

- In 2015-2016 the most commonly reported NHR residents wait times for minor health problems was 1-2 weeks (18.7%).
- 16.1% of NHR residents reported 2-4 weeks and 13.3% reported 1+ month wait time for minor health problems, both of which were significantly higher than the Manitoba average.
- Same day came in next at 14.5%, two to three days came in fifth at 12.8%, 9.2% was next day and last was four to six days at 6.0%.
- This data should be used with caution due to sample size. In addition, it is not necessarily representative of the NHR population because it excludes residents living on reserve land.

Coordination between Health Professionals and Other Providers

Definition

The level of coordination reported by Manitobans aged 12 and older, between their regular health care provider and other health professionals using a five scale rating.

Why is this indicator important?

Monitoring coordination of care between providers is one way to assess fragmentation of health services. Patients perceive interruptions in care as unreasonable as they navigate the healthcare system.[ii] Patient input is necessary to achieve safer, more effective and efficient care, and bridge the gaps that remain along healthcare pathways.

Provincial Key Findings

- Nearly 50% of Manitoba respondents reported positively about the coordination between health care providers.
- Responses were consistent between health regions, with Interlake-Eastern RHA having the highest level of positive scores.

Figure 12 Coordination between Health Care Providers Reported as 'Excellent/Very Good'

Age and sex adjusted proportion (%) of weighted sample CCHS 2015-2016

H/L Significantly higher or lower than the MB average.

	PMH		SH-SS		NHR		WRHA		MB		IERHA	
T1 RATE	44.6%		45.0%		45.6%		45.9%		46.3%		50.5%	

Source: Statistics Canada CCHS 2015-2016

Regional Key Findings

- Of the survey respondents on the Canadian Community Health Survey in 2015-2016, 45.6% of NHR residents reported the coordination of their care between health care providers as excellent or very good.

A CLOSER LOOK… NEEDS BASED PREFERENCE INFORMED SCHEDULING

Needs based, preference informed scheduling was implemented at the Thompson Primary Care Clinic by the leadership team. This is a **proactive scheduling approach** that has **reduced chaotic scheduling** practices and **increased access to care** for patients and improved engagement of providers.

Primary care areas of work have been divided into six categories including:

- Thompson Clinic Primary Care needs patients – includes clinic home visits and telehealth
- First Nations communities included in agreement with NHR – Shamattawa First Nation and Bunibonibee (Oxford House) Cree Nation
- Outlying Communities - Leaf Rapids, Lynn Lake, Snow Lake and Gillam
- Bayline Communities – Wabowden, Pikwitonei, Thicket Portage and Ilford
- Hospitalist at Thompson General Hospital
- Nursery at Thompson General Hospital working with Newborns

All providers including physicians and nurse practitioners then rank their preferred areas of work and coverage groups are created using the top three selections. Lastly equitable shifts are awarded. This has resulted in not only greater access to care but improved retention of care providers and satisfaction of patients. Future plans include provider and patient satisfaction surveys.

One physician reflects on her experience with the preference based scheduling system that was implemented in the Thompson Primary Care Clinic. “Besides provider preference, it acknowledges the balance between primary care versus coverage for other areas like nursery, hospital and outlying communities. It has improved primary care access and reduced last minute cancellations of booked appointments that previously frustrated patients and physicians. Provider satisfaction has improved in the last two years. Clinic management is trying to listen to our concerns and address them. We have better predictability in our lives now. Recently my spouse commented that I complain less nowadays!”

Dr. Fernando Martinez Giron has similar comments, he report he and his colleagues are now able to choose the work they are most suited for and passionate about. Since the change he has experienced improved personal satisfaction because his work is tailored to his interests. He feels “the outcome wasn’t the same when we were forced to work elsewhere, in addition it was often short notice causing last minute patient cancellations and therefore patient dissatisfaction. With the new changes our patients are seen on time and have the continuity of care they deserve.”

Acute Care

Use of Hospitals

Definition

The percent of residents who were admitted to an acute care hospital at least once in a fiscal year.

Why is this indicator important?

Hospitalizations can indicate the level of illness in the population, capacity of community-based supports and accessibility of hospital care for local residents.

Provincial Key Findings

- Hospital use in Manitoba decreased significantly over time from 6.5% to 5.8% from 2011-2012 to 2016-2017.
- Large variation in hospital use was observed across the regions in 2016/17, from almost 5% of Winnipeg RHA residents to almost 10% of NHR residents.
- Three regions had decreasing values, but the magnitude of the change varied by region.

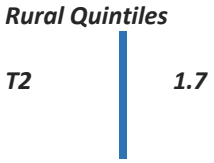
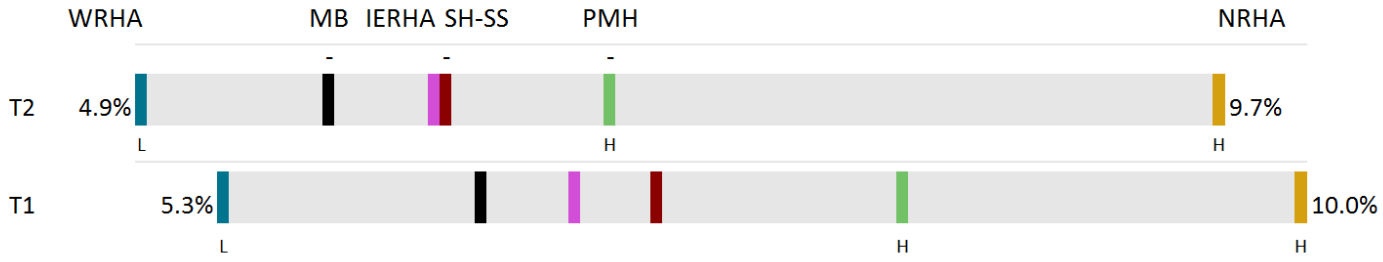


Figure 13 Use of Hospitals by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of residents (all ages) with at least one inpatient hospital stay per year



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		MB		IERHA		SH-SS		PMH		NHR	
T2 COUNT	39,999		80,193		8,232		11,736		13,107		6,317	
T2 RATE	4.9%	L	5.8%	-	6.2%		6.2%	-	7.0%	H-	9.7%	H
T1 RATE	5.3%	L	6.5%		6.9%		7.2%		8.3%	H	10.0%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The NHR had a total of 6,317 residents who were hospitalized which represents a rate of 9.7% of the population in 2016/17. This was consistent over time.
- In 2016/17 zone three had the highest hospital use rate (16.6%), followed by zone two (10.7%) and zone one residents used the hospital the least at (7.8%). All these are significantly higher than the Manitoba average.
- The district of Flin Flon, Snow Lake, Cranberry Portage and Sherridon/Cold Lake had the lowest acute care hospital use rate of 6.1%, meaning residents were 2.7 times less likely to be hospitalized than Garden Hill First Nation, Red Sucker Lake First Nation, St. Theresa Point First Nation, Wasagamack First Nation, Island Lake and Red Sucker Lake residents who's rate was the highest rate at 16.3% in 2016/17.

Table 8 Use of Hospitals by RHA Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of residents (all ages) with at least one inpatient hospital stay per year

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**80,193**	**5.8%**	**-**	**6.5%**		**Northern Health Region**	**6,317**	**9.7%**	**H**	**10.0%**	**H**
Zone 1	**2,754**	**7.8%**	**H**	**8.3%**	**H**	**Zone 2**	**2,495**	**10.7%**	**H**	**11.5%**	**H**
Flin, Snow, Cran, Sher	506	6.1%	-	7.4%		Norway House/NH CN	395	8.6%	H	10.0%	H
Thompson, Myst Lake	951	7.1%	H	7.3%		Nelson House/NCN	240	9.1%	H	10.8%	H
Gillam Fox	92	7.4%		7.6%		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	139	10.5%	H	8.1%	
The Pas/OCN, Kels	879	8.0%	H	9.2%	H	Cross Lake/Cross Lake FN	429	10.6%	H	11.1%	H
Thick, Pik, Wab, Ilf/WLFN, Corm	101	8.6%	H	8.0%		GR/MisCN, ML/MosCN, Eas/CheCN	368	11.3%	H	12.1%	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	225	15.3%	H+	10.4%	H	Bu(OH)CN, MS(GR)CN, GLN/GLFN	408	11.9%	H	12.9%	H
						Puk/Mat Col CN	174	12.3%	H	15.2%	H
						Sham, YorkFN, TatCN(SPL)	342	12.9%	H	13.0%	H
						Zone 3	**1,068**	**16.6%**	**H**	**15.0%**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	1,068	16.3%	H	14.7%	H

NHR District Disparity Ratio

T1 Disparity	***2.1***
T2 Disparity	***2.7***
Change	***0.6 ↑***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Inpatient Hospitalization Rate

Definition

The total annual number of inpatient hospitalizations per 1,000 population. Multiple admissions of the same person are counted as separate events.

Why is this indicator important?

The number of hospital admissions per resident can provide insight into the chronic nature of many health conditions, patient capacity to self-manage, capacity of community based supports and utilization of inpatient hospital services over time.

Provincial Key Findings

- There were 109,146 inpatient hospitalizations among Manitoba residents, representing a rate of 78.4 per 1,000 Manitoban residents in 2016/17.
- The overall inpatient hospitalization rate decreased significantly over time, from 90.6 to 78.4 per 1,000 residents per year.
- Rates for NHR and Prairie Mountain Health were significantly higher than the Manitoba average, while the rate for the Winnipeg RHA was significantly lower.
- Income: The lowest income residents' percentage of inpatient hospitalization was 1.9 times higher than the highest income residents.

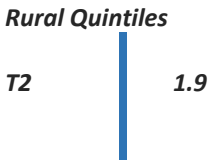
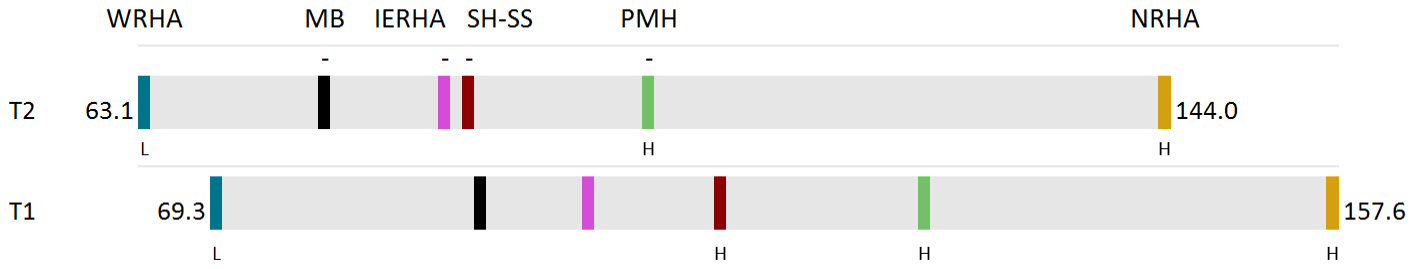


Figure 14 Inpatient Hospitalization by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted rate of hospitalizations per 1,000 residents



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		MB		IERHA		SH-SS		PMH		NHR	
T2 COUNT	51,182		109,146		11,493		16,573		19,717		9,016	
T2 RATE	63.1	L	78.4	-	87.5	-	89.7	-	103.7	H-	144.0	H
T1 RATE	69.3	L	90.6		98.9		109.2	H	125.3	H	157.6	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- There were 9,016 inpatient hospitalizations in NHR in 2016/17.
- The inpatient hospitalization rate decreased from 157.6 to 144.0 per 1,000 NHR residents from 2011/12 to 2016/17.
- In 2016/17 the inpatient hospitalization rate in zone three was the highest at 247.9 hospitalizations per 1,000 residents, the zone two rate was 161.3 hospitalizations per 1,000 residents and zone one had the lowest rate at 122.6 hospitalizations per 1,000 residents.
- The district rates for inpatient hospitalization in 2016/17 ranged from 97.3 per 1,000 residents in Flin Flon Snow Lake, Cranberry Portage and Sherridon/Cold Lake to 252.8 per 1,000 residents in Lynn Lake, Leaf Rapids, South Indian Lake, O-Pipon-Na-Piwin Cree Nation (South Indian Lake), Granville Lake and Marcel Colomb First Nation.
- Resident from Flin Flon, Snow Lake, Cranberry Portage or Sherridon/Cold Lake had 2.6 times less hospitalizations than residents of Lynn Lake, Leaf Rapids, South Indian Lake, O-Pipon-Na-Piwin (South Indian Lake) Cree Nation, Granville Lake and Marcel Colomb First Nation. This disparity in hospitalization rate among districts increased over time by 0.7 times.
- The leading reason for hospitalization among NHR residents was for pregnancy and childbirth at over 25%.

Table 9 Inpatient Hospitalization by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted rate of hospitalizations per 1,000 residents

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**109,146**	**78.4**	**-**	**90.6**		**Northern Health Region**	**9,016**	**144.1**	**H**	**157.7**	**H**
Zone 1	**4,018**	**122.6**	**H**	**131.9**	**H**	**Zone 2**	**3,507**	**161.3**	**H**	**187.2**	**H**
Flin, Snow, Cran, Sher	761	97.3		123.0		Norway House/NH CN	499	113.9		141.5	
Thompson, Myst Lake	1,322	106.4		122.5		Nelson House/NCN	346	143.4	H	173.0	H
Gillam Fox	135	118.3		136.9		Cross Lake/Cross Lake FN	605	154.0	H	187.2	H
The Pas/OCN, Kels	1,306	122.5		150.2	H	SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	196	163.3	H	133.8	
Thick, Pik, Wab, Ilf/WLFN, Corm	156	141.0	H	126.8		GR/MisCN, ML/MosCN, Eas/CheCN	514	168.4	H	201.9	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	338	252.8	H+	174.7	H	Puk/Mat Col CN	236	181.4	H	220.9	H
						Bu(OH)CN, MS(GR)CN, GLN/GLFN	607	183.0	H	192.0	H
						Sham, YorkFN, TatCN(SPL)	504	201.7	H	228.1	H
						Zone 3	**1,491**	**247.9**	**H**	**217.7**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	1,491	236.7	H	213.4	H

NHR District Disparity Ratio

T1 Disparity	***1.9***
T2 Disparity	***2.6***
Change	***0.7↑***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Table 10 Most Frequent Causes of Hospitalizations by NHR, 2011/12 (T1) and 2016/17 (T2)

Cause of Hospitalization	T2		T1
	Count	Percentage	Percentage
Pregnancy and Birth	2316	25.8%	27.2%
Digestive System	879	9.8%	9.9%
Injury and Poisoning	839	9.3%	9.1%
Respiratory System	791	8.8%	7.1%
Mental Illness	623	6.9%	6.1%

Source: MCHP RHA Indicators Atlas 2019

Hospital Days for Acute Care

Definition

The number of days of hospital care provided to patients who are acutely ill and require medical care or surgery for treatment of disease or severe illness (excluding newborns), per 1,000 population, for a one-year time period.

Why is this indicator important?

Providing targeted care and timely discharge from hospital results in better patient outcomes and reduced financial cost to the healthcare system.

Provincial Key Findings

Excluding Newborns

- The rate of hospital days for acute care excluding newborns was 628.4 days per 1,000 Manitoban residents in 2016/17.
- The rate decreased slightly but was not statistically significant.
- There were considerable variations in rates of hospital days for acute care across all health regions. NHR had significantly higher rates in both time periods.
- In 2016/17 in Manitoba, the most frequent causes of hospital days were circulatory diseases (11.7%), health status and contact (11.7%), mental illness (11.1%), injury & poisoning (9.3%), and respiratory diseases (9.5%). The top rankings of hospital days did not change much over time.
- The most frequent causes of hospital days varied considerably by region.

Rural Quintiles

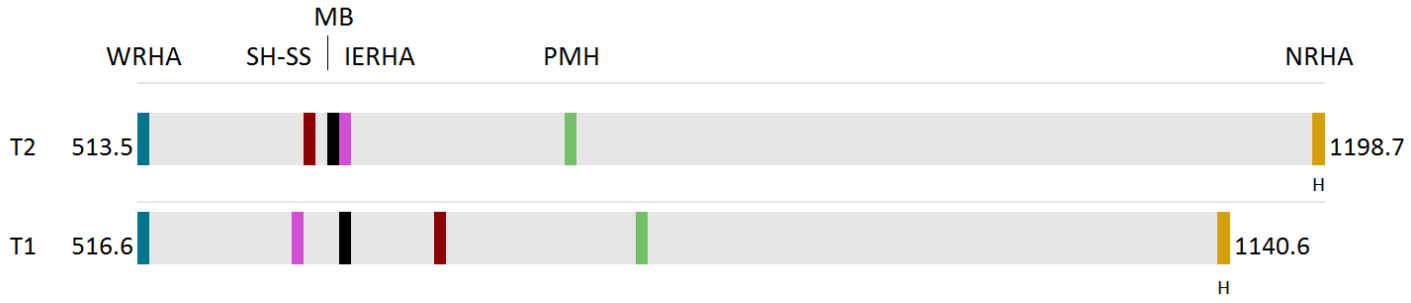
T2 ***2.1***

Including Newborns

- The rate of hospital days for acute care (including newborns) was 636.5 days per 1,000 Manitoban residents in 2016/17.
- The rates of hospital days for acute care decreased over time from 662.0 to 636.5 days per 1,000 residents but were not statistically significant. There were considerable variations in hospital days for acute care across all health regions.
- The top reason for hospitalization in Manitoba in 2016/17 was mental illness at 12.8% followed by circulatory disease at 12.5%.

Figure 15 Hospital Days for Acute Stays (Excluding Newborns) by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted per 1,000 residents (all ages)



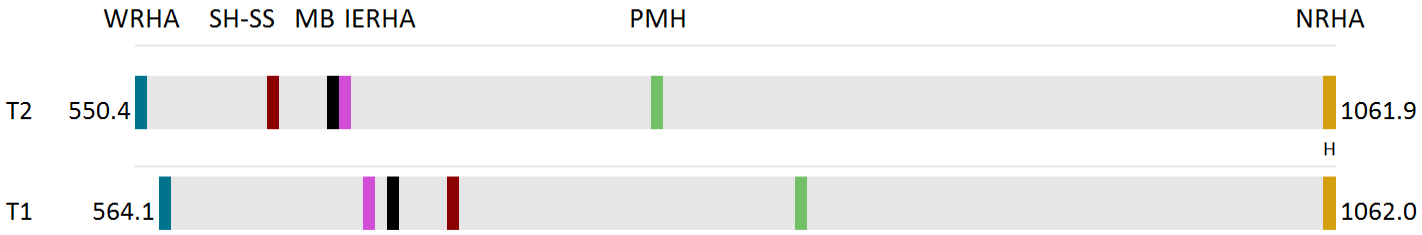
H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		SH-SS		MB		IERHA		PMH		NHR	
T2 COUNT	412,097		109,142		844,018		87,076		159,209		52,871	
T2 RATE	513.5		618.4		628.4		634.4		766.0		1198.7	H
T1 RATE	516.6		690.3		636.2		611.1		806.2		1140.6	H

Source: MCHP RHA Indicators Atlas 2019

Figure 16 Hospital Days for Acute Stays (Including Newborns) by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted per 1,000 residents (all ages)



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		SH-SS		MB		IERHA		PMH		NHR	
T2 COUNT	428,451		114,586		877,408		89,894		163,833		57,142	
T2 RATE	550.4		609.5		636.5		644.3		776.8		1061.9	H
T1 RATE	564.1		686.6		662.0		651.9		835.8		1062.0	

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

Excluding Newborns

- The number of hospital days for acute care (excluding newborns) was 1198.7 days per 1,000 NHR residents in 2016/17. This was significantly higher than the Manitoba average.
- In 2016/17 the NHR zone three number of hospital days for acute care (excluding newborns) was 2339.3 days per 1,000 residents. This is over 3.7x times the Manitoba rate. Zone two's rate was 1291.9 days per 1,000 residents. This too is significantly higher than the Manitoba average, 2x higher.
- Income: The number of days of hospital care provided to the lowest income residents who were acutely ill was 2.1 times higher than the highest income residents.

Rural Quintiles	
T2	*2.1*

Including Newborns

- The rate of hospital days for acute care (including newborns) was 1061.9 days per 1,000 residents in 2016/17. This too was significantly higher than the Manitoba average.
- In 2016/17 zone two and three rates of hospital days for acute care excluding newborns were significantly higher than the Manitoba average. Zone three had a rate of 2083.4 days per 1,000 residents and zone two had a rate of 1139.5 days per 1,000 residents.
- The district rates range from 631.8 days per 1,000 residents in Flin Flon, Snow Lake, Cranberry Portage and Sherridon/Cold Lake to 2057.9 days per 1,000 residents in Garden Hill First Nation, Red Sucker Lake First Nation, St Theresa's Point First Nation, Wasagamack First Nation, Island Lake and Red Sucker Lake in 2016/17.
- In 2016/17 pregnancy and childbirth (12.5%) was the most frequent reason for hospitalization in the NHR; mental illness (10.0%), respiratory (9.7%), injury and poisoning (9.7%), digestive illness (9.6%), and health status and contact (9.3%) were all close seconds.
- There is a wide range of hospital days for acute stays among the districts with the highest district having had 3.3 times more hospital days than the lowest district and with it increasing 1.1 times over time.

Table 11 Hospital Days for Acute Stays (Excluding Newborns) by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted per 1,000 residents (all ages)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**844,018**	**628.4**		**636.2**		**Northern Health Region**	**52,871**	**1198.7**	**H**	**1140.7**	**H**
Zone 1	**24,688**	**962.4**	**H**	**918.4**		**Zone 2**	**19,190**	**1291.9**	**H**	**1333.4**	**H**
Flin, Snow, Cran, Sher	4,741	619.0		806.3		Norway House/NH CN	2,650	864.5		1110.7	H
Gillam Fox	617	791.0		901.6		Cross Lake/Cross Lake FN	3,093	1162.8	H	1399.3	H
Thompson, Myst Lake	8,512	906.8		824.2		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	944	1231.1	H	1209.3	H
The Pas/OCN, Kels	7,890	949.2		928.7		Nelson House/NCN	2,035	1240.1	H	1324.1	H
Thick, Pik, Wab, Ilf/WLFN, Corm	1,067	1190.7	H+	733.3		GR/MisCN, ML/MosCN, Eas/CheCN	2,818	1300.3	H	1244.2	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	1,861	1808.1	H	1331.0	H	Puk/Mat Col CN	1,175	1428.6	H	1513.0	H
						Bu(OH)CN, MS(GR)CN, GLN/GLFN	3,520	1659.5	H	1270.5	H
						Sham, YorkFN, TatCN(SPL)	2,955	1782.1	H	1664.4	H
						Zone 3	**8,993**	**2339.3**	**H**	**1775.8**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	8,993	2139.0	H	1656.7	H

NHR District Disparity Ratio

T1 Disparity	***2.2***
T2 Disparity	***3.3***
Change	***1.1↑***

Disparity with a value of "0" suggest no inequities exist.
Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Table 12 Hospital Days for Acute Stays (Including Newborns) by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted per 1,000 residents (all ages)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**877,408**	**636.5**		**661.97**		**Northern Health Region**	**57,142**	**1061.9**	**H**	**1062.0**	
Zone 1	**26,311**	**915.5**		**920.3**		**Zone 2**	**21,213**	**1139.5**	**H**	**1223.3**	**H**
Flin, Snow, Cran, Sher	4,901	631.8		795.5		Norway House/NH CN	2,968	859.8		1136.9	H
Gillam Fox	679	811.5		971.4		Cross Lake/Cross Lake FN	3,508	1138.3	H	1374.3	H
Thompson, Myst Lake	9,146	932.1		855.4		Nelson House/NCN	2,229	1150.5	H	1244.3	H
The Pas/OCN, Kels	8,352	949.8		950.0		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	1,088	1169.3	H	1158.8	H
Thick, Pik, Wab, Ilf/WLFN, Corm	1,152	1244.5	H+	744.7		GR/MisCN, ML/MosCN, Eas/CheCN	3,072	1249.0	H	1212.7	H
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	2,081	1830.1	H+	1234.4	H	Puk/Mat Col CN	1,308	1408.7	H	1444.6	H
						Bu(OH)CN, MS(GR)CN, GLN/GLFN	3,781	1479.7	H	1187.8	H
						Sham, YorkFN, TatCN(SPL)	3,259	1758.5	H	1597.5	H
						Zone 3	**9,618**	**2083.4**	**H**	**1679.0**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	9,618	2057.9	H	1622.3	H

NHR District Disparity Ratio

T1 Disparity ***2.2***

T2 Disparity ***3.3***

Change ***1.1↑***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Table 13 Most Frequent Causes of Hospital Days by NHR and Manitoba, 2011/12 (T1) and 2016/17 (T2)

Causes of Hospital Days	2016/17				2011/12	
	NHR		MB		NHR	MB
	Rate	Count	Rate	Count	Rate	Rate
Pregnancy and Birth	12.5%	6,720	6.1%	44,754	13.1%	6.0%
Mental Illness	10.0%	5,414	11.1%	82,204	11.1%	12.8%
Respiratory	9.7%	5,247	9.2%	67,603	7.0%	7.8%
Injury and Poisoning	9.7%	5,208	9.3%	68,548	8.0%	9.0%
Digestive	9.6%	5,171	8.8%	64,643	8.9%	8.7%
Health Status and Contact	9.3%	5,001	11.70%	86,254	9.6%	11.3%
Circulatory	7.9%	4,249	11.7%	86,266	8.8%	12.5%
Infectious and Parasitic	5.0%	2,674			4.9%	
Cancer	4.5%	2,402	6.7%	49,618	4.8%	7.5%
Genitourinary and Breast	4.2%	2,241	3.9%	29,050		

Source: MCHP RHA Indicators Atlas 2019

Where Residents Were Hospitalized: Hospital Location

Definition

The percent of all hospitalizations of residents by location: within their home health region, in another health region, in Winnipeg or out-of-province, for a one-year time period. If a patient transfers to another hospital, each stay is counted as a separate event and attributed to the appropriate location.

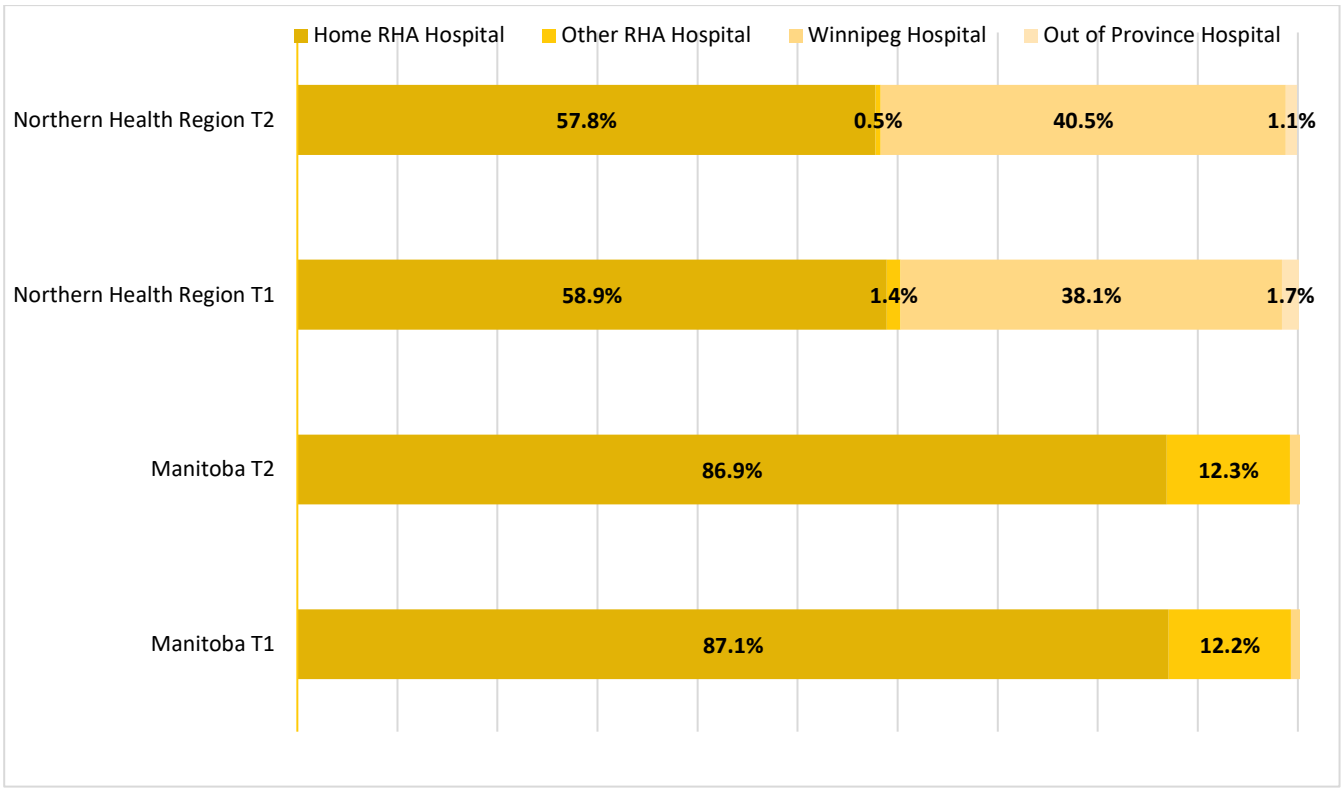
Why is this indicator important?

Understanding where residents were hospitalized and the proportion of residents who travel to receive appropriate healthcare services is important for healthcare resource planning to meet resident needs and address barriers to care.

Provincial Key Findings

- In every health region, the majority of hospitalizations of their residents occurred either in their home region or in Winnipeg, and this has remained stable over time.

Figure 17 Hospital Location: Where Residents were Hospitalized by RHA, 2011/12(T1) and 2016/17(T2)



Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- In 2016/17 residents from the NHR used their home NHR hospital 57.8% of the time and the Winnipeg Regional Health Authority hospitals 40.5% of the time.
- The number of NHR residents using their home NHR hospitals is lower than the Manitoba average (86.9%) of residents using their home hospitals.

Hospital Days for Alternate Level of Care Stays

Definition

The number of days of hospital care provided to patients (excluding newborns or including newborns) who were designated as alternate level of care (ALC), per 1,000 population, for a one-year time period. A patient may be designated as ALC if they occupy an acute care hospital bed but no longer require the intensity of resources and services provided in an acute care setting.

Why is this indicator important?

Reducing the number of ALC hospital days helps to ensure patients are cared for in the most appropriate setting and that hospital resources are used more efficiently, resulting in substantial cost savings for the healthcare system.

Provincial Key Findings

Excluding Newborns

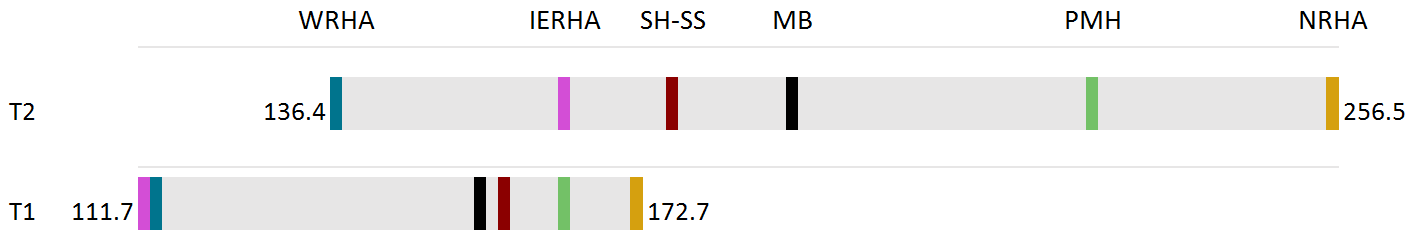
- The rate of hospital days for alternate levels of care (excluding newborns) was 191.7 days per 1,000 Manitoban residents in 2016/17.
- The rate increased over time from 153.4 to 191.7 days per 1,000 residents but the increase was not statistically significant. This trend has been observed across all regions.

Including Newborns

- The rate of hospital days for alternate levels of care (including newborns) was 192.4 days per 1,000 residents in 2016/17.
- The rate increased over time from 153.4 to 192.4 days per 1,000 residents but the increase was not statistically significant. This trend has been observed across all regions.

Figure 18 Hospital Days for ALC Stays (Excluding Newborns) by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted per 1,000 residents (all ages)



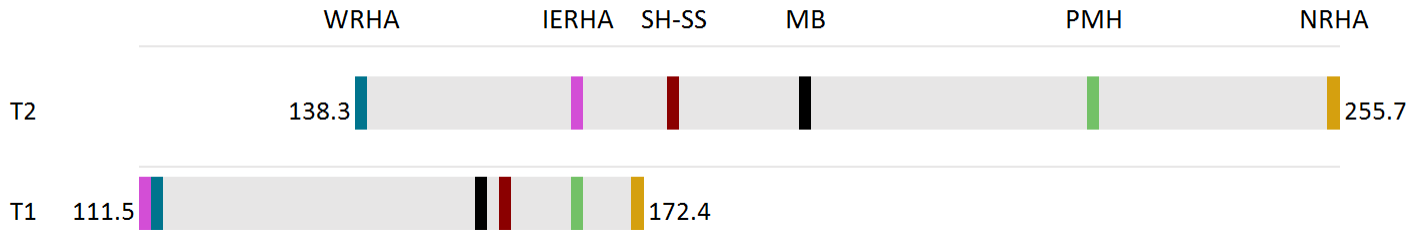
H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		IERHA		SH-SS		MB		PMH		NHR	
T2 COUNT	73,640		31,748		45,593		243,007		56,826		6,878	
T2 RATE	136.4		164.6		176.3		191.7		227.5		256.5	
T1 RATE	113.4		111.7		157.3		153.4		164.6		172.7	

Source: MCHP RHA Indicators Atlas 2019

Figure 19 Hospital Days for ALC Stays (Including Newborns) by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted per 1,000 residents (all ages)



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		IERHA		SH-SS		MB		PMH		NHR	
T2 COUNT	73,647		31,746		45,595		242,999		56,824		6,876	
T2 RATE	138.3		164.1		176.8		192.4		227.2		255.7	
T1 RATE	113.8		111.5		156.8		153.4		164.2		172.4	

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

Excluding Newborns

- The NHR rate of hospital days for alternate levels of care days (excluding newborns) increased over time from 172.7 to 256.5 days per 1,000 residents from 2011/12 to 2016/17, but the increase was not statistically significant.
- Zone two had the highest rate at 310.0 days per 1,000 residents, followed by zone three at 262.0 days per 1,000 residents and zone one's rate was 188.5 days per 1,000 residents in 2016/17.
- The district disparity shows huge variation in the NHR's rate of hospital days for alternate levels of care (excluding newborns) with Gillam and Fox Lake Cree Nation having the fewest to Churchill/Sayisi Dene (Tadoule Lake) First Nation, Barren Lands (Brochet) First Nation, Brochet and Northlands (Lac Brochet) First Nation being 54.8 times higher. The disparity increased 37.9 times over the two time periods.

Including Newborns

- The NHR rate of hospital days for alternate levels of care (including newborns) increased over time from 172.4 to 255.7 days per 1,000 residents from 2011/12 to 2016/17, but the increase was not statistically significant.
- The NHR rates and the zone rates of hospital days for alternate levels of care including newborns compared to the alternative levels of care excluding newborns rate was very similar across both time periods.
- The district disparity for the NHR's rate of hospital days for alternate levels of care including newborns is also very similar to the one excluding newborns.

Table 14 Hospital Days for Alternate Level of Care Stays (Excluding Newborns) by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted per 1,000 residents (all ages)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**243,007**	**191.7**		**153.4**		**Northern Health Region**	**6,878**	**256.5**		**172.7**	
Zone 1	**5,758**	**188.5**		**136.0**		**Zone 2**	**845**	**310.0**		**210.2**	
Gillam Fox	10	37.8		66.6		Sham, YorkFN, TatCN(SPL)	51	91.6		67.4	
The Pas/OCN, Kels	49	38.0		65.7		Cross Lake/Cross Lake FN	27	99.7		228.5	
Flin, Snow, Cran, Sher	1,400	157.7		58.8		GR/MisCN, ML/MosCN, Eas/CheCN	179	188.9		84.5	
Thick, Pik, Wab, Ilf/WLFN, Corm	34	171.3		190.2		Nelson House/NCN	30	197.4		304.3	
Thompson, Myst Lake	1,369	246.9		156.9		Norway House/NH CN	120	353.7		315.4	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	2,896	1427.1	H	934.9		Puk/Mat Col CN	39	446.3		208.4	
						Bu(OH)CN, MS(GR)CN, GLN/GLFN	231	960.1	+	102.5	
						SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	168	2073.0	H	992.7	
						Zone 3	**275**	**262.0**		**271.9**	
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	275	245.0		264.2	

NHR District Disparity Ratio

T1 Disparity	***16.9***
T2 Disparity	***54.8***
Change	***37.9↑***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Table 15 Hospital Days for Alternate Level of Care Stays (Including Newborns) by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted per 1,000 residents (all ages)

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**242,999**	**192.4**		**153.4**		**Northern Health Region**	**6,876**	**255.7**		**172.4**	
Zone 1	**5,758**	**188.8**		**135.9**		**Zone 2**	**843**	**308.0**		**210.5**	
Gillam Fox	10	37.7		66.4		Sham, YorkFN, TatCN(SPL)	51	91.4		67.4	
The Pas/OCN, Kels	49	37.9		65.6		Cross Lake/Cross Lake FN	27	99.6		227.9	
Flin, Snow, Cran, Sher	1,400	157.4		58.6		GR/MisCN, ML/MosCN, Eas/CheCN	179	188.5		84.5	
Thick, Pik, Wab, Ilf/WLFN, Corm	34	171.1		190.4		Nelson House/NCN	30	197.7		304.1	
Thompson, Myst Lake	1,369	246.3		156.6		Norway House/NH CN	119	350.0		315.0	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	2,896	1418.6	H	928.4		Puk/Mat Col CN	39	447.2		208.7	
						Bu(OH)CN, MS(GR)CN, GLN/GLFN	230	956.2	+	102.6	
						SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	168	2074.6	H	988.4	
						Zone 3	**275**	**260.5**		**271.3**	
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	275	245.0		263.8	

NHR District Disparity Ratio

T1 Disparity	***16.9***
T2 Disparity	***55.0***
Change	***38.1↑***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Hospital Catchment: Where Patients Using Regional Health Authority Hospitals Came From

Definition

The percent of all hospitalizations by residents of each health region within the resident's home health region, another health region, Winnipeg, or out-of-province, for a one-year time period.

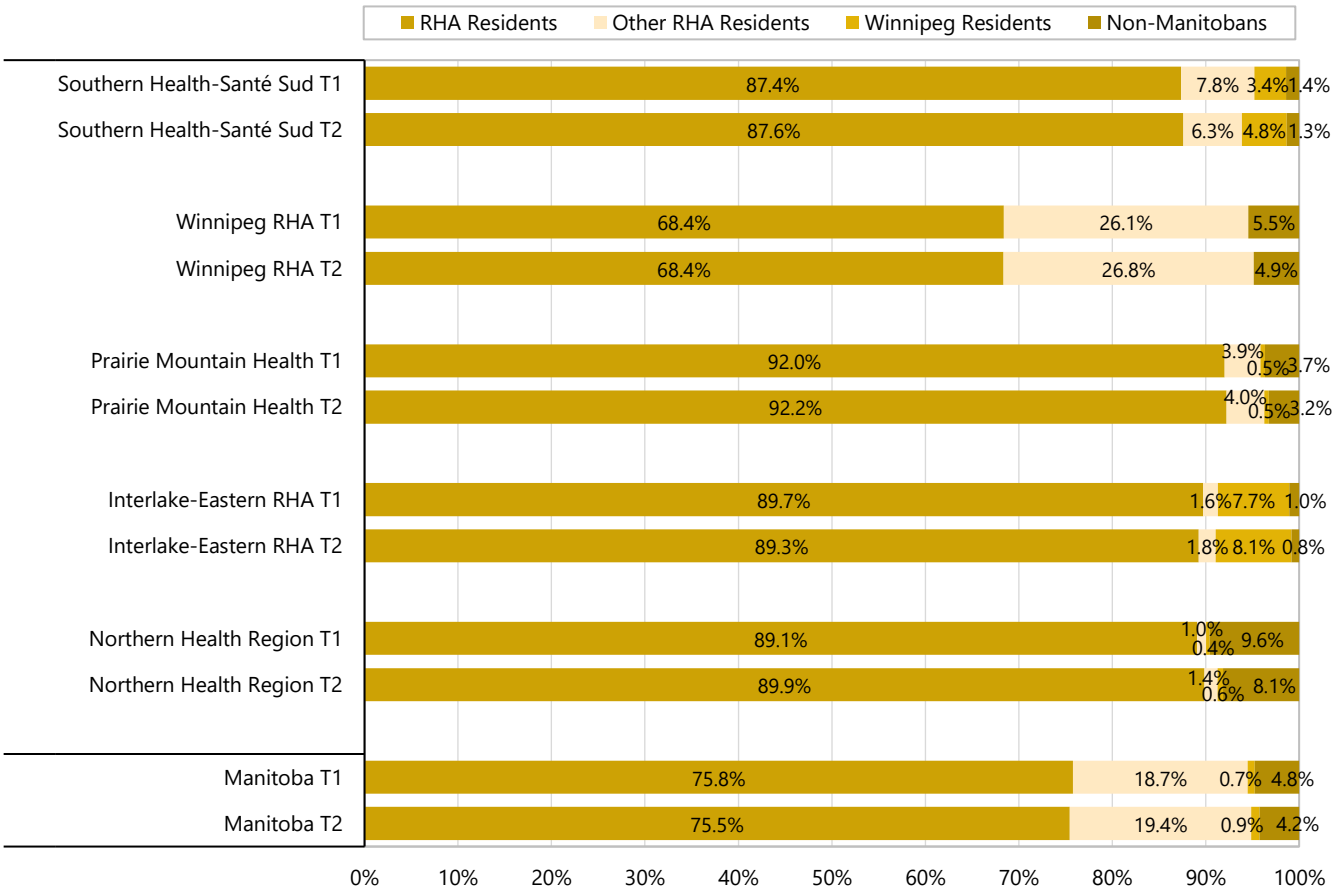
Why is this indicator important?

Where residents are hospitalized provides valuable insight into the availability and accessibility of acute care services, which helps to plan and allocate resources appropriately.

Provincial Key Findings

- In every health region, the majority of hospital patients were residents of that region. These findings have remained stable over time.
- Manitoba hospitals also provide some care to non–Manitobans, even though the percent of all days of care in the hospitals was only 2.9% in 2016/17.
- In 2016/17, 89.1% of all patients in NHR hospitals were NHR residents, 1.0% were other health region residents, 0.4% were Winnipeg residents and 9.6% were non-Manitobans.

Figure 20 Where Patients using Regional Health Authority Hospitals Came From 2011/12 (T1) and 2016/17 (T2)



Source: MCHP RHA Indicators Atlas 2019

Hospital Readmission Rates

Definition

Unplanned inpatient readmissions to an acute care facility (the same or different hospital) within 30 days, following discharge, for a one-year time period.

Why is this indicator important?

Hospital readmission is a nationally used indicator of overall health system performance. Although readmission may involve factors outside the direct control of the hospital, high rates of readmission act as a signal to review practices, including discharge planning and continuity of services after discharge. Reducing hospital readmissions is a recognized strategy to improve patient outcomes and reduce healthcare costs.

Provincial Key Findings

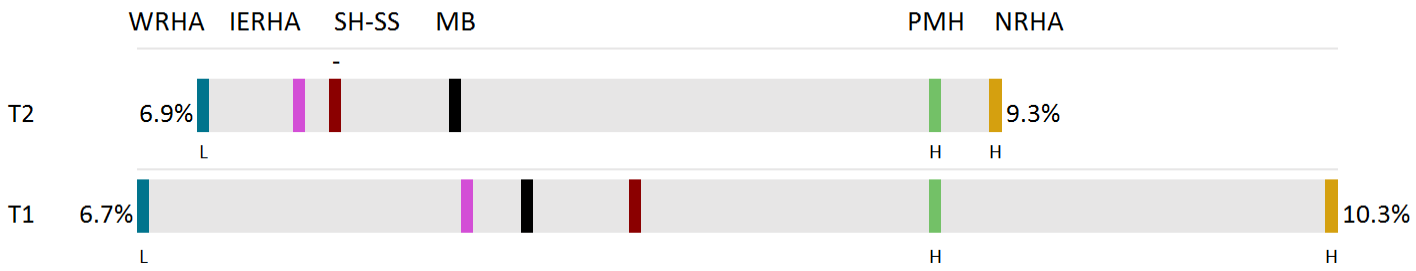
- There were 8,642 hospital readmissions among Manitoba residents in 2016/17. Overall, hospitalization readmissions within 30 days slightly decreased in Manitoba over time from 7.9% to 7.7%
- The readmission hospitalization rate significantly decreased in Southern Health-Santé Sud RHA.
- WRHA residents had significantly lower rates; while Prairie Mountain and Northern residents had significantly higher rates than the provincial average in both time periods.
- Income: The lowest income residents had 1.4 times more inpatient readmissions to an acute care facility compared to the highest income residents.

Rural Quintiles

T2	***1.4***

Figure 21 Hospital Readmission by RHA, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of hospital episodes with a readmission within 30 days of discharge



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		IERHA		SH-SS		MB		PMH		NHR	
T2 COUNT	3,865		861		1,225		8,642		1,877		806	
T2 RATE	6.9%	L	7.2%		7.3%	-	7.7%		9.1%	H	9.3%	H
T1 RATE	6.7%	L	7.7%		8.2%		7.9%		9.1%	H	10.3%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- In 2016/17 there were 806 hospital readmissions among NHR residents. Hospitalization readmissions (within 30 days) slightly decreased in the NHR over time from 10.3% to 9.3% from 2011/12 to 2016/17. These rates are significantly higher than the Manitoba average.
- The highest rates were in zone three (10.8%), followed by zone two (9.0%), then zone one (8.9%) in 2016/17.
- There were a range of hospital readmission rates in the NHR districts from 4.3% in Thicket Portage, Pikwitonei, Wabowden, Ilford, War Lake First Nation and Cormorant to 13.2% in Gillam and Fox Lake.
- Gillam and Fox Lake Cree Nation residents experienced hospital readmissions at a rate that is 3.1 times higher than residents living in Thicket Portage, Pikwitonei, Wabowden, Ilford, War Lake First Nation and Cormorant. This disparity increased at a rate of 0.9 times over time.

Table 16 Hospital Readmission by NHR Zone and District, 2011/12 (T1) and 2016/17 (T2)

Age and sex adjusted percent of hospital episodes with a readmission within 30 days of discharge

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**8,642**	**7.7**		**7.9**		**Northern Health Region**	**806**	**9.3**	**H**	**10.3**	**H**
Zone 1	**346**	**8.9**		**10.3**	**H**	**Zone 2**	**301**	**9.0**		**10.6**	**H**
Thick, Pik, Wab, Ilf/WLFN, Corm	6	4.3		10.2		Nelson House/NCN	25	7.6		9.3	
The Pas/OCN, Kels	103	8.2	-	10.9	H	Norway House/NH CN	38	7.9		7.2	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	28	8.8		7.7		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	16	8.4		9.1	
Thompson, Myst Lake	115	9.0		10.3		Sham, YorkFN, TatCN(SPL)	39	8.6		11.4	
Flin, Snow, Cran, Sher	76	9.8		8.8		Cross Lake/Cross Lake FN	51	9.1		10.9	
Gillam Fox	18	13.2		15.6	H	GR/MisCN, ML/MosCN, Eas/CheCN	46	9.9		12.3	H
						Bu(OH)CN, MS(GR)CN, GLN/GLFN	60	10.4		10.8	
						Puk/Mat Col CN	26	11.8		10.9	
						Zone 3	**159**	**10.8**	**H**	**8.4**	
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	159	11.0	H	8.6	

NHR District Disparity Ratio

T1 Disparity	***2.2***
T2 Disparity	***3.1***
Change	***0.9↑***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Caesarean Section

Definition

The total number of caesarean section (C-section) deliveries for in hospital births among female residents divided by the total number of deliveries times 100 for a two year time period.

Why is this indicator important?

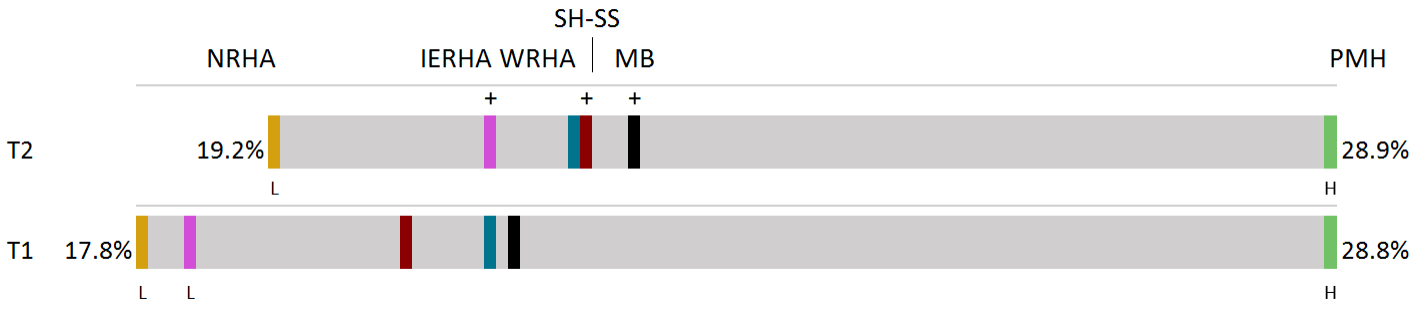
C-sections are associated with a greater risk of maternal morbidity, negative maternal and infant health outcomes and higher costs to the health care system. C-sections are often used to monitor clinical practices, with an implicit assumption that lower rates indicate more appropriate and efficient care.

Provincial Key Findings

- There were a total of 7,446 caesarean sections among Manitoba females in 2015/16-2016/17.
- Overall, the rate of C-sections significantly increased over time, from 21.4% to 22.5%.
- Rates also significantly increased in Southern Health-Santé Sud and Interlake-Eastern RHAs.
- Age: The proportion of C-sections for women 40 years of age and older was generally higher than all other age groups.

Figure 22 Caesarean Section Rate by RHA, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Maternal age adjusted average annual percent of singleton in-hospital births



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	NHR		IERHA		WRHA		SH-SS		MB		PMH	
T2 COUNT	584		586		3,813		1,276		7,446		1,183	
T2 RATE	19.2%	L	21.2%	+	21.9%		22.1%	+	22.5%	+	28.9%	H
T1 RATE	17.8%	L	18.4%	L	21.1%		20.4%		21.4%		28.8%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- Overall, the rate of cesarean sections in the NHR was significantly lower than the Manitoba average in both time periods. It did increase from 17.8% to 19.2% over time overall in the NHR.
- Zone two had the lowest rate followed by zone three and zone one.

- In the NHR in 2015/16-2016/17 584 females had a caesarean section; zone one women had 268 cesarean sections, zone two women had 231 cesarean sections and zone three women had 85 cesarean sections.
- A district disparity exists in the caesarean rate with residents in Bunibonibee (Oxford House) Cree Nation, Manto Sipi (God's River) Creen Nation, God's Lake First Nation, God's Lake Narrows and Oxford House having caesarean sections 2.8 times less than residents in Thicket Portage, Pikwitonei, Wabowden, Ilford, War Lake First Nation and Cormorant and the good news is the disparity decreased at a rate of 0.7 times over time.

Table 17 Caesarean Section Rate by NHR Zone and District, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Maternal age adjusted average annual percent of singleton in-hospital births

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**7,446**	**22.5%**	**+**	**21.4%**		**Northern Health Region**	**584**	**19.2%**	**L**	**17.8%**	**L**
Zone 1	**268**	**22.2%**		**21.8%**		**Zone 2**	**231**	**16.2%**	**L**	**13.6%**	**L**
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	21	16.3%		22.4%		Bu(OH)CN, MS(GR)CN, GLN/GLFN	25	11.6%	L	9.8%	L
The Pas/OCN, Kels	67	19.7%		22.4%		GR/MisCN, ML/MosCN, Eas/CheCN	28	13.2%	L	16.5%	
Flin, Snow, Cran, Sher	31	20.6%	-	33.9%	H	Norway House/NH CN	36	13.6%	L	10.9%	L
Thompson, Myst Lake	121	23.8%		18.1%		Puk/Mat Col CN	15	14.6%		14.8%	
Gillam Fox	13	30.3%		20.7%		Cross Lake/Cross Lake FN	40	15.1%		14.6%	
Thick, Pik, Wab, Ilf/WLFN, Corm	15	32.8%		16.3%		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	12	17.3%		s	
						Nelson House/NCN	27	18.4%		15.5%	
						Sham, YorkFN, TatCN(SPL)	48	26.6%	+	13.9%	
						Zone 3	**85**	**19.8%**		**19.5%**	
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	85	19.3%		18.8%	

NHR District Disparity Ratio

T1 Disparity	***3.5***
T2 Disparity	***2.8***
Change	***-0.7↓***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Vaginal Birth after Caesarean Section (VBAC)

Definition

The percent of female residents aged 15 to 54 giving birth vaginally, in a five-year period, who had previously had at least one delivery by caesarean section.

Why is this indicator important?

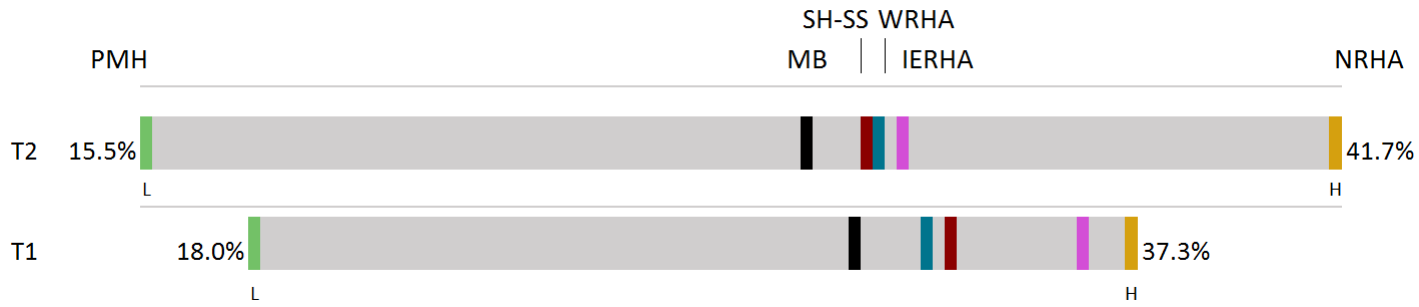
Vaginal birth is a safe option for many women who previously had a C-section and is preferred because there is less risk to the mother and a shorter recovery time. Clinical practice guidelines recommend women who had a previous C-section be offered the opportunity to deliver vaginally following discussion about maternal and perinatal risks and benefits with their healthcare provider.

Provincial Key Findings

- There was an average of 2,847 VBACs per year among Manitoba females age 15-54 years in 2012/13-2016/17.
- Overall, the rate of VBAC decreased slightly over time, but not significantly, from 31.2% to 30.2%. Most regions had decreasing rates, though NHR experienced an increase over time; none of the changes were statistically significant.
- The majority of women who had a VBAC were between the ages 25 to 34 years.

Figure 23 Vaginal Birth after Prior Caesarean Section by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Maternal age adjusted percent of births among females with previous Caesarean section



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	PMH		MB		SH-SS		WRHA		IERHA		NHR	
T2 COUNT	230		2,847		549		1,450		232		384	
T2 RATE	15.5%	L	30.2%		31.5%		31.7%		32.4%		41.7%	H
T1 RATE	18.0%	L	31.2%		33.2%		32.7%		36.3%		37.3%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- In the NHR there were 384 VBACs per year among females age 15-54 years in 2012/13-2016/17.

- The percent of VBACs in the NHR were significantly higher than the Manitoba average and VBACs increased from 37.3% in 2007/08-2011/12 to 41.7% in 2012/13-2016/17.
- Zone three at 53.5% followed by zone two at 42.1% had the highest percent of VBACs in the NHR.
- There are disparities in the vaginal birth rates after prior caesarean section, but the good news is the disparity went down at a rate of two times over the two time periods.

Table 18 Vaginal Birth after Prior Caesarean Section by RHA, 2007/08-2011/12 (T1) and 2012/13-2016/17 (T2)

Maternal age adjusted percent of births among females with previous caesarean section

	T2			T1			T2			T1	
	Count	Rate		Rate			Count	Rate		Rate	
Manitoba	**2,847**	**30.2%**		**31.2%**		**Northern Health Region**	**384**	**41.7%**	**H**	**37.3%**	**H**
Zone 1	**139**	**37.3%**	**+**	**28.6%**		**Zone 2**	**156**	**42.1%**	**H**	**43.3%**	**H**
Thick, Pik, Wab, Ilf/WLFN, Corm	s	s		47.7%		SayD(TL)FN, Bro/BLFN, NoL(Lac)FN	s	s		s	
Gillam Fox	10	50.5%		32.1%		Bu(OH)CN, MS(GR)CN, GLN/GLFN	23	50.9%		55.2%	
The Pas/OCN, Kels	51	44.2%	+	28.1%		GR/MisCN, ML/MosCN, Eas/CheCN	25	46.2%		35.7%	
LL/MCFN, LR, O-P(SIL)CN,PN(GVL)	11	36.5%		30.6%		Cross Lake/Cross Lake FN	32	45.8%		41.0%	
Thompson, Myst Lake	51	34.1%		32.5%		Sham, YorkFN, TatCN(SPL)	24	40.5%		45.0%	
Flin, Snow, Cran, Sher	11	23.7%		12.8%		Norway House/NH CN	27	38.6%		50.1%	
						Puk/Mat Col CN	12	38.3%		31.9%	
						Nelson House/NCN	10	31.6%		34.6%	
						Zone 3	**89**	**53.5%**	**H**	**46.8%**	**H**
						IsL/GHFN, RSL/RSLFN, STPFN, WasFN	89	53.4%	H	46.3%	H

NHR District Disparity Ratio

T1 Disparity	***4.3***
T2 Disparity	***2.3***
Change	***-2.0↓***

Disparity with a value of "0" suggest no inequities exist.

Change over time informs whether or not disparity is widening or narrowing between districts.

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Canadian Patient Experience Survey—Inpatient Care

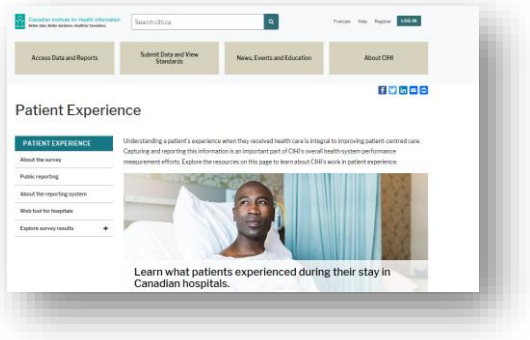
Definition

The percentage of adult patients participating in the Canadian Patient Experience Survey – Inpatient Care (CPES-IC), over a one-year time period, who reported positively about the quality of care they received during a recent hospital stay. It excludes patients admitted for primary mental health diagnosis or from a mental health facility, admitted from correctional facilities, discharged to personal care homes, or selected for the survey in the last 12 months within the same hospital.

Why is this indicator important?

This survey is a partnership between all regional health authorities and the Manitoba government, as part of a larger initiative across Canada that supports comparison of patients' experiences across the country. It supports quality improvement initiatives at all service delivery sites, informs hospital care and supports accreditation processes.

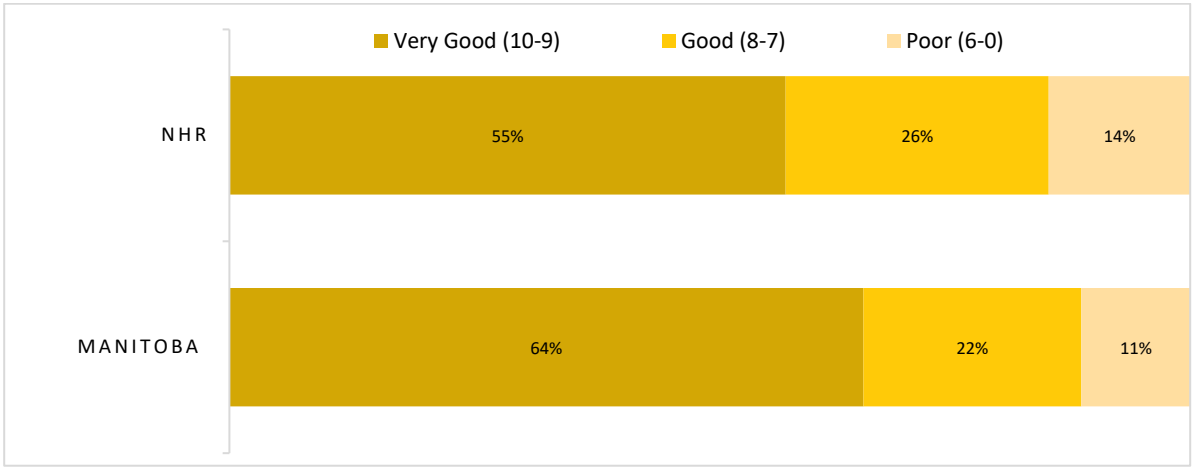
To learn more about the CPES-IC and explore survey results, please visit: https://www.cihi.ca/en/patient-experience



Provincial Key Findings

- In 2017-18 a total of 12,430 individuals across Manitoba responded to the CPES-IC, which represents a 35.4% response rate. NHR received a total of 316 completed surveys, totaling a 14.6% response rate.
- In Manitoba, the overall percentage of respondents who had a "very good" hospital stay was 64%. NHR scored lower at 55%.

Figure 24 Canadian Patient Experience Survey, Overall Hospital Experience, Manitoba and NHR, 2017-2018 (T1)

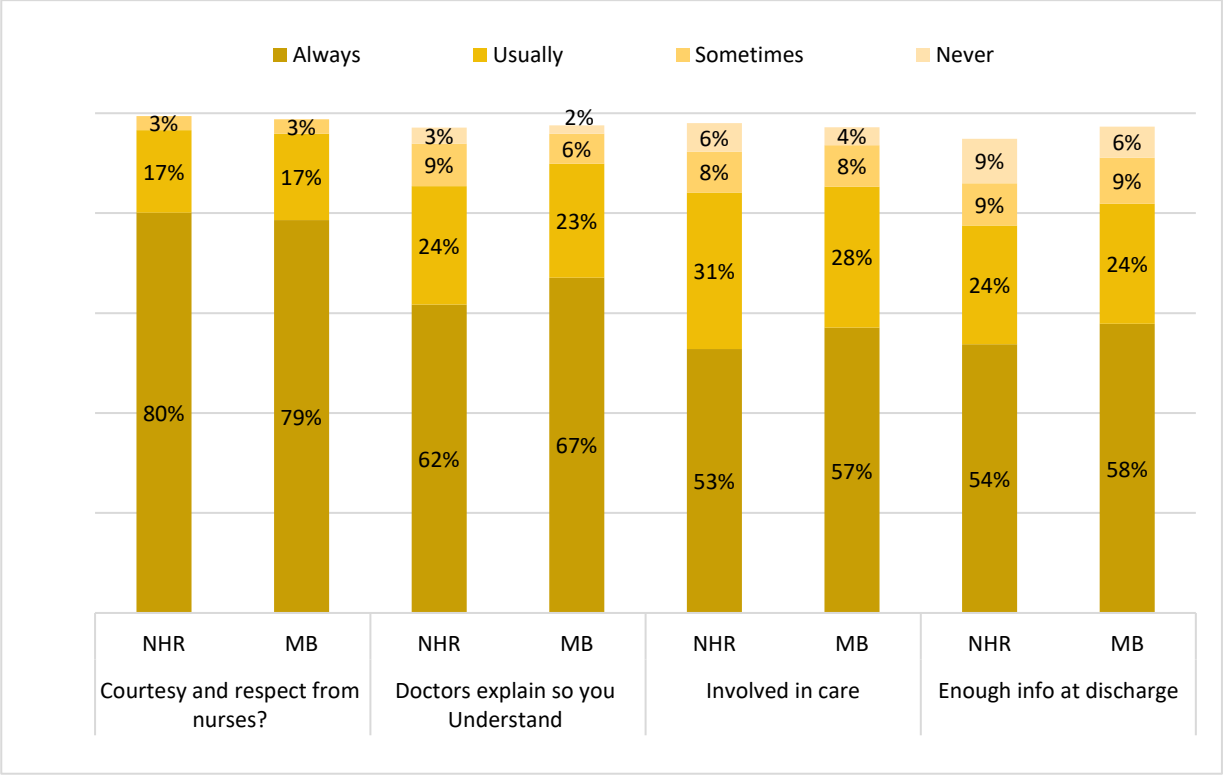


Source: IMA MHSAL 2019

Regional Key Findings

- Findings from four questions in different domains on the Canadian Patient Experience Survey are highlighted below. These domains include: courtesy and respect by nurses, doctors explaining clearly, patient involvement in care decision, and patients receiving enough information about condition at time of discharge.
- In the "always" category for courtesy and respect by nurses the NHR (80%) scored slightly higher than the Manitoba average (79%). In the "usually" category for doctors explaining so you can understand the NHR (24%) scored higher than the Manitoba average (23%). In all of the other categories and domains the NHR scored below the Manitoba rate in "always" and "usually".

Figure 25 Canadian Patient Experience Survey, Inpatient Care by NHR Findings, 2017-2018 (T1)



Source: IMA MHSAL 2019

A CLOSER LOOK…THE PATIENT HANDBOOK

Results of the Canadian Patient Experience Survey highlighted an **opportunity to improve**; client's knowledge about the admission process and what happens during a hospital stay. In response to this, a working group of the NHR Patient Experience Collaborative **consulted with patients** and **health region staff** to develop **a patient information handbook**. It is now provided to all patients being admitted to hospital in the NHR.

The working group surveyed inpatients in each of the three major hospitals to gather their input on what information they received upon admission as well as what they felt they would like to know when being admitted to the hospital. This feedback along with; patient safety information and accreditation required organizational practices, was brought together to create a patient handbook that is given to patients as early in their journey as possible. Patients that are admitted under emergent situations are **given the handbook upon admission** to the unit. The handbook also has a section for patients to write down any questions they may have. The handbook organizes information in one complete package eliminating the need for multiple handouts and pamphlets that can be easily misplaced or lost.

The patient handbook was rolled out regionally in August of 2019. We look forward to continuing to monitor the survey results and hearing back from our patients to ensure they are getting the information they need to foster a positive patient experience.

Home Care and Personal Care Homes

Home Care Prevalence

Definition

The prevalence rates of person years for active clients receiving one or more home care services, by type of service (health care aides/home support worker and nursing services), for a two-year time period.

Why is this indicator important?

Home care use provides insight into services and supports provided (such as personal care, nursing care and home support) to help individuals remain at home and live independently in their community. An aging population, and an increase in those living with chronic conditions, will result in the need for additional home care support services.

Provincial Key Findings

- In 2013/14-2014/15, the overall prevalence of home care use for all ages was 3.3% per year; an estimated 43,157 Manitoban residents received one or more services during a two-year time period.
- Health Care Aid/Home Support Worker: In 2013/14-2014/15, an estimated 29,149 Manitoban residents received health care aide and home support work services, representing a prevalence of 2.2% in the province.
- The prevalence of receiving services from HCA and HSW was higher among residents who were females and aged 85 years and older.
- Nursing: In 2013/14-2014/15, an estimated 23,442 Manitoban residents received home care for nursing services, representing a prevalence of 1.8% in the province.
- The prevalence of receiving nursing services was higher among residents aged 65 to 74 years for both males and females.

Table 19 Overall Home Care Prevalence 2013/14-2014/15

	Count	Crude (%)	
Manitoba	**43,157**	**3.3%**	
NHR	**1,304**	**1.7%**	**L**
IERHA	4,326	3.5%	
SH-SS	5,276	2.8%	L
WRHA	26,769	3.6%	H
PMH	5,482	3.3%	

H/L Significantly higher or lower than the MB average for that time period

Source: MCHP RHA Indicators Atlas 2019

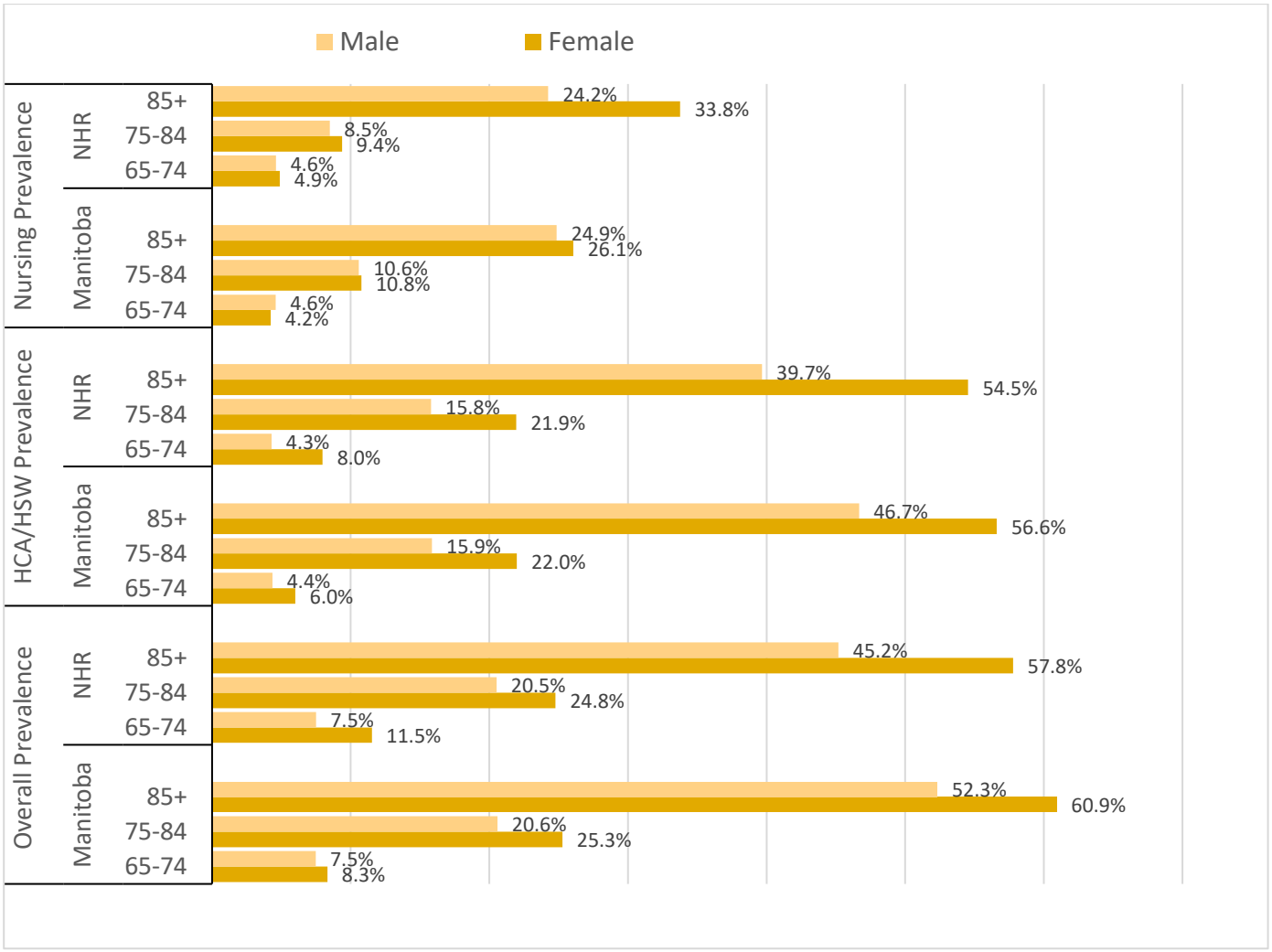
Regional Key Findings

- In 2013/14-2014/15, the prevalence of home care use in the NHR for all ages was 1.7% per year; with an estimated 1,304 NHR residents who received one or more services.
- Health Care Aide/Home Support Worker: In 2013/14-2014/15, an estimated 510 NHR residents received health care aid and home support work services.
- Zone one had the highest prevalence for HCA/HSW services for residents.

-

- Similarly to Manitoba, the prevalence of receiving services from HCA and HSW was higher among NHR residents who were females and aged 85 years and older.
- Nursing: In 2013/14-2014/15, an estimated 315 NHR residents received home care for nursing services.
- Zone one and three had the highest prevalence for Nursing.
- The prevalence of receiving nursing services was highest among NHR residents aged 85 plus years for females and for males.

Figure 26 Home Care Prevalence by NHR, 2013/14-2014/15



Source: MCHP RHA Indicators Atlas 2019

A CLOSER LOOK… PRIMARY CARE IN LONG TERM CARE AND HOME CARE

This initiative established a **Nurse Practitioner** who was part of the Primary Care Program to provide services within the **Long Term Care** and **Home Care** program in Flin Flon. This service allowed same day access to primary care, as well as comprehensive clinical assessments, medication reviews, an home visits. This has resulted in a high level of engagement with patients and families. The patients received care from a dedicated Nurse Practitioner in their personal care home in their place of residence or in a dedicated space within the Home Care office. Truly an example of **right care, right place** and **right provider**.

One client expressed how thankful her and her family were to have the nurse practitioner visit her home regularly. She said she was no longer able to walk up and down the flight of stairs in her home and it was very difficult to get in and out of the car; these home visits enabled her to continue to live in her own home in the community instead of having to live in a personal care home.

Residents in Personal Care Homes

Definition

The percent of residents 75 years and older who live in a personal care home, for a one-year time period.

Why is this indicator important?

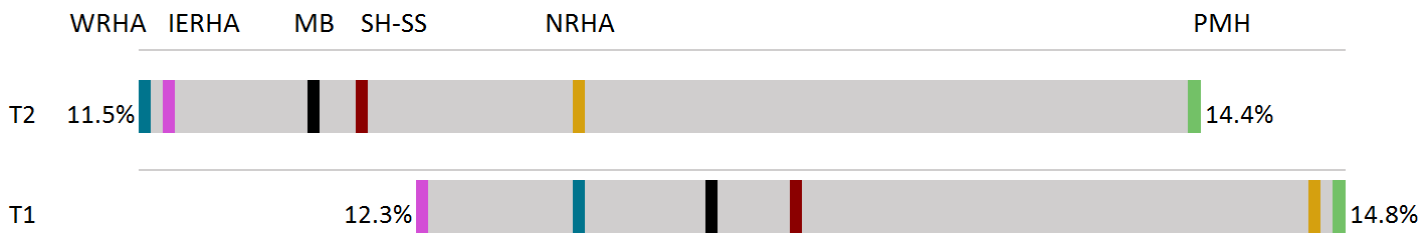
As the population continues to age, it is important to monitor the proportion of residents living in personal care homes to anticipate increasing healthcare resource requirements.

Provincial Key Findings

- In 2015/16-2016/17, there were 21,719 Manitoba residents aged 75 years and older lived in personal care homes.
- Overall, the percent of residents aged 75 years and older and living in a personal care home in Manitoba decreased from 13.1% to 12.0% over time, but this decrease did not reach statistical significance. Decreases were seen in all health regions.

Figure 27 Residents in Personal Care Homes by RHA, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted average annual percent of residents 75+ living in a personal care home



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		IERHA		MB		SH-SS		NHR		PMH	
T2 COUNT	12,663		1,705		21,719		2,584		310		4,457	
T2 RATE	11.5%		11.6%		12.0%		12.1%		12.7%		14.4%	
T1 RATE	12.7%		12.3%		13.1%		13.3%		14.7%		14.8%	

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- The NHR had 310 residents aged 75 years and older living in personal care homes.
- The rate of residents aged 75 years or older living in personal care homes decreased from 14.7% in 2010/11-2011/12 to 12.7% in 2015/16-2016/17.
- Zone one (13.0%) had a higher percent of residents 75 years and older living in personal care homes compared to zone two (10.2%). Zone three's data was suppressed.

Table 20 Residents in Personal Care Homes by NHR Zone, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted average annual percent of residents 75+ living in a personal care home

	T2			T1	
	Count	Rate		Rate	
Manitoba	**21,719**	**12.0**		**13.1**	
Northern Health Region	**310**	**12.7**		**14.7**	
Zone 1	249	13.0	-	16.9	H
Zone 2	61	10.2		10.8	
Zone 3	s	s		s	

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Level of Care on Admission to Personal Care Homes

Definition

The percent of residents aged 75 and older admitted to a personal care home at each level of care, for a two-year time period.

Why is this indicator important?

Understanding levels of care upon admission provides an indication of accessibility and affordability of alternate housing options and community based support for seniors requiring minimal care, and the resources required to meet more intensive care needs, across the continuum of care.

Provincial Key Findings

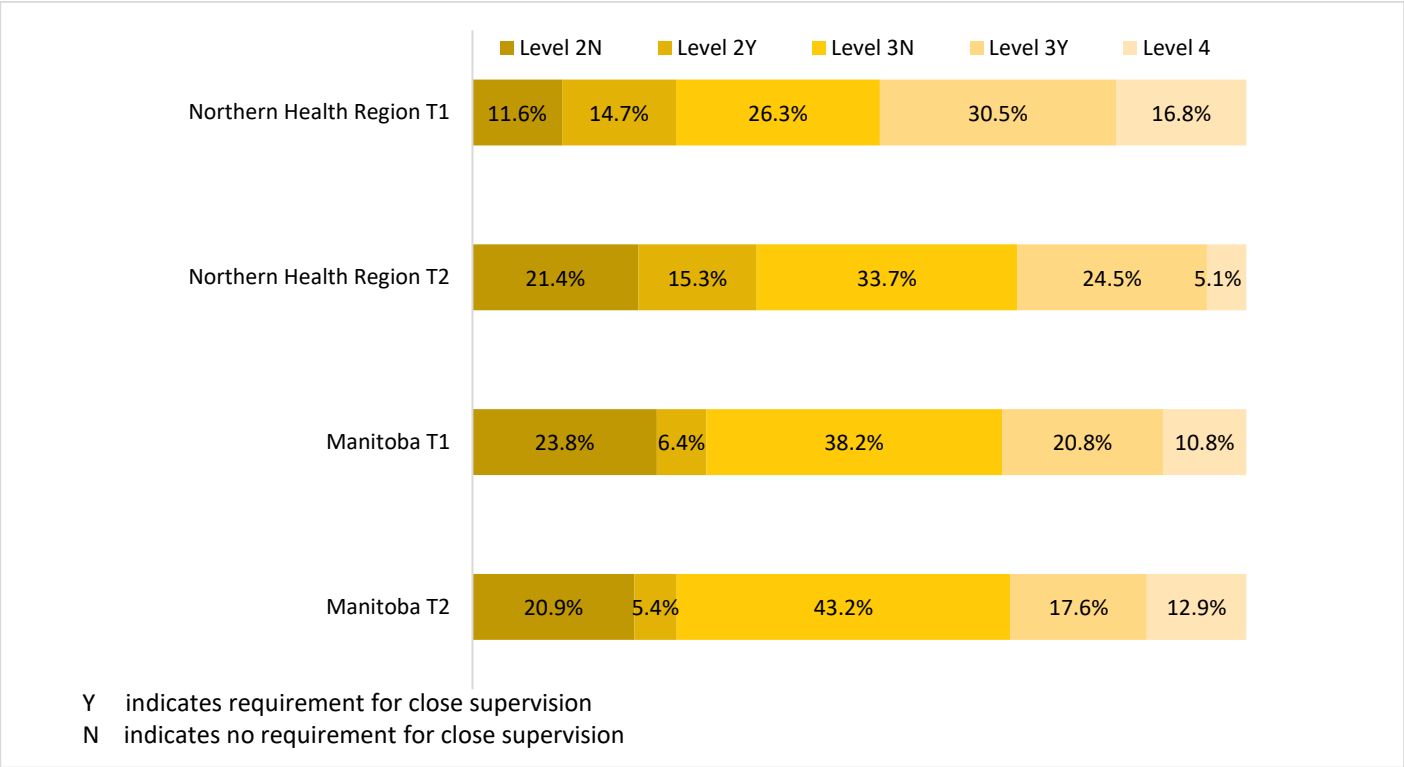
- Overall, the proportion of personal care home residents requiring high levels of care increased. In 2015/16-2016/17, no residents were admitted for level 1 (the lowest level of care)
    - There was a reduction in level 2 admissions and an increase in level 3 and 4 admissions from 2010/11-2011/12 to 2015/16-2016/17.
    - The proportion of level 2N care decreased from 23.8% to 20.9%.
    - The proportion of Level 2Y care decreased from 6.39% to 5.43%
    - The proportion of level 3N care increased from 38.2% to 43.2%.
    - The proportion of level 3Y care decreased from 20.8% to 17.6%.
    - The proportion of residents admitted for level 4 (the highest) care increased from 10.8% to 12.9%.

Regional Key Findings

- Generally, in the NHR, the proportion of personal care home residents requiring high levels of care on admission decreased. There was an increase level two admissions, a small increase in level three admissions and a large decrease in level four admissions from 2010/11-2011/12 to 2015/16-2016/17.
    - In the NHR the proportion of level 2N care increased from 11.6% to 21.4%.
    - In the NHR the proportion of Level 2Y care remained relatively stable at 14.7% to 15.3%
    - In the NHR the proportion of level 3N care increased from 26.3% to 33.7%.
    - In the NHR the proportion of level 3Y care decreased from 30.5% to 24.5%.
    - The proportion of residents admitted for level 4 (the highest) care decreased from 16.8% to 5.1%.

Figure 28 Level of Care on Admission to Personal Care Homes, NHR Zones, 2015/16-2016/17 (T2) and 2010/11-2011/12 (T1)

Percent of residents aged 75 and older



Source: MCHP RHA Indicators Atlas 2019

Median Wait Times for Personal Care Home Admission

Definition

The median length of time (in weeks) from initial assessment to admission to personal care home among residents, aged 75 and older, for a two-year time period.

Why is this indicator important?

Admission to personal care home is largely driven by the demand for personal care home beds, personal preference of facility and the ability of the healthcare system to prepare rooms in a timely fashion. Paneled individuals often wait in a hospital or require extensive home care services and other supports in the community. Reducing the median wait for admission to personal care home helps to ensure residents are cared for in the most appropriate setting and that resources are used more efficiently.

Provincial Key Findings

Median Wait Times for Personal Care Home Admission from Hospital

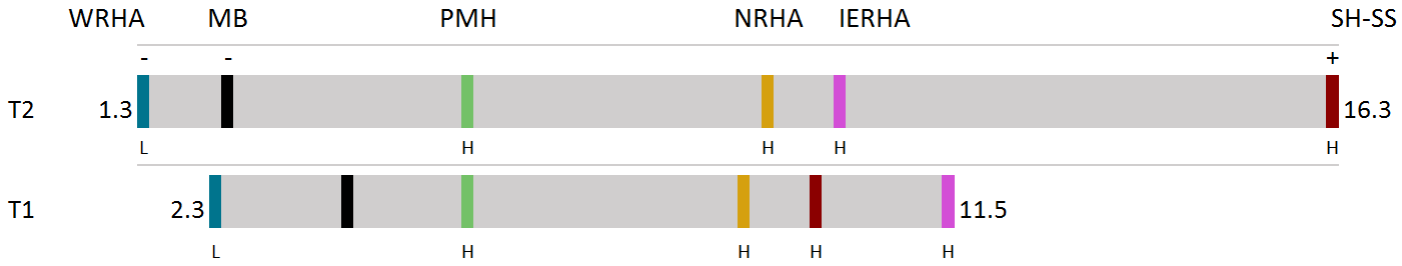
- In 2015/16-2016/17, there were 2,717 Manitoba residents admitted to personal care homes from hospital. The median wait times for personal care home admission was 2.53 weeks.
- There was a significant decrease in median wait times for personal care home admission from hospital in Manitoba, from 4.0 to 2.5 weeks. However, changes varied by health region: Southern Health-Santé Sud had a significant increase, Winnipeg RHA had a significant decrease, and the other health regions did not change significantly.

Median Wait Times for Personal Care Home Admission from Community

- In 2015/16-2016/17, there were 2,403 Manitoba residents admitted to personal care homes from the community. The median wait time for personal care home admission was 8.1 weeks.
- Overall, median wait times for personal care home admission from the community did not significantly change over time. However, changes varied by health region: wait times increased significantly in NHR, Interlake-Eastern RHA wait times decreased significantly, while the other health regions did not experience significant change.

Figure 29 Median Waiting Times for Personal Care Home Admission from Hospital by RHA, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted median number of weeks from assessment to admission by residence prior to admission per 1,000 residents 75+



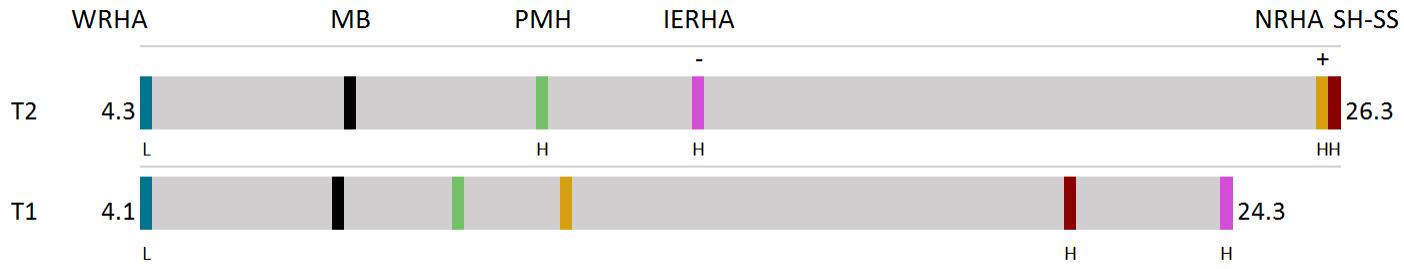
H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		MB		PMH		NHR		IERHA		SH-SS	
T2 COUNT	1,510		2,717		609		45		216		327	
T2 RATE	1.3	L-	2.5	-	5.5	H	9.3	H	10.1	H	16.3	H+
T1 RATE	2.3	L	4.0		5.5	H	8.9	H	11.5	H	9.9	H

Source: MCHP RHA Indicators Atlas 2019

Figure 30 Median Waiting Times for Personal Care Home Admission from the Community by RHA, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted median number of weeks from assessment to admission by residence prior to admission per 1,000 residents 75+



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		MB		PMH		IERHA		NHR		SH-SS	
T2 COUNT	1,423		2,403		388		226		53		301	
T2 RATE	4.3	L	8.1		11.5	H	14.5	H-	26.0	H+	26.3	H
T1 RATE	4.1	L	7.8		10.0		24.3	H	12.1		21.4	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

Median Wait Times for Personal Care Home Admission from Hospital

- In 2015/16-2016/17, there were 45 NHR residents admitted to personal care homes from hospital. The median wait times for personal care home admission was 9.3 weeks. This was significantly higher than the Manitoba average.
- There was an increase in median wait time from 8.9 weeks in 2010/11-2011/12 to 9.3 weeks in 2015/16-2016/17.

Median Wait Times for Personal Care Home Admission from Community

- In 2015/16-2016/17, there were 53 NHR residents admitted to personal care homes from the community. The median wait time for personal care home admission was 26 weeks.
- The median wait times for admission to personal care home from community increased significantly in NHR from 12.1 weeks in 2010/11-2011/12 to 26 weeks in 2015/16-2016/17.
- Zone one had a median wait time for admission to personal care home from hospital of 9.3 weeks in 2015/16-2016/17.
- Zone one had a median wait time for admission to a personal care home from community of 26.4 weeks and zone two had a median wait time of 7.9 weeks in 2015/16-2016/17.

Table 21 Median Waiting Times for Personal Care Home Admission from Hospital by NHR Zone, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted median number of weeks from assessment to admission by residence prior to admission per 1,000 residents 75+

	T2			T1	
	Count	Median (Weeks)		Weeks	
Manitoba	**2,717**	**2.5**	**-**	**4.0**	
Northern Health Region	**45**	**9.3**	**H**	**8.9**	**H**
Zone 1	40	10.0		8.9	
Zone 2	s	s		s	
Zone 3	s	s		s	

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Table 22 Median Waiting Times for Personal Care Home Admission from the Community by NHR Zone, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age and sex adjusted median number of weeks from assessment to admission by residence prior to admission per 1,000 residents 75+

	T2			T1	
	Count	Weeks		Weeks	
Manitoba	**2,403**	**8.1**		**7.8**	
Northern Health Region	**53**	**26.0**	**H+**	**12.1**	
Zone 1	45	26.4	H	15.2	
Zone 2	8	7.9	H	0.7	
Zone 3	s	s		s	

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

Benzodiazepine Overprescribing in Personal Care Homes (75+)

Definition

The percent of seniors 75 and older who had at least two prescriptions for benzodiazepines or at least one prescription for benzodiazepines with a greater than 30 day supply per year, in a two-year time period.

Why is this indicator important?

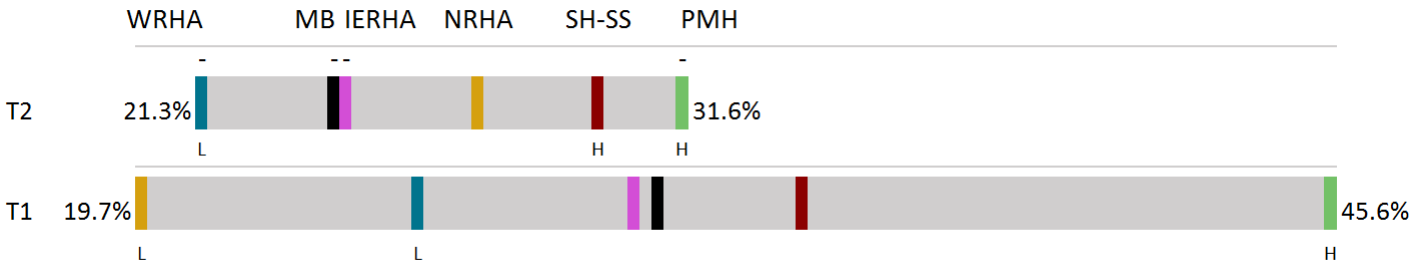
Benzodiazepines are medications widely used to treat seizures, anxiety and insomnia, however use by seniors is not recommended as it poses serious safety concerns including increased risk for confusion, memory loss, poor coordination and muscle control potentially leading to falls and fractures.

Provincial Key Findings

- In 2015/16-2016/17, 4,298 personal care home residents aged 75 years and older received benzodiazepines.
- Overall, the proportion of Manitoban personal care home residents 75 years and older receiving benzodiazepines decreased significantly over time, from 30.0% to 24.4%. Decreases were seen in all health regions except NHR; however, the increase was not significant.

Figure 31 Crude Proportion of Personal Care Home Seniors with Inappropriate Benzodiazepine Prescription by RHA, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age 75+



H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

	WRHA		MB		IERHA		NHR		SH-SS		PMH	
T2 COUNT	2,322		4,298		417		65		269		1,225	
T2 RATE	21.3%	L-	24.4%	-	24.4%	-	27.2%		29.7%	H	31.6%	H-
T1 RATE	25.9%	L	31.0%		30.6%		19.7%	L	34.1%		45.6%	H

Source: MCHP RHA Indicators Atlas 2019

Regional Key Findings

- In 2015/16-2016/17, 65 NHR personal care home residents aged 75 years and older received benzodiazepines inappropriately, this was 27.2% of the population. An increase from the 19.7% that received them inappropriately in 2010/11-2011/12.
- Zone two had more prescriptions of benzodiazepines to residents aged 75 and older at 30.9% compared to the 17% prescribed in zone one in 2015/16-2016/17. Zone three does not have any NHR personal care homes.

Table 23 Crude Proportion of Personal Care Home Seniors with Inappropriate Benzodiazepine Prescription by NHR Zones, 2010/11-2011/12 (T1) and 2015/16-2016/17 (T2)

Age 75+

	T2			T1	
	Count	Percent		Percent	
Manitoba	**4,298**	**24.4%**	**-**	**31.0%**	
Northern Health Region	**65**	**27.2%**		**19.7%**	**L**
Zone 1	40	17.0%		22.3%	L
Zone 2	25	30.9%		41.7%	

H/L Significantly higher or lower than the MB average for that time period. +/- A significant increase (+) or decrease (-) since the first time period

Source: MCHP RHA Indicators Atlas 2019

A CLOSER LOOK…PETS IN LONG TERM CARE

An initiative in Long Term Care in the Northern Health Region is the use of **pets** to **improve the lives** of the **elders**. Evidence suggests that animals have a soothing and calming effect on elders with dementia. The pets bring joy and happiness to the elders throughout their days. All three sites have long-standing in-house pets including cats, fish, and other aquatic life. In addition, through a family-directed donation we have begun to implement and use **robotic dogs and cats**. These have been found to be as effective as actual animals without the need for allergy awareness, claw trimming, and other vet related issues. These animals are appearing in four of the long term care facilities and particularly are of great use and enjoyment in the Silver Fox Den which is the Cognitive Impairment Unit of the Northern Spirit Manor.

[i] Macinko J, Starfield B, Shi L. "Quantifying the Health Benefits of Primary Care Physician Supply in the United States." International Journal Health Services, (2007): 37(1):111-26. Review.PMID:17436988. https://www.ncbi.nlm.nih.gov/pubmed/17436988

[ii] "Care Coordination Measures Atlas Update," Agency for Healthcare Research and Quality. accessed May 27, 2019, https://www.ahrq.gov/professionals/prevention-chronic-care/improve/coordination/atlas2014/chapter2.html

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