

Manitoba Centre for Health Policy

Our Children, Our Future: The Health and Well-being of First Nations Children in Manitoba

Winter 2020



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FIRST NATIONS HEALTH AND SOCIAL
SECRETARIAT OF MANITOBA

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First Nations Education
Resource Centre Inc.



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Cover Artwork



Ancestral Teachings
By Jackie Traverse



About the Manitoba Centre for Health Policy

The Manitoba Centre for Health Policy (MCHP) is located within the Department of Community Health Sciences, Max Rady College of Medicine, Rady Faculty of Health Sciences, University of Manitoba. The mission of MCHP is to provide accurate and timely information to healthcare decision-makers, analysts and providers, so they can offer services which are effective and efficient in maintaining and improving the health of Manitobans. Our researchers rely upon the unique Manitoba Population Research Data Repository (Repository) to describe and explain patterns of care and profiles of illness and to explore other factors that influence health, including income, education, employment, and social status. This Repository is unique in terms of its comprehensiveness, degree of integration, and orientation around an anonymized population registry.

Members of MCHP consult extensively with government officials, healthcare administrators, and clinicians to develop a research agenda that is topical and relevant.

This strength, along with its rigorous academic standards, enables MCHP to contribute to the health policy process. MCHP undertakes several major research projects, such as this one, every year under contract to Manitoba Health, Seniors and Active Living. In addition, our researchers secure external funding by competing for research grants. We are widely published and internationally recognized. Further, our researchers collaborate with a number of highly respected scientists from Canada, the United States, Europe, and Australia.

We thank the Research Ethics Board on the Bannatyne Campus at the University of Manitoba, for their review of this project. MCHP complies with all legislative acts and regulations governing the protection and use of sensitive information. We implement strict policies and procedures to protect the privacy and security of anonymized data used to produce this report and we keep the provincial Health Information Privacy Committee informed of all work undertaken for Manitoba Health, Seniors and Active Living.

The Manitoba Centre for Health Policy

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Abbreviations

ADHD	Attention-Deficit Hyperactivity Disorder
AJI	Aboriginal Justice Inquiry
AOM	All Other Manitobans
CFS	Child & Family Services
FNHSSM	First Nations Health and Social Secretariat of Manitoba
LGA	Large-for-Gestational-Age
MB	Manitoba
MCHP	Manitoba Centre for Health Policy
MFNERC	Manitoba First Nations Education Resource Centre
RCAP	Royal Commission on Aboriginal Peoples
REES	First Nations Regional Early Childhood Education and Employment Survey
RHA	Regional Health Authority
SGA	Small-for-Gestational-Age
TCA	Tribal Council Area
TRC	Truth and Reconciliation Commission



Knowledge Keepers' Foreword

The Spirit of our Ancestors lives within us all, reminding us gently of our responsibilities, our duty, our gifts, our legacy, our hope, and our future. We are a Spiritual People with a Spiritual identity as the First Peoples of this great land, our Mother Earth, a land that knows us intimately, providing for us, teaching us, caring for us and nourishing us. We feel her greatness, and we are the first to feel her imbalance, for we are one with her, and we are nothing without her.

The sacred breath of life was gifted to us for a purpose. With that breath of life came roles and responsibilities for fulfilling our purpose. When we have fulfilled the passages in our life that prepare us to bring forth the life of a child, we commit to our great Creator that we will sacrifice our lives for the gift of the child, to place the child at the centre of all that we do. Our children are gifted to us, as our hope for the future of our People and our Mother Earth.

Our children have rights that are ascribed by our Creator:

- To their Name
- To their Clan
- To be with Family
- To their culture and ceremonies
- To their identity
- To their language
- To a life of purpose
- To their ancestral land
- To the lifestyle of their people
- To a good education
- To protection within family
- To protection outside family

We as adults have a duty and responsibility to ensure that our children's rights are protected and that our children "live" their rights fully and fulfilled.

It is within this context that Knowledge Keepers respond to the report on First Nations Children in Manitoba.

First Nations Peoples, especially children feel the imbalance created by man, the disconnection from land, the disconnection from a spiritual life that is natural and in harmony with the earth. The imposition of negative social determinants that impact and manifest in ill physical and mental health; racism, forced location, poverty, cultural dislocation, colonization, genocide, oppression, institutional abuse whether it be educational, justice, child welfare, and government, are all evidenced in the crises we see in our communities and most strikingly within the current state of our children.

Birth Outcomes

Traditionally, young women were taught by their Mothers, Aunts and Grandmothers from early childhood for the preparations required for womanhood; modesty, preparation, medicines, cooking, caring for their home, their sacredness as the bearers of life, child bearing and their responsibilities for children and home.

It is now prevalent that teenagers are bearing children without preparation, that sexual health is compromised and therefore infant well-being is compromised. Mothers are removed from their family and community to give birth. They are medicated and institutionalized to bring forth the gift of life, the most natural and sacred act in humanity, without the presence of Mothers, Aunties and Grandmothers whose responsibility it is to introduce this sacred child to Creator, family and community. The first sacred bond of family is compromised at birth.

Our sacred ones are often born with medical conditions that are a result of a lifestyle that is foreign to our people, with an unhealthy diet and inactive lifestyle that contribute to large preterm births, readmissions, and other health concerns identified at birth and shortly thereafter. We all bear the responsibility for placing our sacred ones at risk. We know that our land provides healthy food, that water nourishes us, that remaining active, helping, preparing, and being spiritually balanced will help our child, and therefore our families. We must practice our Creator-given ways for well-being.

Physical Health

Our children have higher rates of diabetes, dental surgeries, lower respirator tract infections, and developmental disabilities, with rates being higher on reserve vs. off-reserve. There are many factors contributing to these outcomes, the foremost being diet. We have strayed so far away from our natural diet and it is our children who suffer most from poor diets, often dictated by economics and poverty. Our Knowledge Keepers have advised many times, return to the land, return to our natural diet, drink only water and medicinal teas, hunt, gather, fish, remain active as our traditional lifestyle requires it; hunt, gather, help each other. It is never too late to return to health.

Mental Health

Through many studies, we have been told that our children are ill, that they have ADHD, are schizophrenic, abuse substances, and are suicidal. These are indications of imbalance, a disconnect from spirit and identity. Loss of language, loss of culture, loss of identity, imposition of western thought and western ways have significantly contributed to the imbalance in mental well-being. Our Knowledge Keepers are unanimous in stating; go back to our ways, go back to the land, reconnect to your spirit, you are here for a purpose.

Health & Prevention Services

With the imbalance in well being of our people and therefore our children, our children's hospitalization rates are higher, and immunization rates are lower. Loss and/or lack of understanding in natural medicines contributes to ill health. Connection to land and her gifts provides for well-being; learn the medicines, stay active, eat healthy. All that you need to walk a healthy life is connected to the land and water.

Education

"Existing federal programming and policy touts literacy and numeracy as the panacea for First Nations success in the educational realm. First Nations take a broader perspective on student success to identify authentic education as including social and emotional competency factors, culturally based curriculum, civic engagement or service to one's people, character education, community control of education, culturally responsive pedagogy and assessment and relationships between school and community as key factors to be embedded in cultural traditions, languages, cultural protocols, ceremonies, land based learning and the wisdom of Elders. Excellence in academic education is also a goal of First Nations along with meeting and exceeding national standards of literacy and numeracy."

-Written in 2012 in *Soul of Sovereignty*, a reflection of Wahbung released in 1971.

The answers remain the same, the action and outcome remain elusive. Listen to and implement what our Knowledge Keepers and Elders have advised many times over many years. Education, life long learning begins in the home.

Social Services

1876 Indian Act

1879 Residential Schools

1922 MB Child Welfare Act

1950 MB Group Homes

1951 Section 88 of Indian Act Added "All laws of general application from time to time in force in any province applicable to and in respect of Indians in the province"

1960 '60's Scoop

1977 Indian Child Welfare Sub Committee 1980 Manitoba Tri-partite Agreement 1981 Aboriginal Child Welfare 1982 Kimmelman Report

1982 Master Agreement for Child Welfare 1987 MB New Child Welfare Act

1999 AJI

2000 AJI Child Welfare Initiative

2008 The Child and Family Services Authorities Act

2019 Bill C-92, An Act respecting First Nations, Inuit and Métis children, youth and families

A historical timeline identifying the “Acts” and reports that failed to include the law of Creation, the gift of Creation, and the responsibility for creation. The ultimate act of genocide and state trauma inflicted on our most vulnerable “to kill the Indian in the Child”.

Return our children to our families, our communities with the resources, supports necessary to facilitate their return. Follow and live our traditional roles and responsibilities. Respect and love our gifts of Creation.

Justice System

First Nations children have higher rates of criminal accusations, criminal victimization and witnessing of crime. With the removal of traditional ways and knowing, the loss of the teaching and living of our Seven Sacred Laws: Respect, Love, Courage, Honesty, Humility, Truth, Wisdom, and the lack of understanding of Natural Law, the fabric of our communities wholeness and well-being is torn. Natural law is the balance of all things. Our children must be taught and raised with our Sacred and Natural laws. They must have opportunity to learn that our People were provided with everything to live a beautiful life.

Mortality

Higher rates of stillbirths and child mortality continue to be recorded. All methods utilized to address these outcomes are outside the bounds of traditional knowledge and practice. It is important to note that the introduction

of Traditional Knowledge and Practice is on a continuum: in order to have healthy children, one must have healthy parents, and healthy parents come from healthy grandparents. Healthy communities are comprised of healthy people with healthy children at the centre of all that we do. This is never ending. Caring for a sacred gift is our responsibility and our role in life.

Programs supporting babies and young children must be robust and all inclusive from prenatal to adulthood. Grandmothers, Aunties and Mothers must be included. The traditional teachings of our ancestors, including ceremonies marking the passages of the stages in our lives, must lead this process. It is through these ancestral ways that have sustained our People that we will see a significant resurgence of health and well being for our sacred gifts, our children, and our Nations.

Final Note

The beauty of our Traditional Knowledge and *wholistic* view and approach to life, with the support of our Mother Earth and all that she provides, is our life line. We have a duty and responsibility to fulfill our responsibilities and we must not wait for someone to tell us how or what to do. Follow the example of healthy thriving families and children within our First Nation communities, learn from their example. Learn from our Grandmothers and Grandfathers who walk this path in life with their sacred knowledge guiding them. Our children need us to act now.



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Executive Summary

Introduction & Purpose

This report looks at the health and well-being of registered First Nations¹ children living on-reserve and off-reserve in Manitoba. Prior Canadian studies have reported large inequities in health outcomes between First Nations and non-First Nations children, while others, such as the First Nations Regional Early Childhood Education and Employment Survey (REEES) have provided important insight into children's health, family life as well as culture and language. The Truth and Reconciliation Commission of Canada [1] has made 94 Calls to Action to redress the legacy of residential schools and advance the process of reconciliation in Canada. These calls touch the lives of children and youth in the areas of child welfare, education, language and culture, health and justice.

The purpose of this report is to provide a sound baseline measure of how First Nations children are doing in order to determine if children's lives are improving as a result of the Calls to Action. It provides information on indicators not yet examined in previous reports. As new initiatives are developed in Manitoba, it will be crucial to determine whether these health, education and social indicators are changing over time.

¹ The term First Nations refers to Indigenous individuals who are registered members of a band. First Nations has replaced the term Indian as used in the Constitution Act of 1982, which specifies that the Aboriginal Peoples of Canada consist of three groups: Indians (now called First Nations), Inuit, and Métis. In Manitoba, there are five major linguistic groups among First Nations: the Anishinaabe, Cree, Anishinew, Dakota, and Dene. The term Aboriginal is a collective inclusive term for all of the Original Peoples of Canada and their descendants. Indigenous means "native to the area" – it usually refers to Original Peoples in the international context and is used by the United Nations.

Background

The present report was requested by the Healthy Child Committee of Cabinet to focus on First Nations children in Manitoba and to provide valuable information on their health and well-being – similar to Child Health Atlas reports previously prepared by Manitoba Centre for Health Policy (MCHP) [2–5]. The research team includes members from MCHP, First Nations Health and Social Secretariat of Manitoba (FNHSSM) and Manitoba First Nations Education Resource Centre (MFNERC). Prior to beginning analyses, the team met with members of First Nations communities – in keeping with sound ethical principles which includes respect for Indigenous voices and inclusion and in keeping with the Knowledge Keepers’ advice to “do nothing about us without us”. It was important that First Nations voices were included in planning and creating this report. Based on these early discussions, the team proposed the First Nations Mental Wellness Model that aligns with First Nations Peoples’ *wholistic*² view of health.

Any data describing First Nations, particularly in the areas of health, education and social services, must be understood within the historical, social, legal and political context that exists for First Nations Peoples today. We acknowledge that inequities revealed by the data are a result of First Nations having been disadvantaged by colonization in a multitude of ways. Historically, the cultural, linguistic, and traditional knowledges of First Nations Peoples have been undermined and devalued. Colonial laws were implemented to tighten control over First Nations’ existence. Before Western structures in health, formal schooling and justice were imposed, First Nations people in Canada had their own effective systems for taking care of children. They had ways of transferring knowledge and skills across generations that allowed them to survive and function in society. This knowledge addressed the total being, the whole community, in the context of a viable living culture. The residential school system (which operated in Canada from 1831 to 1996) [6] systematically and forcibly separated First Nations children from their families and communities, and affected family and community structures as well as parenting. Many of those who were interned in the schools, and those who were left behind in childless communities, lost their ability to parent effectively [1]. For decades, the formal schooling system for on-reserve education in band-operated schools has perpetuated the influence of colonialism and has undermined the ability of First Nations to maintain their cultural identity and to transmit their cultures and languages to generations that followed. These historical experiences of First Nations people have negatively impacted children across generations. We must remember and consider this history when reviewing the results of this report.

² The spelling of this word is modified from holistic to emphasize First Nations Peoples’ world view of seeing health as encompassing the total being and the whole community.

Methods

The indicators in this report were chosen in discussion with the Health Directors and the Knowledge Keepers from First Nations communities. The Knowledge Keepers are First Nations Elders from Anishinaabe, Cree, Anishininew, Dakota and Dene Nations, whose experience and knowledge helped guide the report. The indicators we selected were also of great interest to representatives from the Healthy Child Manitoba Office and departments within the government of Manitoba that touch the lives of children.

We used data (2012/13 to 2016/17) from the Manitoba Population Research Data Repository (‘the Data Repository’) housed at MCHP. Most of the data in the Repository are derived from administrative data – records that were collected to administer health and social services, the education system and the justice system in Manitoba. All data are de-identified (stripped of names and addresses) before being transferred to MCHP, but contain a scrambled number which allows for person-level linkage across datasets and over time without any individuals being identified.

The cohort of *registered (or status) First Nations children* (age 0-19) was created from records of registered First Nations children in the Manitoba First Nations Research File. As a comparison group, we created a cohort of all other children living in Manitoba. This cohort, named the *all other Manitoba children* cohort, includes First Nations who are not registered, Metis and Inuit children and all other non-Indigenous children living in Manitoba.

We present the findings of this report based on three highly relevant groupings: Regional Health Authorities (RHAs), Tribal Council Areas (TCAs) and income quintiles. For analyses by RHA, we compared the rates of all First Nations children (on-reserve and off-reserve) to the rates for all other Manitoba children living in each RHA region and to the Manitoba average as a standard point of reference. For analyses by TCA, we compared the rates of each TCA to the TCA with the lowest rate for indicators with negative effects, or to the TCA with the highest rate for indicators with positive effects, to evaluate differences between TCAs within a relevant context. For the analyses by income quintiles, we compared on-reserve and off-reserve rates of First Nations children to the lowest and highest income quintile rates for all other Manitoba children.

Summary of Results

The main results are presented for the following groups of indicators: birth, physical health, mental health, health & prevention services, education, social services, justice system involvement and mortality. Readers should keep in mind that many health indicators are derived from diagnoses captured during a visit to a physician or nurse practitioner or from hospital records. In the north, we are likely undercounting the number of medical conditions because nursing stations do not provide data to the Data Repository. The Knowledge Keepers have reminded us that primary care and mental health services are lacking in First Nations communities, and therefore, physical and mental health indicators that are based heavily on physician visit records (e.g., otitis media and mood & anxiety disorders) will likely be underestimated.

Birth Indicators

First Nations infants had higher rates of preterm births, large-for-gestational-age births and newborn readmissions and lower rates of breastfeeding compared to all other Manitoba infants. The teen pregnancy and birth rates were higher among First Nations teens compared to all other Manitoba teens: these rates were also higher on-reserve compared to off-reserve. The breastfeeding rate was lower on-reserve compared to off-reserve. Interestingly, we found that the rate of small-for-gestational-age births was lower in First Nations infants compared to all other Manitoba infants. Given that we also found higher rates of large-for-gestational-age births, we speculate that on average First Nations infants may be larger at birth than other Manitoba infants.

Table E.1: Birth Indicators Summary for Manitoba Children, 2012/13 to 2016/17*

Indicators	All First Nations vs. All Other Manitobans (Crude Rates)		On-Reserve vs. Off-Reserve First Nations (Crude Rates)	
	All First Nations	AOM*	On-Reserve	Off-Reserve
Preterm Births (per 100)	10.09	6.98	10.16	9.96
Small-for-Gestational-Age (per 100)	6.19	8.85	6.27	6.06
Large-for-Gestational-Age (per 100)	19.00	10.38	18.42	20.04
Breastfeeding at Hospital Discharge (per 100)	61.03	90.41	55.08	71.55
Teen Pregnancy (per 1,000)	107.43	17.77	117.10	90.19
Teen Birth (per 1,000)	87.11	10.94	98.82	66.24
Newborn Readmission (per 100)	1.96	1.12	2.07	1.77

* Newborn Readmission uses calendar year 2012 to 2016.

** All Other Manitoba Children – includes non-status First Nations, Metis and Inuit children and all other non-Indigenous children living in Manitoba

Bolded values indicate statistically significant differences ($p < 0.01$)

Physical Health

First Nations children had higher rates of diabetes, dental surgeries, lower respiratory tract infections, and developmental disabilities compared to all other Manitoba children. Conversely, they also had lower rates of asthma and otitis media compared to other children. Rates of asthma, lower respiratory tract infections, otitis media,

atopic dermatitis and developmental disabilities were lower on-reserve compared to off-reserve. Rates of dental surgeries were higher among children living on-reserve compared to off-reserve. The Knowledge Keepers noted that on-reserve primary health care services are lacking and this may help to explain the difference between on-reserve and off-reserve service use.

Table E.2: Physical Health Indicators Summary for Manitoba Children, 2016/17*

Indicators	All First Nations vs. All Other Manitobans (Crude Rates)		On-Reserve vs. Off-Reserve First Nations (Crude Rates)	
	All First Nations	AOM**	On-Reserve	Off-Reserve
Asthma (per 100)	11.71	13.04	10.07	14.79
Diabetes (per 100,000)	874.69	42.61	1,205.77	512.63
Dental Surgeries (per 1,000)	32.34	1.14	42.91	14.67
Lower Respiratory Tract Infections (per 100)	7.11	5.96	5.63	9.93
Otitis Media (per 100)	4.80	5.77	4.13	6.08
Atopic Dermatitis (per 100)	5.63	6.18	4.81	7.20
Developmental Disorders (per 100)	2.72	1.80	2.36	3.45

* Diabetes rate is an exception and used calendar years 2014 to 2018.

** All Other Manitoba Children – includes non-status First Nations, Metis and Inuit children and all other non-Indigenous children living in Manitoba

Bolded values indicate statistically significant differences ($p < 0.01$)

Note: No statistical tests were conducted on the diabetes rates due to low numbers

Mental Health

First Nations children had higher rates of attention-deficit hyperactivity disorder (ADHD), substance use disorders, schizophrenia, suicide attempts and suicidal deaths compared to all other Manitoba children. Rates of ADHD and mood/anxiety disorders were lower on-reserve compared to off-reserve; however, hospitalization for

suicide attempts was more common on-reserve compared to off-reserve. Despite the higher rates of suicide attempts and deaths, no differences in mood/anxiety disorder rates were found between First Nations children and other Manitoba children, suggesting a lack of mental health services for First Nations children.

Table E.3: Mental Health Indicators Summary for Manitoba Children, 2012/13 – 2016/17

Indicators	All First Nations vs. All Other Manitobans (Crude Rates)		On-Reserve vs. Off-Reserve First Nations (Crude Rates)	
	All First Nations	AOM*	On-Reserve	Off-Reserve
Attention-Deficit Hyperactivity Disorder (per 100)	9.25	7.66	6.49	14.63
Mood and Anxiety Disorders (per 100)	5.21	5.49	4.43	7.02
Substance Use Disorders (per 100)	7.64	1.47	7.73	7.49
Schizophrenia (per 100)	0.76	0.17	0.76	0.79
Suicides Attempts (per 1,000)	7.30	1.05	9.01	4.11
Completed Suicide (per 100,000)	73.86	6.95	76.26	69.40

* All Other Manitoba Children – includes non-status First Nations, Metis and Inuit children and all other non-Indigenous children living in Manitoba

Bolded values indicate statistically significant differences ($p < 0.01$)

Health & Prevention Services

First Nations children had higher hospitalization rates and lower vaccination rates compared to all other Manitoba children. There were fewer different drugs dispensed to

First Nations children living on-reserve compared to off-reserve and the vaccination rates were higher on-reserve compared to off-reserve.

Table E.4: Health Care and Prevention Services Use Summary for Manitoba Children, 2016/17*

Indicators	All First Nations vs. All Other Manitobans (Crude Rates)		On-Reserve vs. Off-Reserve First Nations (Crude Rates)	
	All First Nations	AOM**	On-Reserve	Off-Reserve
Hospitalization Episodes (per 1,000)	46.58	17.56	51.68	36.98
Number of Different Drugs (per child)	1.24	1.10	1.05	1.59
Complete Vaccination at Age 2 (per 100)	63.30	74.04	65.27	59.67

* Complete immunization is an exception and used calendar years 2011 to 2015.

** All Other Manitoba Children – includes non-status First Nations, Metis and Inuit children and all other non-Indigenous children living in Manitoba

Bolded values indicate statistically significant differences (p<0.01)

Education

A smaller proportion of First Nations children were rated as 'meeting or approaching expectations' in Grade 3 reading and numeracy, Grade 7 mathematics, and Grade 8 reading and writing compared to other Manitoba children. They were also less likely to be rated as 'established or developing'

in Grade 7 student engagement, to have passed their Grade 12 language arts and mathematic standards tests, and to have graduated from high school compared to other Manitoba adolescents. The education outcomes we measured were better for First Nations children living off-reserve compared to on-reserve.

Table E.5: Educational Indicators Summary for Manitoba Children, 2012/13 - 2016/17*

Indicators	All First Nations vs. All Other Manitobans (Crude Rates)		On-Reserve vs. Off-Reserve First Nations (Crude Rates)	
	All First Nations	AOM*	On-Reserve	Off-Reserve
Grade 3 (per 100)				
Reading Assessment: Meeting or Approaching Expectations	55.61	83.60	51.36	61.19
Numeracy Assessment: Meeting or Approaching Expectations	55.61	80.99	51.50	61.05
Grade 7 (per 100)				
Mathematics: Meeting or Approaching Expectations	42.85	75.85	38.60	47.72
Student Engagement: Established or Developing	38.29	72.59	34.68	42.42
Grade 8 (per 100)				
Reading and Writing: Meeting or Approaching Expectations	53.20	81.97	49.39	57.26
Grade 12 (per 100)				
Language Arts Test: Passed	14.25	69.58	10.83	20.81
Mathematics Test: Passed	7.79	52.48	4.75	13.64
High School: Graduated	46.49	89.70	41.45	54.89

* Grade 12 Language Arts and Mathematics were an exception and used academic years 2011/12 – 2015/16.

** All Other Manitoba Children – includes non-status First Nations, Metis and Inuit children and all other non-Indigenous children living in Manitoba.

Bolded values indicate statistically significant differences ($p < 0.01$)

Social Services

First Nations children had higher rates of apprehensions and involvement in Child & Family Services (CFS), receiving income assistance, or living in social housing compared to all other Manitoba children. The rates of CFS apprehensions and CFS involvement were lower for First

Nations children living on-reserve. Not unexpectedly³, First Nations children living on-reserve had lower rates of living in social housing and their families had lower rates of receiving provincially-funded income assistance compared to those living off-reserve.

Table E.6: Social Services Indicators Summary for Manitoba Children, 2016/17

Indicators	All First Nations vs. All Other Manitobans (Crude Rates)		On-Reserve vs. Off-Reserve First Nations (Crude Rates)	
	All First Nations	AOM*	On-Reserve	Off-Reserve
Children in Care (per 100)	13.93	2.00	12.18	17.26
Involved with Child and Family Services (per 100)	25.71	4.82	23.11	30.63
Living in a Family Receiving Income Assistance (per 100)	24.24	6.66	15.30	41.24
Youth (18-19-year-olds) Receiving Income Assistance (per 100)	18.17	5.23	11.69	30.31
Living in Social Housing (per 100)	12.11	2.91	7.84	20.22

* All Other Manitoba Children – includes non-status First Nations, Metis and Inuit children and all other non-Indigenous children living in Manitoba

Bolded values indicate statistically significant differences ($p < 0.01$)

³ First Nations people are not eligible for provincial income assistance if living on-reserve. There is a lot of movement of youth and families from on-reserve to off-reserve. This report used the address of where youth and families were living in 2016 as recorded by the MB First Nations Research File (federal file), although they might actually have been living off-reserve for part of the year. This may be the reason that some appear to be receiving income assistance while living on-reserve.

Justice System Involvement

First Nations children had higher rates of criminal accusations⁴, criminal victimization and witnessing a

crime compared to all other Manitoba children. The rate of witnessing a crime was higher among children living on-reserve compared to off-reserve.

Table E.7: Justice System Involvement Indicators Summary for Manitoba Children, 2016/17

Indicators	All First Nations vs. All Other Manitobans (Crude Rates)		On-Reserve vs. Off-Reserve First Nations (Crude Rates)	
	All First Nations	AOM*	On-Reserve	Off-Reserve
Accused of a Crime (per 100)	8.00	0.79	8.11	7.72
Victim of a Crime (per 100)	1.20	0.20	1.29	1.04
Witness to a Crime (per 100)	0.80	0.10	0.93	0.52

* All Other Manitoba Children – includes non-status First Nations, Metis and Inuit children and all other non-Indigenous children living in Manitoba

Bolded values indicate statistically significant differences ($p < 0.01$)

Mortality

Higher rates of stillbirths and child mortality were found among First Nations children compared to all other Manitoba children. Children living on-reserve had a higher mortality rate than those living off-reserve. Infant

mortality appeared to be higher among First Nations infants, particularly on-reserve, but this difference was not statistically significant. The lack of statistical significance is likely due to the small number of infant deaths in Manitoba.

Table E.8: Child Mortality Indicators Summary for Manitoba Children, 2012/13 – 2016/17

Indicators	All First Nations vs. All Other Manitobans (Crude Rates)		On-Reserve vs. Off-Reserve First Nations (Crude Rates)	
	All First Nations	AOM*	On-Reserve	Off-Reserve
Infant Mortality (per 1,000)	7.73	3.93	8.78	5.90
Child Mortality (per 100,000)	77.70	19.20	91.08	52.17
Stillbirths (per 1,000)	8.12	6.14	8.91	6.73

* All Other Manitoba Children – includes non-status First Nations, Metis and Inuit children and all other non-Indigenous children living in Manitoba

Bolded values indicate statistically significant differences ($p < 0.01$)

⁴ Accusations include adolescents accused of a crime in Manitoba at least once in the fiscal year 2016/17. The available data did not allow us to determine if the adolescents accused were eventually sentenced.

Concluding Remarks

These findings clearly show that an enormous amount of work is required in virtually every area – health, social, education and justice – to improve First Nations children’s lives. There is an urgent need for equitable access to equitable services, and the nature of these services should be self-determined, planned and implemented by First Nations people. An important aspect that should be included in this work is a clearer understanding and articulation of the traditional knowledges, languages and values that were stripped from so many First Nations by colonialist practices and policies. First Nations Peoples hold these cultural knowledges and values in their memory and within themselves. Collectively, as First Nations and as

Manitobans, we should revive them as we begin to address gaps in the key areas this report describes and work to improve First Nations children’s health, education and social outcomes.

The data presented in this report can inform and guide us in changing our approach to First Nations programming, policies and decision-making. The profound hope of the research team is that this report will promote equity in funding for First Nations children and that Indigenous and non-Indigenous people can work in a more collaborative and unified way to address the gaps. In so doing, and in the true tradition of honoring First Nations ways of doing, knowing and being, we strive to be “*wholistic*” in our approaches to clear the path for First Nations children to live and thrive in our province.



Chapter 1: Introduction

Purpose of this Report

This report looks at the health and well-being of registered First Nations⁵ children living on-reserve and off-reserve in Manitoba. The Truth and Reconciliation Commission of Canada [1] has made 94 Calls to Action to redress the legacy of residential schools and advance the process of Canadian reconciliation. These include calls in the areas of child welfare, education, languages and cultures, health and justice. The purpose of this report is to provide a sound baseline measure of how First Nations children in Manitoba are doing in order to determine if the children's lives are improving as a result of these calls to action. We report indicators that have not been examined in previous reports.

As new initiatives are being developed in Manitoba, it will be crucial to determine whether health, education and social indicators are changing over time. For example, will the creation of a new organizational system for First Nations schools lead to better educational outcomes for First Nations children? Will additional funding and increased supports for children result in improved health and well-being? Health problems such as diabetes pose a specific risk to First Nations children [7], and we report rates of diabetes here so that future studies can determine if increased awareness will eventually lead to decreased rates. Given the disproportionately high rates of suicidal behaviours among First Nations youth [8], mental health indicators were included in our study so that future studies can determine if mental health promotion and mental illness prevention efforts and investments improve the mental and emotional well-being of First Nations children.

⁵ The term *First Nations* refers to Indigenous individuals who are registered members of a band. *First Nations* has replaced the term *Indian* as used in the Constitution Act of 1982, which specifies that the Aboriginal Peoples of Canada consist of three groups: Indians (now called First Nations), Inuit, and Métis. In Manitoba, there are five major linguistic groups among First Nations: the Anishinaabe, Cree, Anishinew, Dakota, and Dene. The term *Aboriginal* is a collective inclusive term for all of the Original Peoples of Canada and their descendants. *Indigenous* means "native to the area" – it usually refers to Original Peoples in the international context and is used by the United Nations.

The Study Process

The present report was requested by the Healthy Child Committee of Cabinet. They asked us to provide information on the health and well-being of First Nations children of Manitoba – similar to Child Health Atlas reports previously prepared by MCHP [2–5]. For this report, MCHP partnered with the First Nations Health and Social Secretariat of Manitoba (FNHSSM) and the Manitoba First Nations Education Resource Centre (MFNERC) to identify health, education and social indicators of greatest relevance to First Nations, and to produce a First Nations Child Atlas that can be used for planning and decision-making.

The research team includes members from MCHP, FNHSSM and MFNERC. The team members were chosen because of their expertise in Indigenous health, maternal and child health, education and social services, and their knowledge of research methods.

Prior to beginning any analyses, the team met with members of First Nations communities, in keeping with sound ethical principles which includes respect for and inclusion of Indigenous voices and and in keeping with the Knowledge Keepers' advice to "do nothing about us without us". The team felt that it was important for First Nations to be involved in producing the atlas and to have their voices heard throughout the process. Through our early discussions, the team proposed using the First Nations Mental Wellness Model, which aligns with First Nations people's *wholistic*⁶ views of health. The team strived to choose strength-based indicators to foster hope in improving the well-being of children. Given that the Data Repository at MCHP holds few strength-based indicators, the team framed this report as a baseline to measure future progress. They ensured that some historical and social context was provided and listed some promising current initiatives to highlight the progress already being made.

In choosing the indicators for this report, the research team met with First Nations service providers, First Nations Health Directors, Assistant Deputy Ministers and government program planners. The health of First Nations children in Manitoba is influenced by many systems, so indicators ranged from birth to adolescent outcomes and included physical health, mental health, health service use, education, social service use, justice system involvement and mortality.

The research team met with First Nations Knowledge Keepers and Manitoba Government representatives on three occasions. Knowledge Keepers are respected members of First Nations communities with extensive knowledge of the language, values and traditions of their People. We met with Knowledge Keepers from each of the five broad First Nations linguistic groups in Manitoba – the Anishinaabe, Cree, Anishininew, Dakota and Dene. Through our meetings, the Knowledge Keepers confirmed that the report would be useful to First Nations communities and provided guidance on the most relevant ways to the present the data – for example, by Tribal Council Areas. Feedback they gave us about how the data should be interpreted is summarized in the foreword of this report, and provided throughout the report.

Early in the planning process of the report, the research team members foresaw significant inequities between the health and well-being of First Nations children and other children in Manitoba. The team did not want the report to be focused on the deficits nor did they want the results to be interpreted at face-value without an awareness of the context and the environment within which First Nations children continue to exist. We determined that it would be crucial to discuss the factors that have contributed to existing inequities between outcomes of First Nations children and other children in Manitoba. These factors are briefly described in the following section.

⁶ The spelling of this word is modified from *holistic* to emphasize the First Nations Peoples' world view of seeing health as encompassing the total being and the whole community.

Historical, Social and Political Context in which First Nations Children Live

Any data, and particularly data in the areas of health, education and social services, must be understood within the broader historical, social, legal and political context from which it was collected. The context of this report is that the cultural, linguistic and traditional knowledges of First Nations people have been undermined and devalued by colonial practices and policies [9]. While a full discussion of this context is beyond the scope of this report, included here are highlights of what the team members felt was most relevant to the report. For a greater understanding, we encourage readers to review the Final Report of the Truth and Reconciliation Commission of Canada [9], the Report of the Royal Commission on Aboriginal People [10], the United Nations Declaration on the Rights of Indigenous Peoples [11], and the website of the Treaty Relations Commission of Manitoba [12].

The conditions in which First Nations people live today are a result of them being put at a disadvantage in a multitude of ways through the process of colonization, as described by Whitbeck and colleagues (2004) below.

After military defeat, American Indians experienced one of the most systematic and successful programs of ethnic cleansing the world has seen. They were relocated to what amounted to penal colonies, starved, neglected, and forbidden to practice their religious beliefs. Their children were taken from them and re-educated so that their language, culture, and kinship patterns were lost to them (2004, pp. 121) [13].

These historical experiences of First Nations people have negatively impacted children across generations. Prior to contact with European settlers and before Western structures of health, formal schooling, and justice were imposed, First Nations people in Canada had their own systems of caring for children. They had ways of transferring knowledge and skills across generations that ensured their survival and allowed them to function in society. For example, prenatal care in First Nations communities emphasized eating and resting well, exercise, and avoiding strenuous activity, and involved the entire family in the care of the expectant mother [14]. First Nations women gave birth accompanied by a traditional midwife and other

women from their community. Traditional ways were passed down through the generations for saving and honouring the umbilical cord, and for the sacred treatment of the placenta. Breastfeeding was the norm and often continued for the first two years of the child's life. The knowledge and skills that were transmitted from one generation to the next addressed "the total being, the whole community, in the context of a viable living culture" [15]. We must remember that First Nations people had long been practicing these ways of knowing and living before first contact with Europeans when reviewing the results of this report.

For a long time, First Nations people in Canada have been subjected to living in over-crowded and substandard houses in reserves; they have had poor diets, sub-standard education and health facilities, and high levels of unemployment; they have experienced inter-generational welfare dependency, child apprehensions by Child and Family Services, substance abuse, and incarceration. All of these burdens that colonialism has placed upon them have undermined their well-being and self-esteem. Lack of financial resources has had devastating effects on their health as have the substandard education, housing and access to water. For example, during the study period (2016/17) for this report, there were boil water advisories in nine of the 63 First Nations communities in Manitoba⁷. The effects of colonization have rendered living conditions in First Nations communities extremely challenging. The poverty rates among First Nations children in Canada are staggeringly high; the highest rates in the country are those among children living on-reserve (60%) and in Manitoba (76%) [16].

First Nations children are at greater risk of experiencing health problems because of societal, family and individual factors. Racism is a strong societal factor with a profound impact on the health of children's bodies and minds through prolonged exposure to stress. Racism poses barriers to opportunities and services for Indigenous families and children [17]. First Nations children also face many other challenges that threaten their physical and mental health: historical oppression, parental mental disorders, family trauma and stressful life events. Fortunately, many factors also protect the children, including their identity, spirituality, connectedness and social supports within their communities [18]. First Nations face significant challenges based on funding, inequities, delivery systems and jurisdictional disputes between the federal and provincial governments, between regional health authorities (RHAs) and tribal council areas (TCAs), and amongst individual communities. This fragmentation severely limits implementation of the focused strategic initiatives needed to address some of the challenges described in this report.

⁷ Fortunately, efforts at addressing this issue appear to have been fruitful. At the time of writing, the number of First Nations communities still under a boil water advisory had gone from nine to two, with plans to resolve the issue within the next year: <https://www.sac-isc.gc.ca/eng/1506514143353/1533317130660>.

In the area of education, First Nations children are too often exposed to systems of schooling that do not value or reflect their identity as the First Peoples of Canada, and the curriculum being taught continues to perpetuate their marginality. The Report of the Royal Commission on Aboriginal Peoples (RCAP) states that the destiny of a people is intricately tied to how their children are educated and is the route through which culture is transmitted [10]. For decades, formal schooling systems have perpetuated the influence of colonialism and have undermined the ability of First Nations to maintain their cultural identity and to transmit their culture and languages to the next generation. Those who attended residential schools lost their ability to parent because they did not have the example of their parents and extended family. At a young age, children were interned and indoctrinated in institutions away from the influences of their parents, families and traditional practices. Many of these traditional practices were forgotten, as was the experience of being raised in a family environment (Honouring the Truth, Reconciling for the Future, Summary report of Truth and Reconciliation Commission of Canada, 2015, p. 186) [9].

Many grandparents and parents learned to be distrustful of schools because of their experience in residential schools. Colonialism affected educators from First Nations communities who attended mainstream institutions that train from the vantage point of the settler society. However, there have been some improvements in recent years. Education systems have adopted a much more balanced and inclusive curriculum and have developed practices that incorporate land-based education and teaching of languages and cultures with First Nations teachers who work closely with Elders and Knowledge Keepers.

The effects of colonialism remain pervasive today. It is essential to recognize that the social and structural determinants, particularly those related to health, education, social services and the justice system, are influenced by on-going policies and practices that continue to prevent First Nations children from enjoying the full benefits the rest of Canadian society takes for granted. It is also important to note that there has been significant progress made in many areas through programs, policies and practices that have been implemented to address inequities.

Previous Research about the Health of First Nations Children

Reports on First Nations people in Canada often point to the disproportionate burden of poor health experienced by First Nations children, yet there are few available data. At the time of writing this report, there was little written in the scientific literature on many specific health problems, on educational outcomes and on child welfare use across regions in Manitoba.

The previous section highlighted many reasons for the disparity between First Nations children and other children, including economic, social, legal and political factors influenced by both historical and current realities. However, there are factors within First Nations communities that enhance health. These include strong community connections, large family networks, a strong sense of identity, and grounding in traditional and spiritual ways. First Nations communities with self-determination, those who have local control over health, education and policing services and maintain community facilities for the preservation of cultures, have been shown to be at lower risk of suicide [19]. Sacred teachings, spirituality and cultural connections have been previously linked with health [20] and resilience among First Nations people who had experienced significant adversity in their life [21].

Although a Manitoba report of the health of First Nations children and youth is clearly needed, it is important to be aware of previous Canadian reports. Recently, insights into the health and well-being of First Nations children have been brought to light in Canada. For example, a recent report using the *First Nations Regional Early Childhood Education and Employment Survey* (REEES), which surveyed a representative sample of children and youth in First Nations communities, provided important insight into First Nations' health, family life, culture and language [22]. This report indicated that the vast majority of First Nations children are cared for primarily in the home by biological parents. The majority (90.5%) of youth, using a self-rated measure, indicated that their mental health was either excellent, very

good or good. Most children (82.8%) reported having some knowledge of a First Nations language and 53% participated in First Nations cultural activities outside of class time. An association was found between language proficiency and high level of life balance – 70% of First Nations youth who reported excellent proficiency in a First Nations language also reported a high level of life balance. Among the 16.1% of First Nations youth who did not complete high school, 73.3% eventually re-enrolled, demonstrating their resilience and determination.

National reports and surveys have increased our understanding of the health of First Nations children in Canada. In a Health Canada report, Dion Stout & Kipling [23] outlined the priorities for Indigenous peoples, including children. They called for steps to enhance health status and outcomes, eliminate barriers to access to health services, and provide more resources, training and expertise for community health projects. In their *Indigenous Children's Health Report*, Smylie and colleagues (2008) found infant mortality rates 1.7 to 4 times higher among Indigenous than non-Indigenous children [24]. They also identified higher rates of sudden infant death syndrome, childhood injuries, accidental deaths and suicides, ear infections, respiratory tract illness and mortality, dental caries, and exposure to environmental contaminants. In their 2009 report entitled *Aboriginal children's health: Leaving no child behind*, UNICEF outlined disparities in health and health services use, brought the social determinants of health to our attention, and called for collective efforts in addressing these disparities as well as improving data collection in order to assess our progress [25]. More recently, MacMillan and colleagues [26] reported findings from nine regional surveys of on-reserve communities across Canada called the *First Nations and Inuit Regional Health Survey* (FNIRHS). They found that 84% of adult respondents rated their children's health as very good or excellent and that 76% of children got along with their families. They further reported the proportion of children with the following indicators: ear problems (15%), allergies (13%), asthma (12%), broken bones or fractures (13%) and behavioural or emotional problems (17%).

What is Included in This Report

Chapter 2 provides detailed information about how we conducted the analyses. This report includes indicators on First Nations demographic information (Chapter 3), birth (Chapter 4), physical health (Chapter 5), mental health (Chapter 6), use of health and prevention services (Chapter 7), education (Chapter 8), social services (Chapter 9), justice system involvement (Chapter 10) and mortality (Chapter 11). A summary and discussion of the findings are found at the end of the report (Chapter 12). The online supplement, which can be accessed via <http://mchp-appserv.cpe.umanitoba.ca/deliverablesList.html> includes all data presented in this report and a map of RHA districts.


Each chapter begins with a brief introduction to the overall chapter topic, followed by a brief description of the indicators relevant to the chapter's theme. Detailed indicator definitions that include data sources, data years, diagnoses and drug codes are provided in the Appendix 2. Next, we summarize the key findings for that indicator and list trends we observed by regional health authority, tribal council area, and income quintile. We present all the detailed findings for the indicators in tables and graphs. For most indicators, the reader will see three figures: the indicator is shown first by Regional Health Authority, then by Tribal Council Area, and lastly by household income quintile. Finally, we provide a brief summary of how these results compare to other reports of the same indicators, if they exist. We also highlight some promising initiatives to address health inequities where we observed them.

Concluding Remarks

In their *Indigenous Children's Health Report*, Smylie et al (2008) noted that "sound measurement and reporting of public health data are essential steps for overcoming health disparities but these are obviously only the first steps [24]. Investment in very strong policies and programming are required to ensure that Indigenous children experience the same levels of well-being, prosperity, environmental support and access to health care as non-Indigenous children."

The data presented in this report can inform and guide us in changing our approach to First Nations programming, policies and decision-making. We need a clearer understanding and articulation of the traditional knowledges, languages and values that were stripped from so many First Nations by colonialist practices and policies. First Nations Peoples hold these cultural knowledges and values in their memory and within themselves. Collectively, as First Nations and as Manitobans, we should revive them as we begin to address gaps in the key areas this report describes and work to improve First Nations children's health, education and social outcomes.

The profound hope of the research team is that this report will promote equity in funding for First Nations children and that Indigenous and non-Indigenous people can work in a more collaborative and unified way to address the gaps. In so doing, and in the true tradition of honoring First Nations ways of doing, knowing and being, we strive to be *wholistic* in our approaches to clear the path for First Nations children to live and thrive in our province.



Chapter 2: Methods

What this Chapter is about

This chapter describes how this report was prepared. Essentially, we used the same methods as were used in a report entitled *Health Status of and Access to Healthcare by Registered First Nations Peoples in Manitoba* that was released in autumn 2019. Here we describe how we selected our research team and the indicators examined in this report. We also describe how the study population (the group of First Nations children and all other Manitoba children) was formed and identify the datasets that were accessed to construct the indicators. We explain how we analyzed the data and the rationale for this. Finally, we notify the reader of some important aspects of the study that will help them interpret the findings appropriately.

Rationale for Research Team and Indicators

Every year, the government of Manitoba funds several studies conducted by the Manitoba Centre for Health Policy (MCHP) on topics relevant to program planning and policy development. The Healthy Child Committee of Cabinet requested a report on the health of First Nations children of Manitoba. Specifically, the report was to focus on First Nations children and provide valuable information on their health and well-being – similar to Child Health Atlas reports previously prepared by MCHP. The types of indicators suggested spanned perinatal, child and adolescent health outcomes, educational achievement, child/youth justice system involvement and social services use. The request also specified that MCHP partner with the First Nations Health and Social Secretariat of Manitoba (FNHSSM) and the Manitoba First Nations Education Resource Centre (MFNERC). Together, this team was to identify health, education and social indicators of greatest importance to First Nations people and produce a report that is relevant for planning and decision-making.

A team was created with researchers from MCHP and co-Principal Investigators from FNHSSM and MFNERC. It was important that First Nations voices were included in planning and creating this report. Discussions were held with First Nations people from different cultures and across sectors. The team heard that a focus on the health and well-being of First Nations children was valuable. Indicators from a wide range of areas would be required to provide a *wholistic* picture (see Table 2.1).

Table 2.1: List of Indicators in this Report

Chapter	Indicator
Chapter 4: Birth Indicators	
	Distance Travelled to Give Birth
	Preterm Births
	Small-for-Gestational-Age (SGA)
	Large-for-Gestational-Age (LGA)
	Breastfeeding Initiation
	Teen Pregnancy
	Teen Births
	Newborn Readmissions
Chapter 5: Physical Health	
	Asthma
	Diabetes
	Dental Surgeries
	Lower Respiratory Tract Infections
	Otitis Media (Middle Ear Infections)
	Atopic Dermatitis (Atopic Eczema)
	Developmental Disorders
Chapter 6: Mental Health	
	Attention-Deficit Hyperactivity Disorder (ADHD)
	Mood and Anxiety Disorders
	Substance Use Disorders
	Schizophrenia
	Hospitalization for Attempted Suicide
	Suicide
Chapter 7: Health Care and Prevention Services	
	Hospitalizations
	Causes of Hospitalizations
	Number of Different Prescription Drugs
	Complete Vaccination (Two-Year-Olds)
Chapter 8: Educational Outcomes	
	Grade 3 Reading Assessment
	Grade 3 Numeracy Assessment
	Grade 7 Mathematics Assessment
	Grade 7 Student Engagement Assessment
	Grade 8 Reading and Writing Assessment
	Grade 12 Language Arts Test
	Grade 12 Mathematics Test
	High School Graduation

Table 2.1: List of Indicators in this Report (continued)

Chapter	Indicator
Chapter 9: Social Services	
	Children in Care
	Receiving Services from Child and Family Services (CFS)
	Living in a Family Receiving Income Assistance
	Youth (age 18-19) Receiving Income Assistance
	Social Housing
Chapter 10: Justice System Involvement	
	Being Accused of a Crime
	Being a Victim of a Crime
	Being a Witness to a Crime
Chapter 11: Mortality	
	Infant Mortality (age <1 year)
	Child Mortality (age 1-19)
	Stillbirths

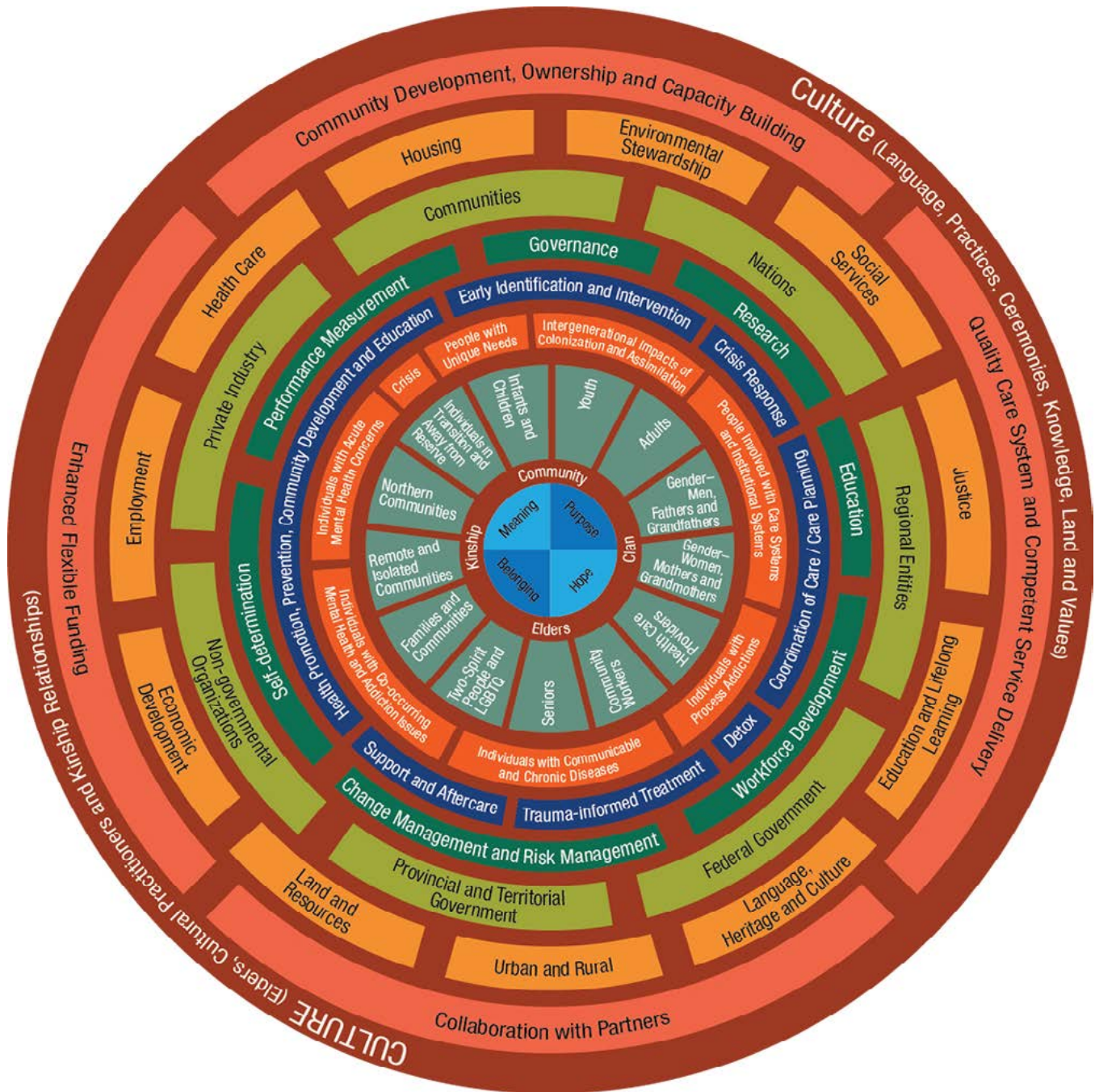
The team also heard that First Nations people wanted a focus on strength-based indicators. It was acknowledged that the type of data housed at MCHP would make that request challenging. To balance the potential finding of health disparities between First Nations and other Manitoba children, the report presents the cultural, social and political context. It was important to present existing or promising initiatives that would address these disparities and help inform avenues for action.

The list of indicators was also discussed with the Health Directors and the Knowledge Keepers from First Nations communities. The Knowledge Keepers are First Nations

Elders from Anishinaabe, Cree, Anishinew, Dakota and Dene Nations, whose experience and knowledge helped guide the report. The indicators chosen were of great interest to representatives from the Healthy Child Manitoba Office and other departments within the government of Manitoba that touch the lives of children.

The First Nations Mental Wellness Framework [27] was proposed to guide the report (Figure 2.1). The framework included a myriad of factors that influence the health and well-being of First Nations people. Many of these factors will be examined in this report.

Figure 2.1: First Nations Mental Wellness Continuum Framework



Thunderbird Partnership Foundation. First Nations mental wellness continuum. National Native Addictions Partnership Foundation. <https://thunderbirdpf.org/fnmwc-full>. Published 2015. Accessed September 25, 2020.

Identifying and Linking Data for Registered First Nations Children

Study Population and Time Period

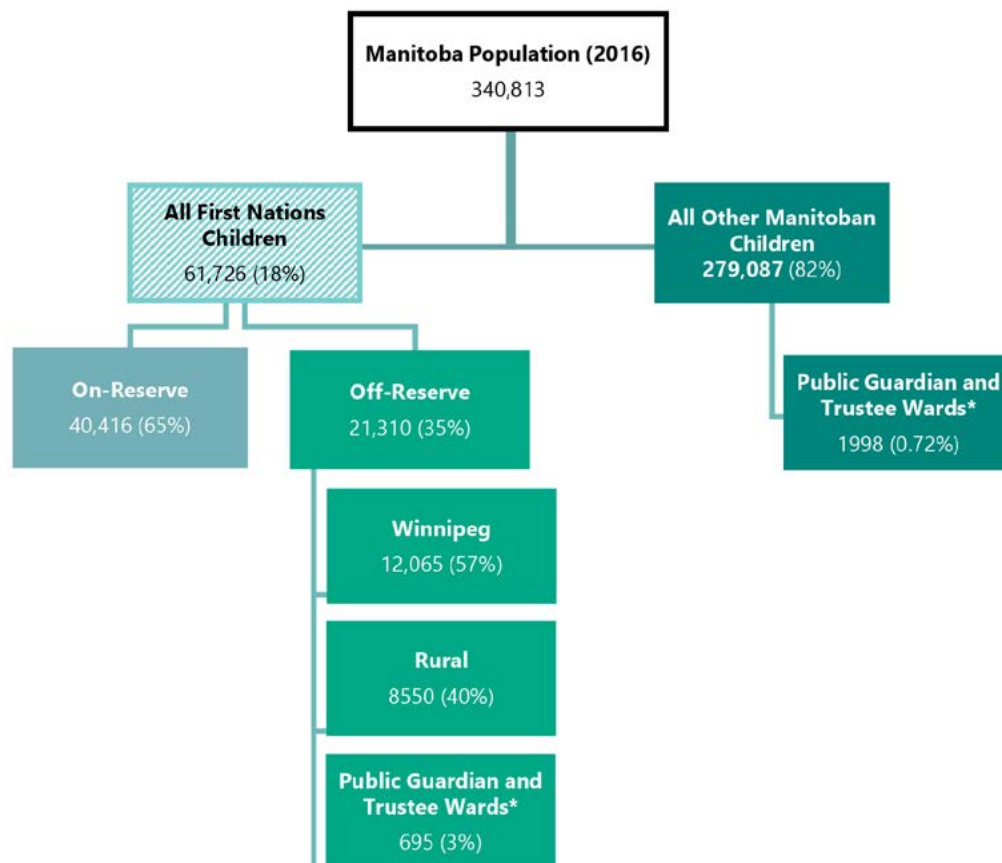
The study populations of First Nations children and other Manitoban children (Figure 2.2) were created using the 2016 Manitoba First Nations Research File and the 2016 Manitoba Health Insurance Registry (described in next section). We identified two groups of children (0-19 years) for this report: 61,726 registered First Nations children from the First Nations Research File and 279,087 All Other Manitoban (AOM) children from the Manitoba Health Insurance Registry. The AOM group included all children registered for health insurance with Manitoba Health, Seniors and Active Living (MHSAL), including non-registered First Nation, Métis and Inuit and non-Indigenous children.

The method we used to create our study population for this report was the same as the one used for the study population of the report entitled *Health Status of and Access to Healthcare by Registered First Nations Peoples in Manitoba* [28] released in autumn 2019. In order to be included in the registered First Nations group, children in

the First Nations Research File required a valid Personal Health Identification Number (PHIN) so that their records were linkable with the Manitoba Health Insurance Registry and other administrative data used. The team was concerned that some children would be missed because there are often delays between the birth of a child and their inclusion in the Manitoba First Nations Research File. Therefore, we also included records of children ages 5 and under who were not included in the file but were born to registered First Nations women.

As shown in Figure 2.2, we divided the First Nations child group into on-reserve (home or other First Nations community) and off-reserve subgroups based on residence codes in the Manitoba First Nations Research File. These residence codes helped us determine where the children lived in 2016. The reader should keep in mind that the children might actually have been living elsewhere for part of the year. For example, a child in the on-reserve sub-group may have also lived off-reserve for part of the year. A small percentage of children in both groups were Public Guardian and Trustee Wards. These children had no home address and therefore we could not include them when calculating rates by regional health authorities (RHA) or health regions, Tribal Council Areas (TCAs) or income quintiles. However, they were included in the Manitoba rates.

Figure 2.2: Population of Manitoban Children
Age ≤ 19, 2016



* Results for wards of the Public Guardian and Trustee of Manitoba are not shown in this report.

Data Sources and Years of Data Used

Given that the Manitoba Population Research Data Repository ('the Repository') holds data from virtually all children living in Manitoba, we are able to present population-based indicators. This means that the rates shown are based upon data from virtually every child in Manitoba, providing results that are representative of the First Nations children of Manitoba.

Most of the data in the Repository are derived from administrative data – records that were collected to administer health and social services as well as the education and justice systems in Manitoba. Data are sent to MCHP from MHSAL only after identifying information (names and addresses) have been removed and PHINs are scrambled. The scrambled PHINs are attached to every line of data in the administrative datasets. This allows us to link children across datasets without identifying them. Readers should note that these data are used for research purposes only after approvals are given by the data providers (described in detail in the next section).

We used the following datasets in this report:

- Manitoba First Nations Research File: information used to identify registered (or 'status') First Nations children and First Nations communities in Manitoba. The Manitoba First Nations Research File was transferred to the Repository as arranged by FNHSSM with Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC; formerly INAC) based on a trilateral agreement between FNHSSM, MHSAL and the University of Manitoba (on behalf of MCHP). Access to the file was granted by the Health Information Research Governance Committee (HIRGC) and FNHSSM.
- Manitoba Health Insurance Registry: information about demographics, residential postal codes, data fields for registration, births, entry into the province, and migration in/out of the province for all children in Manitoba who are registered to receive health benefits.
- Canadian Census: postal codes and income data from the Canada Census used to assign each child to an income quintile (from the lowest to highest income area). See the section "Analyses by Income Quintile" in this chapter for a description of how we conducted analyses by income quintiles.
- Drug Program Information Network (DPIN): information on all medications dispensed from a pharmacy in Manitoba. Each record has details about the drug dispensed, including the person for whom the prescription was written, the type of drug, and the amount of drug dispensed.
- Hospital Abstracts: hospital records of demographic and clinical information (e.g., gender, postal code, diagnoses and procedure codes) completed at discharge from the hospital.
- Medical Services: records for physician visits in offices, hospitals and outpatient departments, provides information on health problems diagnosed by physicians and nurse practitioners.
- Manitoba Diabetes Education Resource for Children and Adolescents (DER-CA): data from a program offering specialty services to children and youth under age 18 with type 1 or type 2 diabetes (<http://www.wrha.mb.ca/healthinfo/a-z/diabetes/directory-diabetes-education-resources-for-children-and-adolescents.php>).
- Manitoba Immunization Monitoring System (MIMS): information on the type of vaccines administered, vaccine sequence schedule, service date and demographic information for the children that were vaccinated.
- Vital Statistics Mortality Registry: records of all deaths in Manitoba, including cause of death.
- Child and Family Services Applications and Intake: records of families that accessed any services (supportive and protective) by Child and Family Services (CFS). It also records children who were taken into care by CFS.
- Enrollment, Marks, and Assessments: used to create all the education indicators, for example, Grade 3 reading and numeracy scores and high school graduation.
- Tenant Management System: records of people (families and children) who live in social housing administered by the province of Manitoba.
- Social Allowances Management Information Network: data on youth and families receiving income assistance.
- Prosecution Information and Scheduling Management: data regarding charges that have been laid. It includes charges against adolescents who were accused of a crime as well as children and adolescents who were victims and those who witnessed the crime.

Additional information about Repository data that were used in this report is available on MCHP's website: http://umanitoba.ca/faculties/health_sciences/medicine/units/chs/departamental_units/mchp/resources/repository/descriptions.html.⁸

⁸ The Manitoba First Nations Research File is not presently listed in the Data Descriptions.

The most recent years of available data were used to create and examine the indicators. The data came from the 2016 calendar year (January 1, 2016 to December 31, 2016) or the 2016 fiscal year (2016/17; April 1, 2016 to March 31, 2017). For frequent events, such as ambulatory (outpatient) primary care visits, we used only one fiscal year of data (2016/17). For rare events, such as infant deaths, we used five fiscal years of data (2012/13 – 2016/17).

Data Security, Access and Ethics

All data management, programming and analyses were performed on MCHP's secure servers using SAS® version 9.4 software. Data security is critical to MCHP. The data held at MCHP are considered to be 'sensitive data', even though no names are attached to the information. There are numerous measures in place to ensure that there is no unauthorized access to these data, including physical barriers (the office space is locked with access by swipe card) and technological barriers (access to data requires a username and password).

Permission for data access is granted through the University of Manitoba Health Research Ethics Board, the Health Information Privacy Committee of the Manitoba government, through the Manitoba First Nations' Health Information Research and Governance Committee (HIRGC; for First Nations data) and through the data providers (for non-health data). Once the approval of each of these bodies has been granted, the principal researcher is required to sign an agreement on behalf of the research team that they will abide by the conditions of access to the data. Access is not typically provided directly to the researchers, but rather to MCHP-employed data analysts who work with the data. Analysts working on a project can only access the data approved for that project. They use a two-factor authentication process every time they access the data system. There are numerous firewalls and technological barriers to prevent unauthorized data access.

When results are presented, the MCHP data security rules require that findings for five or fewer people not be shared. This is because for certain results for small numbers of people, those people are more likely to be identifiable. Results for five or fewer people are 'suppressed' (except when the count is 0) in all MCHP reports; this is shown as an 's' in the graphs and tables of the report.

Ways Indicators are Analyzed and Presented

We present the findings of this report based on three highly relevant groupings: health regions called Regional Health Authorities (RHAs), Tribal Council Areas (TCAs) and income quintiles. The RHAs and TCAs are shown in a particular order in this report, which is consistent throughout the report and similar to other MCHP reports. This order is based on the overall health status of the population of each area as measured by the premature mortality rate (PMR).

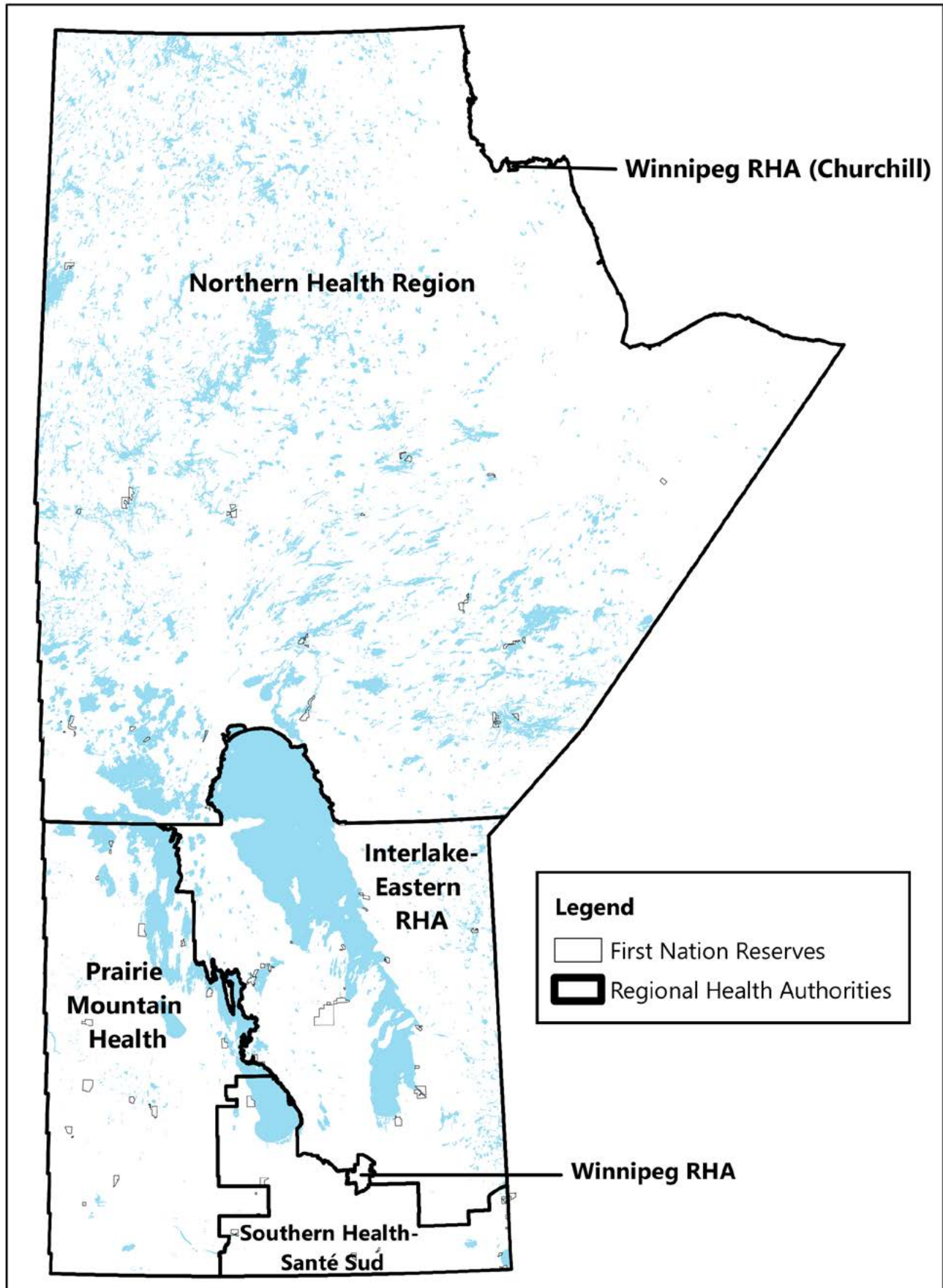
Analyses by Regional Health Authority (RHA) or Health Regions

Findings in this report are presented by provincial Regional Health Authority (RHA) or health regions, because funding for the provincial health care system is allocated to the five RHAs (Figure 2.3). A map of districts within the five RHAs can be found in the online supplement (<http://mchp-appserv.cpe.umanitoba.ca/deliverablesList.html>). While it is important to explore indicators based on RHAs, we also recognize that many First Nations do not access health care services in the geographical RHAs in which they reside. For example, First Nations living in Island Lake TCA do not receive services from Northern RHA even though they are located within the geographic boundaries of this RHA. It should also be noted that all figures and tables in this report use the official RHA names, listed below. We use shorter labels in the report text (e.g., Northern RHA, Southern RHA).

Regional Health Authorities (official names):

- Interlake-Eastern RHA
- Northern Health Region (Northern RHA)
- Prairie Mountain Health (Prairie Mountain RHA)
- Southern Health-Santé Sud (Southern RHA)
- Winnipeg RHA

Figure 2.3. Map of Regional Health Authorities in Manitoba, 2016



Analyses by Tribal Council Area (TCA)

Tribal Council affiliations are critical to delivering health care services among First Nations. Examining indicators by Tribal Council Areas (TCAs) provides insights into the use of and access to health services. There are strong relationships between First Nations communities and their affiliated tribal councils. TCAs in this report include the seven official Tribal Councils and groupings of Independent and Non-Affiliated First Nations communities (Table 2.2, Figure 2.4). Sioux Valley Dakota Nation is the only First Nation in Manitoba that has negotiated a self-government agreement and is recognized by the federal and provincial

governments as self-governing. However, Sioux Valley Dakota Nation declined to be involved in this study, and their data are not included in the analyses.

Note that some communities in the Interlake Region TCA (e.g., Lake St. Martin, Little Saskatchewan and Dauphin River) were flooded in 2011 and the residents were relocated [29,30]. However, the 2016 Manitoba First Nations Research File continues to show these communities as living in the Interlake TCA, and we have included these communities as part of the on-reserve cohort (living in the Interlake TCA) in this report.

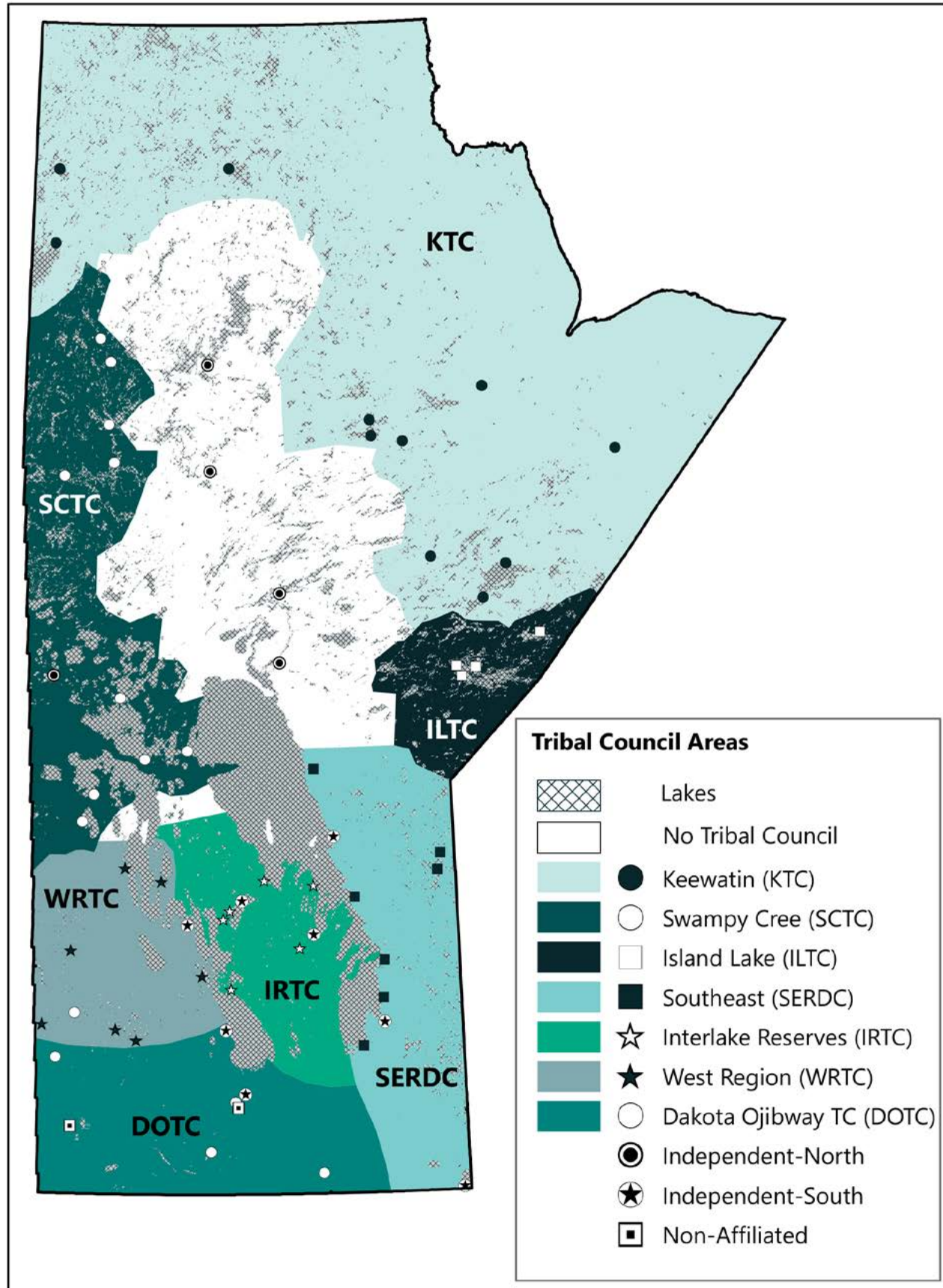
Table 2.2: Organization of First Nation Communities into Tribal Council Areas in This Report

Tribal Council Areas in This Report	First Nation Communities
Official Tribal Councils	
Dakota Ojibway Tribal Council (DOTC)	Birdtail Sioux Dakota Nation
	Long Plain First Nation
	Roseau River Anishinabe First Nation
	Swan Lake First Nation
	Waywayseecappo First Nation
Interlake Reserves Tribal Council (IRTC)	Dauphin River First Nation
	Kinonjeoshtegon First Nation
	Lake Manitoba Treaty 2 First Nation
	Little Saskatchewan First Nation
	Peguis First Nation
	Pinaymootang First Nation
Island Lake Tribal Council (ILTC)	Garden Hill First Nation
	Red Sucker Lake First Nation
	St. Theresa Point First Nation
	Wasagamack First Nation
Keewatin Tribal Council (KTC)	Barren Lands First Nation
	Bunibonibee Cree Nation
	Fox Lake Cree Nation
	Gods Lake First Nation
	Manto Sipi Cree Nation
	Northlands Denesuline First Nation
	Sayisi Dene First Nation
	Shamattawa First Nation
	Tataskweyak Cree Nation
	War Lake First Nation
	York Factory First Nation
Southeast Resource Development Council (SERDC)	Black River First Nation
	Bloodvein First Nation
	Brokenhead Ojibway Nation
	Hollow Water First Nation
	Little Grand Rapids First Nation
	Pauingassi First Nation
	Poplar River First Nation
Swampy Cree Tribal Council (SCTC)	Chemawawin Cree Nation
	Marcel Colomb First Nation
	Mathias Colomb Cree Nation
	Misipawistik Cree Nation
	Mosakahiken Cree Nation
	Sapotaweyak Cree Nation
	Wuskwi Sipiik First Nation
West Region Tribal Council (WRTC)	Ebb and Flow First Nation
	Gamblers First Nation
	Keeseekoowenin Ojibway First Nation
	Pine Creek First Nation
	Rolling River First Nation
	Skownan First Nation
	Tootinaowaziibeeng Treaty Reserve

Table 2.2: Continued

Tribal Council Areas	First Nation Communities
Other Groupings	
Independent-North	Nisichawayasihk Cree Nation
	Norway House Cree Nation
	Opaskwayak Cree Nation
	O-Pipon-Na-Piwin Cree Nation
	Pimicikamak Cree Nation
Independent-South	Berens River First Nation
	Buffalo Point First Nation
	Dakota Tipi First Nation
	Fisher River Cree Nation
	Lake St. Martin First Nation
	O-Chi-Chak-Ko-Sipi First Nation
	Sagkeeng First Nation
	Sandy Bay First Nation
Non-Affiliated	Canupawakpa Dakota Nation
	Dakota Plains Wahpeton Nation

Figure 2.4: Map of Tribal Council Areas in Manitoba, 2016



Analyses by Income Quintile

We conducted analyses of the indicators by urban and rural income quintile. Urban areas include Winnipeg and Brandon, while the rest of Manitoba – including smaller cities – is regarded as rural. The analyses by income quintile are important because income has a large impact on health and health care use [31]. These analyses can help discern how much of the disparities are due to income and how much might be due to other factors (for example, discrimination or remoteness).

The all other Manitobans (AOM) child population in the rural and urban areas was divided into five groups of approximately equal population according to the average household income of the dissemination area in which they live (as reported in the 2016 Canada Census). Income values were taken from public use files from the 2016 Canada Census, the most recent reliable data. We compared indicator rates for AOM in the highest and lowest income quintiles to off-reserve First Nations in urban areas, as well as on- and off-reserve First Nations in rural areas.

One of the challenges of using income quintiles for analyses is that we can only assign an individual to a residence once during the study period (see 'Area of Residence' below). We recognize that people may move after being assigned, but their area of residence and income quintile will not be changed in our analyses. The assigned income is also not a household income but the average income of that dissemination area.

Data Analyses

Statistical Testing

Statistical testing is a way of determining if the comparisons between populations (e.g., on-reserve vs. off-reserve First Nations; Keewatin vs. Interlake Reserves TCAs) are showing important differences or if the differences shown may be due to chance. For analyses by RHA or health region, we also compared the rates of First Nations children and AOM children living in each RHA to the Manitoba average as a standard point of reference. For analyses by TCA, we compared the rates of each TCA to the TCA with the lowest rate for indicators with a negative outcome (e.g., preterm births), or to the TCA with the highest rate for indicators with a positive outcome (e.g., high school graduation), to evaluate differences between TCAs within a relevant context.

Where the comparisons are not statistically different, the rate is considered similar to the comparison group. It is important to recognize that what appears to be a large difference on the graph may not be statistically different. Statistically different results are indicated on the graphs by numbers or symbols next to the areas that are different and explained below the graph. We generally only highlight statistically significant differences when we talk about differences in this report.

The analyses for this report were done using a generalized linear modeling approach (negative binomial or Poisson distribution), incorporating an interaction term. Three separate models were run to produce rates for the RHA, TCA and income quintile analyses. Covariates in the model included cohort, age, sex, and area of residence (either RHA, TCA or income quintile depending on the analyses). Because we modeled rates (not events), we used the logarithm of the population as an offset in the model. Separate models provided rates for the populations included in the RHA, TCA and income quintile analyses. The models for analyses by RHA and income quintile included All First Nations and AOM children. The model for analyses by TCA included on-reserve and off-reserve First Nations children.

Below are the notation and explanatory footnotes for statistically significant differences between comparison groups by RHA:

1. First Nations on-reserve rate in an RHA compared to the All First Nations on-reserve rate for Manitoba
2. First Nations off-reserve rate in an RHA compared to the All First Nations off-reserve rate for Manitoba
3. All First Nations rate in an RHA compared to the All First Nations rate for Manitoba
4. AOM rate for an RHA compared to the AOM rate for Manitoba
5. All First Nations rate compared to the AOM rate
6. First Nations on-reserve rate compared to the First Nations off-reserve rate

The notation and explanatory footnotes for statistically significant differences between comparison groups by TCA are:

- † First Nations on-reserve rate in a TCA compared to the TCA with the best, lowest or highest on-reserve rate
- ‡ First Nations off-reserve rate in the TCA compared to the TCA with the best, lowest or highest off-reserve rate
- § First Nations on-reserve rate compared to the off-reserve rate in the same TCA

The notation and explanatory footnotes for statistically significant differences between comparison groups by income quintile are:

1. Urban areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
2. Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
3. Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
4. Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
5. Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
6. Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Statistical Significance


If a difference is 'statistically significant' or the rates of two groups are 'statistically different' from each other, then this difference is large enough that we are confident it is not due to chance. Statistical significance describes how much confidence to put in the results. When you see a large difference that is NOT statistically significant, it is telling you that the rate for one group is probably not actually different from the rate for the comparison group, and that it

could fluctuate greatly from year to year. The reasons for a difference to not be significant could be due to the finding being based on small numbers (either a small number of events, or a small population), and so it could change from year to year.

Rates and Adjustments

A rate refers to the total number of events that occur for a group of children in a given period, or the number of children who have a characteristic that is of interest during a given period. For several indicators in this report, these rates are presented simply as a percentage of the population that met the definition. However, some health-related events can happen to a single person more than once, and these are presented as the frequency with which they occur. For example, the hospitalization rate shows the total number of hospitalizations per group of children in a fiscal year.

Most rates in this report have been statistically adjusted to account for the different age and sex composition of the different populations that we compare. This adjustment allows for fair comparisons between 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. Graphs present adjusted rates (where possible). Rates are presented as "crude rates" when adjusting is not possible.



Chapter 3:

Population Description

In this chapter, we provide numbers and percentages of the groups of children whom we studied in this report. We also report the age and sex distributions of the entire Manitoba population to show the proportion of children relative to adults in First Nations population and all other Manitobans. The method used to create the cohort of the entire First Nations population parallels the one for the child population (described in Chapter 2) and consists of registered First Nations people found in the Manitoba First Nations Research File. The cohort of All Other Manitobans includes non-registered First Nations, Metis, Inuit and non-Indigenous people. Understanding these distributions is useful in planning health and other services. For example, a younger population will require a focus on prenatal care, vaccinations, early childhood services and education.

Table 3.1 shows the number and percentage of children found in each health region – for First Nations children, this is also shown by residence on-reserve and off-reserve. As recorded in the Manitoba First Nations Research File, two-thirds of First Nations children lived in First Nations communities (on-reserve: 40, 416) and the other one-third live away from the community (off-reserve: 20,615). Northern RHA had the largest number of First Nations children, followed by Winnipeg RHA and Interlake-Eastern RHA. This is in contrast with all other Manitoba children, the majority of whom live in Winnipeg RHA.

Table 3.1: Population of Manitoban Children by Health Region

Counts and percentage, age ≤ 19, 2016

Health Region	Counts	Percent	Counts	Percent	Counts	Percent	Counts	Percent
	First Nations On-Reserve		First Nations Off-Reserve		All First Nations		All Other Manitobans	
Southern Health-Santé Sud	3,956	9.8%	1,331	6.2%	5,287	8.6%	55,794	20.0%
Winnipeg RHA	n/a	n/a	12,065	56.6%	12,065	19.5%	156,331	56.0%
Prairie Mountain Health	4,068	10.1%	2,393	11.2%	6,461	10.5%	36,017	12.9%
Interlake-Eastern RHA	9,772	24.2%	1,417	6.6%	11,189	18.1%	22,616	8.1%
Northern Health Region	22,620	56.0%	3,409	16.0%	26,029	42.2%	6,331	2.3%
Manitoba	40,416	100.0%	20,615	96.7%	61,031	98.9%	277,089	99.3%

Note: Children who are under public guardian or trustee are not included in this table (695 First Nation children and 1998 All Other Manitoba children.)

Table 3.2 provides the number and percentage of First Nations children living in Tribal Council Areas (TCAs) by those living on-and-off-reserve. Some TCAs have a higher proportion of

children living on-reserve. For example, the majority of children in Island Lake live on-reserve, whereas in Interlake Reserves (IRTC), only a little more than half live on-reserve.

Table 3.2: First Nations Child Population in Manitoba by Tribal Council Area

Counts and percentage, age ≤ 19, 2016

Tribal Council Areas	Counts	Percent	Counts	Percent
	First Nations On-Reserve		First Nations Off-Reserve	
Interlake Reserves (IRTC)	2,975	7.36%	2,681	13.48%
West Region (WRTC)	2,455	6.07%	2,086	10.49%
Independent-North	8,670	21.45%	3,093	15.55%
Swampy Cree (SCTC)	3,941	9.75%	1,746	8.78%
Keewatin (KTC)	5,183	12.82%	2,301	11.57%
Independent - South	5,644	13.96%	3,624	18.22%
Dakota Ojibway TC (DOTC)	2,807	6.95%	1,993	10.02%
Southeast (SERDC)	3,207	7.94%	1,647	8.28%
Island Lake (ILTC)	5,353	13.24%	588	2.96%
Non-Affiliated	181	0.45%	132	0.66%
First Nations Total	40,416	100%	19,891	100%

Age and Sex Distribution by First Nations and All Other Manitobans

Figure 3.1 shows that a large proportion of the First Nations population are children. Close to 45% of the First Nations population are 19 years old or under compared to about 25% of All Other Manitobans. Figure 3.2 denotes that the

age and sex distributions of First Nations children are similar on-and-off-reserve. In Appendix 1, these distributions are provided by RHA, by First Nations people living on- and off-reserve and by TCA.

Figure 3.1: Age Profile of Manitoba, 2016

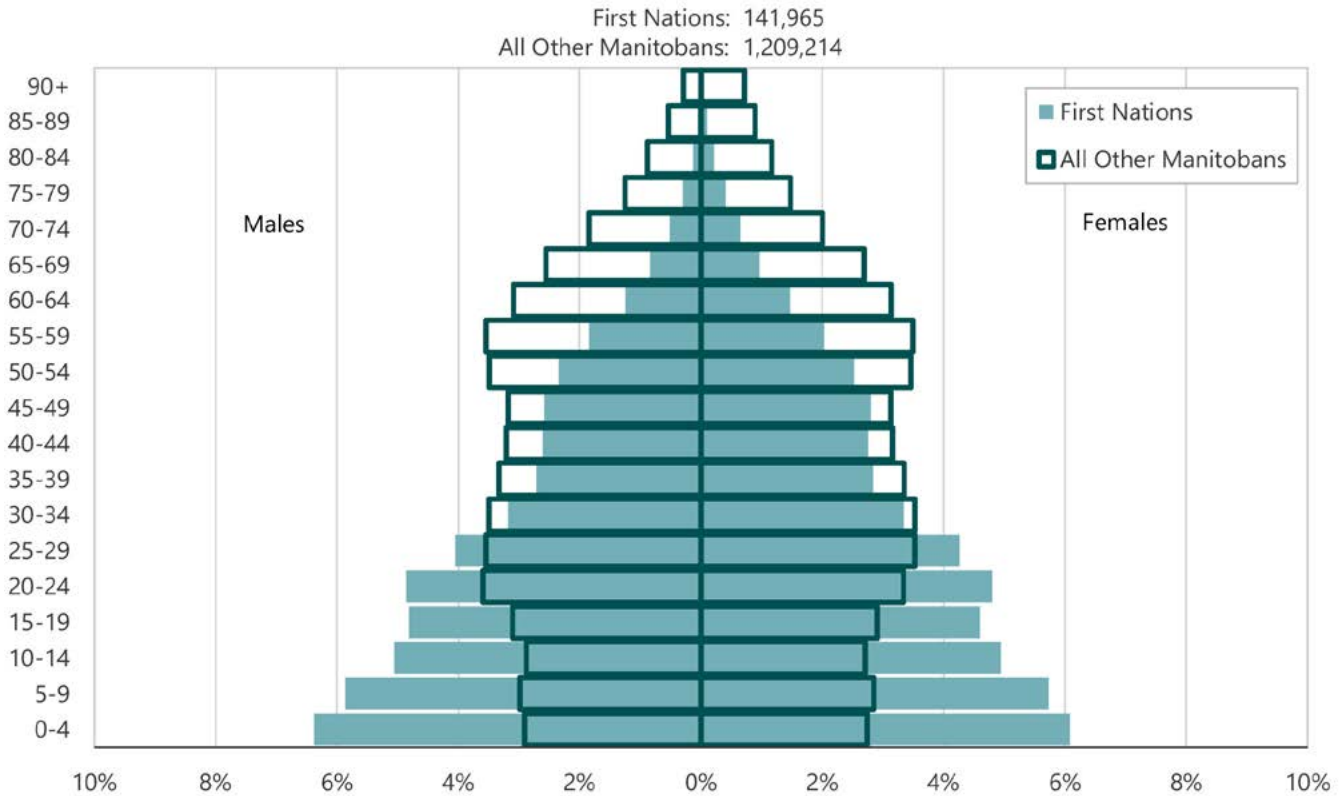
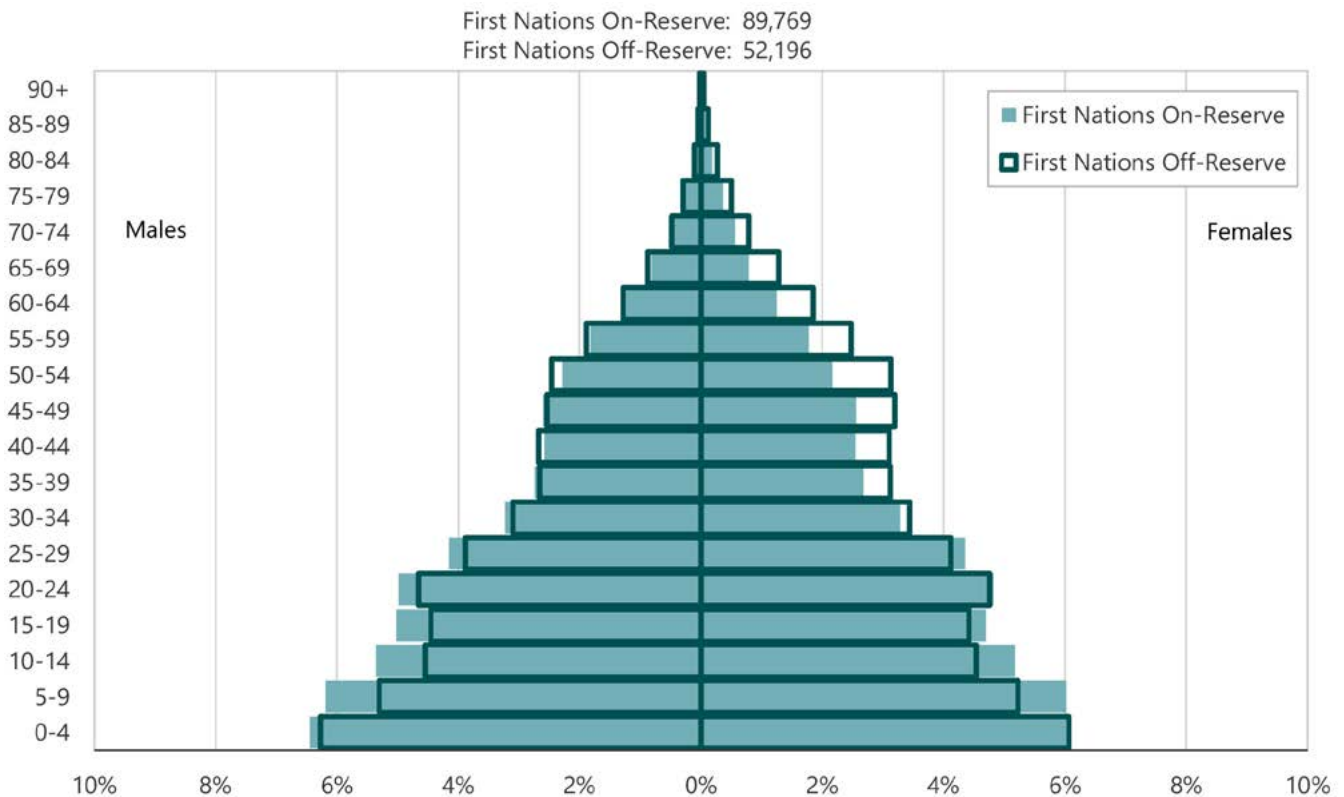


Figure 3.2: Age Profile of First Nations in Manitoba, 2016



Chapter 4:

Birth Indicators

In this chapter, we examine birth outcomes of First Nations children. Generally speaking, a child's health at birth is associated with health outcomes later in life. It is therefore critical that resources and services are in place for First Nations women and children to ensure the best possible outcomes. It is crucial that these services take into account the many traditional Indigenous birthing practices that have almost been forgotten through the process of colonization, as have parenting practices [32]. Before contact with Western culture, prenatal care in First Nations communities emphasized eating and resting well, exercise, and avoiding strenuous activity and was family-centred. First Nations women gave birth accompanied by a traditional midwife and other women. Traditional ways of saving and honoring the umbilical cord and for the sacred treatment of the placenta were passed down through the generations. Breastfeeding was the norm and often continued for the first two years of the child's life [14].

The Knowledge Keepers talked about the underlying reasons for inequities in birth outcomes. These reasons included lifestyle, environment, stress and not being connected. To address these, birthing must return to the communities, prenatal care must be improved and structural barriers faced by First Nations women must be addressed. It was also noted that hospital stays after the birth are short and education opportunities about breastfeeding are missed.

A definition of each of the following indicators is provided prior to presentation of the results.

- Distance Travelled to Give Birth
- Preterm Births
- Small-for-Gestational-Age (SGA)
- Large-for-Gestational-Age (LGA)
- Breastfeeding Initiation at Hospital Discharge
- Teen Pregnancy
- Teen Births
- Newborn Readmissions to Hospital

Cautions regarding the data on which the results are

based: The indicators for birth outcomes are derived from hospital data, which are very complete. However, a percentage of births among First Nations women occur at home, in the community or in nursing stations, and these are not included in the results presented in this chapter. Regarding breastfeeding, the data reports only breastfeeding initiation at the time when the mother and baby are discharged from the hospital. The report did not examine breastfeeding rates after the women returned home, because this information is not collected.

Notes about Statistical Significance:

- Only statistically significant results are described in the text that accompanies each graph or table.

In general, we do not comment if there is no statistically significant result.

- In graphs of Tribal Council Areas, we compared rates of each TCA to the TCA with the lowest rates for indicators with a negative outcome (e.g., preterm births) or to the TCA with the highest rate for a positive outcome (e.g., breastfeeding) to evaluate differences between TCAs within a relevant context.
- In graphs of health regions, we did not describe results of All Other Manitoba Children, as they are not the focus of this report.
- Differences between groups were tested at $p < 0.01$ level of significance.

Distance Travelled to Give Birth

We calculated the distance between where a woman lived and where she gave birth. These distances were categorized into four zones⁹.

Zone 1: A woman was placed in Zone 1 if the distance travelled to give birth was within 50 km of her home community. We note that some women in Zone 1 gave birth in their home community, in a hospital or nursing station, even though these facilities are not official birthing centres. As an example, some women from Cross Lake may have

given birth in the nursing station there, even though their official place of birth should have been the Thompson Hospital;

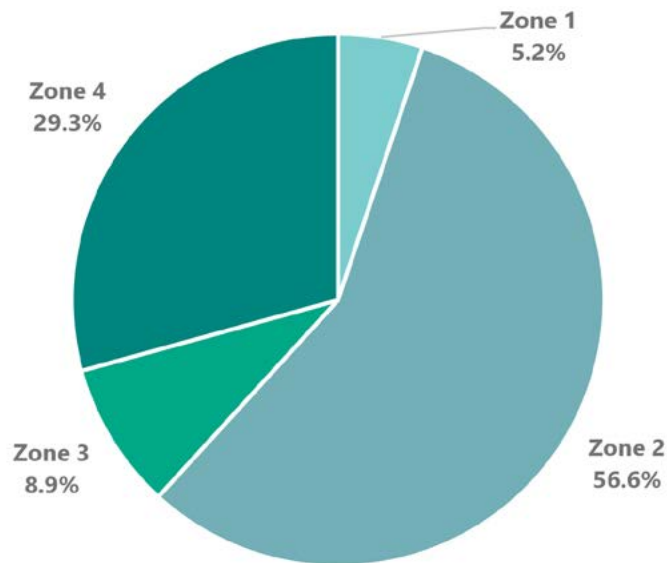
Zone 2: A woman was placed in Zone 2 if the distance travelled was between 50 and 350 km;

Zone 3: A woman was placed in Zone 3 if the distance travelled was over 350 km;

Zone 4: A woman was placed in Zone 4 if she lived in a community without year-round road access, and travel (either by air or driving on a winter road) was required to give birth.

Figure 4.1: Distance from Residence to Birthing Centre by Zone

Crude percent of live births to First Nations mothers living on-reserve, 2012/13-2016/17



Zone 1: The distance travelled was within 50 km of the nearest service centre with year-round road access.

Zone 2: The distance travelled was between 50 and 350 km from the nearest service centre with year-round road access.

Zone 3: The distance travelled was over 350 km from the nearest service centre with year-round access.

Zone 4: The First Nations community had no year-round road access (or only has partial year-round road access) to a service centre and as a result experienced a higher cost of transportation.

⁹ These four zones have been previously used and described by Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC).

Figure 4.1 shows that only a small percentage of First Nations women living on-reserve (5.2%) travelled 50 km or less to give birth. Over half of women (56.6%) travelled between 50 and 350 km, 8.9% travelled distances greater

than 350 km, and 29.3% were completely isolated with no year-round road access in their community. Table 4.1 lists the communities included in each zone and the number of births per community.

Table 4.1: Number of Births to Women Living On-Reserve by Tribal Council Area, First Nations Community and Zones, 2012/13-2016/17

Tribal Council	First Nation	Zone 1	Zone 2	Zone 3	Zone 4	Total Births
Dakota Ojibway Tribal Council (DOTC)	Birdtail Sioux Dakota Nation	s	80			80
	Long Plain First Nation	126	195			321
	Roseau River Anishinabe First Nation	s	125	s		125
	Swan Lake First Nation	s	51			51
	Waywayseecappo First Nation	s	179			179
Independent-North	Opaskwayak Cree Nation	254	8	60		322
	Nisichawayasihk Cree Nation	s	365	29		394
	Norway House Cree Nation	39	189	503		731
	Pimicikamak Cree Nation	s	680	74		754
	O-Pipon-Na-Piwin Cree Nation		136	7		143
Independent-South	Sandy Bay First Nation		592	s		592
	Fisher River Cree Nation		184			184
	Lake St. Martin First Nation		192			192
	Dakota Tipi First Nation	16	12			28
	Sagkeeng First Nation	s	315	s		315
	Buffalo Point First Nation		s			0
	Berens River First Nation				252	252
Interlake Reserves Tribal Council (IRTC)	Peguis First Nation		385	s		385
	Kinonjeoshtegon First Nation		38			38
	Lake Manitoba Treaty 2 First Nation	s	127			127
	Pinaymootang First Nation	s	156			156
	Little Saskatchewan First Nation		119	s		119
	Dauphin River First Nation		35			35
Island Lake Tribal Council (ILTC)	Garden Hill First Nation				539	539
	Red Sucker Lake First Nation				119	119
	St. Theresa Point First Nation				526	526
	Wasagamack First Nation				297	297
Keewatin Tribal Council (KTC)	Fox Lake Cree Nation	16	s	s		16
	Tataskweyak Cree Nation	s	286	38		324
	Barren Lands First Nation				66	66
	Shamattawa First Nation				215	215
	York Factory First Nation				56	56
	Sayisi Dene First Nation				42	42
	War Lake First Nation				14	14
	Bunibonibee Cree Nation				335	335
	Gods Lake First Nation				193	193
	Northlands Denesuline First Nation				101	101
	Manto Sipi Cree Nation				141	141

s - Data suppressed due to small numbers

Table 4.1: continued

Tribal Council	First Nation	Zone 1	Zone 2	Zone 3	Zone 4	Total Births
Non-Affiliated	Dakota Plains Wahpeton Nation	s	9			9
	Canupawakpa Dakota Nation	s	32			32
Southeast Resource Development Council (SERDC)	Brokenhead Ojibway Nation	23	42			65
	Black River First Nation		140			140
	Bloodvein First Nation	s	161			161
	Hollow Water First Nation		106			106
	Poplar River First Nation				163	163
	Little Grand Rapids First Nation				150	150
	Pauingassi First Nation				80	80
Swampy Cree Tribal Council (SCTC)	Sapotaweyak Cree Nation		115	17		132
	Misipawistik Cree Nation		95	74		169
	Chemawawin Cree Nation		143	42		185
	Mosakahiken Cree Nation		183	55		238
	Mathias Colomb Cree Nation	s	268	60		328
	Wuskwi Sipihk First Nation		16	s		16
	Marcel Colomb First Nation	s	38	s		38
West Region Tribal Council (WRTC)	Gamblers First Nation		s			0
	Keeseekoowenin Ojibway First Nation	s	55			55
	Rolling River First Nation	50	s			50
	Tootinaowaziibeeng Treat Reserve		53			53
	Pine Creek First Nation		81	30		111
	Skownan First Nation		69			69
	O-Chi-Chak-Ko-Sipi First Nation		69	s		69
	Ebb and Flow First Nation	7	225			232

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How do these Results Compare with Previous Studies on Distance Travelled to Give Birth?

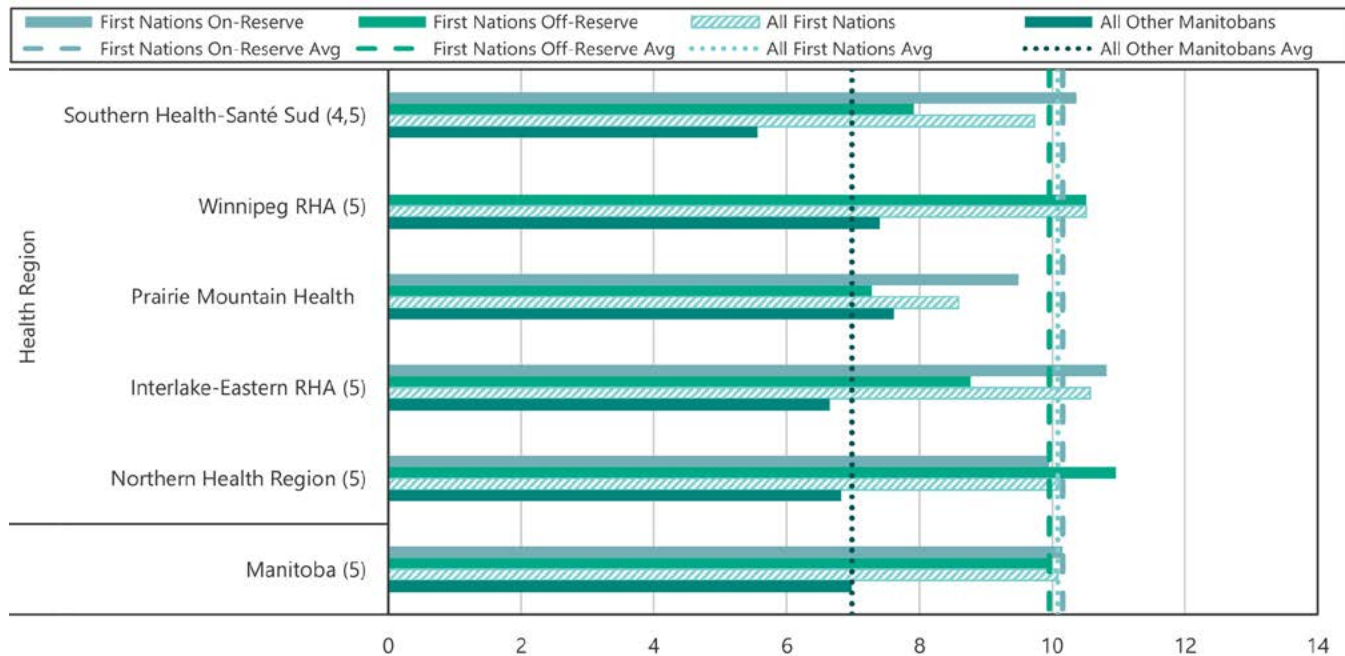
Unfortunately, we could not find any previous studies with which to compare distance travelled from where women lived to where they gave birth.

Preterm Births

We defined the preterm birth rate as the number of live hospital births with a gestational age of less than 37 weeks over the number of live hospital births during fiscal years 2012/13 to 2016/17.

Figure 4.2: Percentage of Preterm Births by Health Region

Crude rate per 100 live births, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

4 - All Other Manitobans: RHA compared to the Manitoba average

5 - All First Nations compared to All Other Manitobans

Avg - Manitoba average

- Overall in Manitoba and in each health region (with the exception of Prairie Mountain RHA), the preterm birth rate was higher among First Nations infants (10.1%) compared to other Manitoba infants (7.0%).

Figure 4.3: Percentage of Preterm Births by Tribal Council Area

Crude rate per 100 live births, 2012/13-2016/17

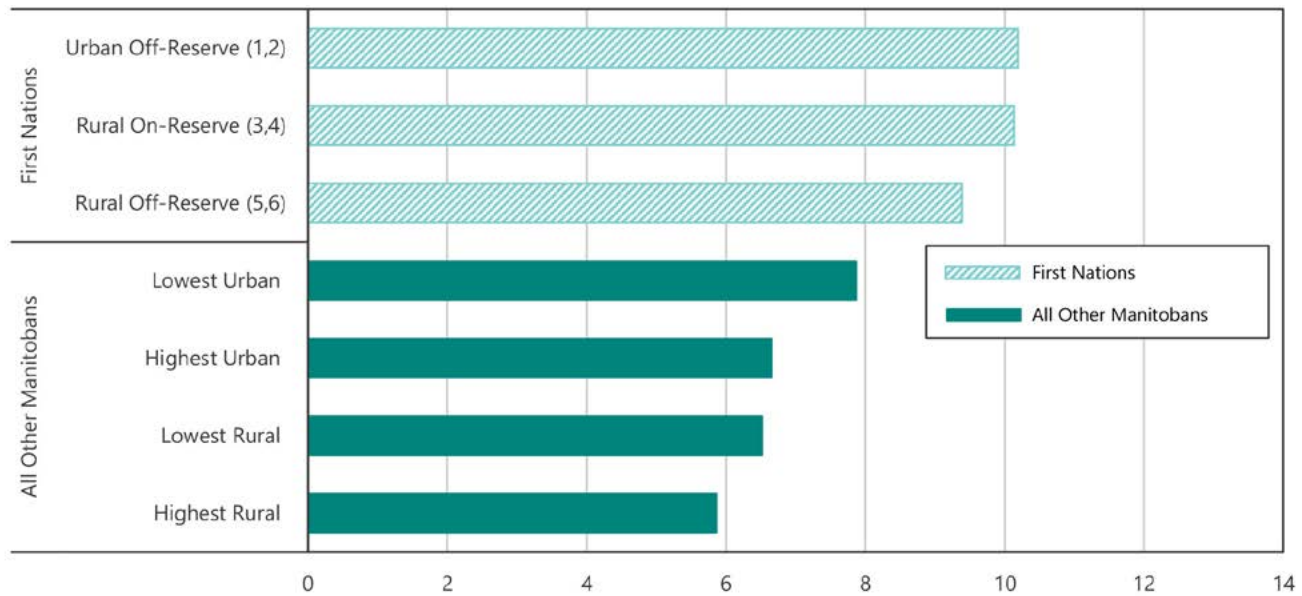
Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the lowest rate (KTC)

s - Data suppressed due to small numbers

- Among First Nations infants living on-reserve, Island Lake Tribal Council (13.0%) had a higher preterm birth rate compared to Keewatin (8.7%), the tribal council with the lowest rate.

Figure 4.4: Percentage of Preterm Births for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile
Crude rate per 100 live births, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 4.4 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the preterm birth rate was higher among First Nations infants (10.2%; living off-reserve) compared to all other Manitoba infants living in the lowest (7.9%) and highest (6.7%) income areas.
- Similarly, *in rural areas*, the preterm birth rate was higher among First Nations infants living on- reserve (10.1%) and off-reserve (9.4%) compared to all other Manitoba infants living in the lowest (6.5%) and highest (5.9%) income areas.

How do these Results Compare with Previous Studies on Pre-term Births?

These results are consistent with other studies. Heaman and colleagues conducted an analysis of preterm birth rates in Manitoba using Statistics Canada's linked vital data from 1991-2000 [33]. These serve as good comparisons to our data, which comes from more recent years. Heaman et al. found on- and off-reserve preterm birth rates of 7.5% and 9.7%, respectively. Our data show on- and off-reserve rates of 10.2% and 10.0%. There is little difference in the off-reserve rates; however, the on-reserve preterm birth rate is higher in our report.

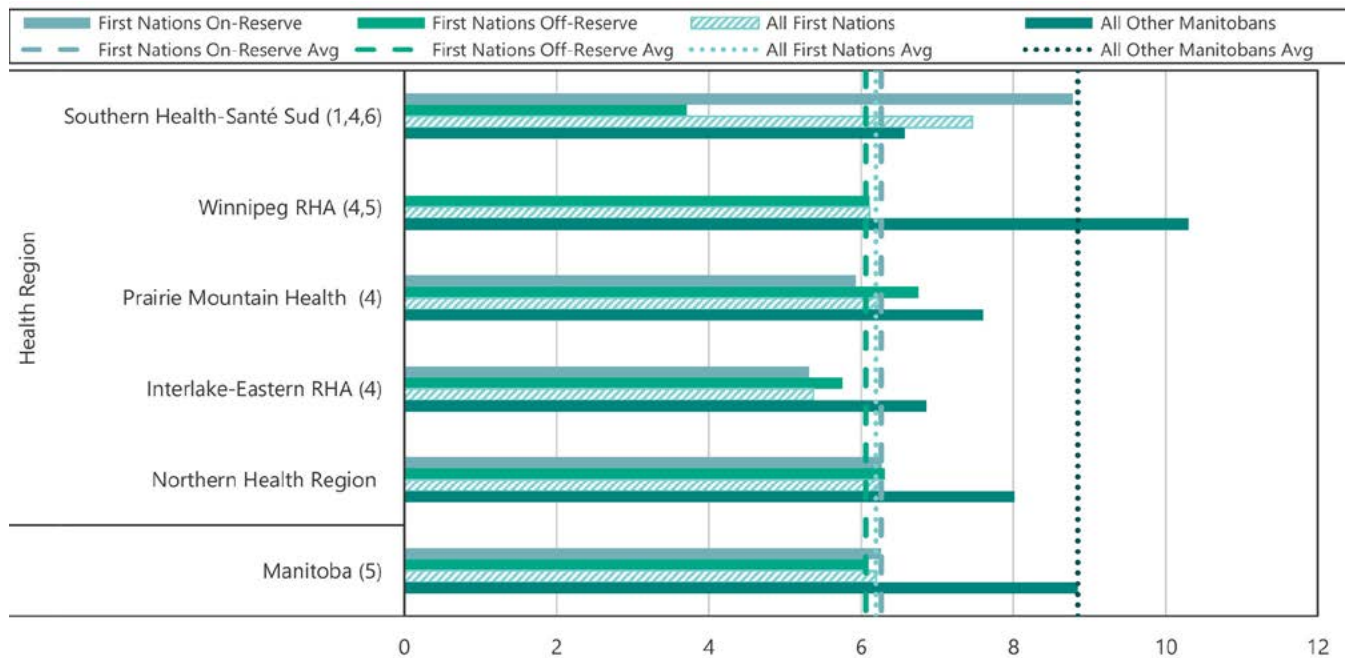
Small-for-Gestational-Age (SGA)

Infants are small-for-gestational-age (SGA) when they are born weighing less than the standard 10th percentile of the

sex-specific birth weight for a given gestational age using the Canadian standard. This indicator was calculated by dividing the number of infants born alive who were SGA at birth by the total number of live hospital births during fiscal years 2012/13 to 2016/17.

Figure 4.5: Percentage of Small-for-Gestational-Age Infants by Health Region

Crude rate per 100 live births, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

1 - First Nations on-reserve: RHA compared to the Manitoba average

4 - All Other Manitobans: RHA compared to the Manitoba average

5 - All First Nations compared to All Other Manitobans

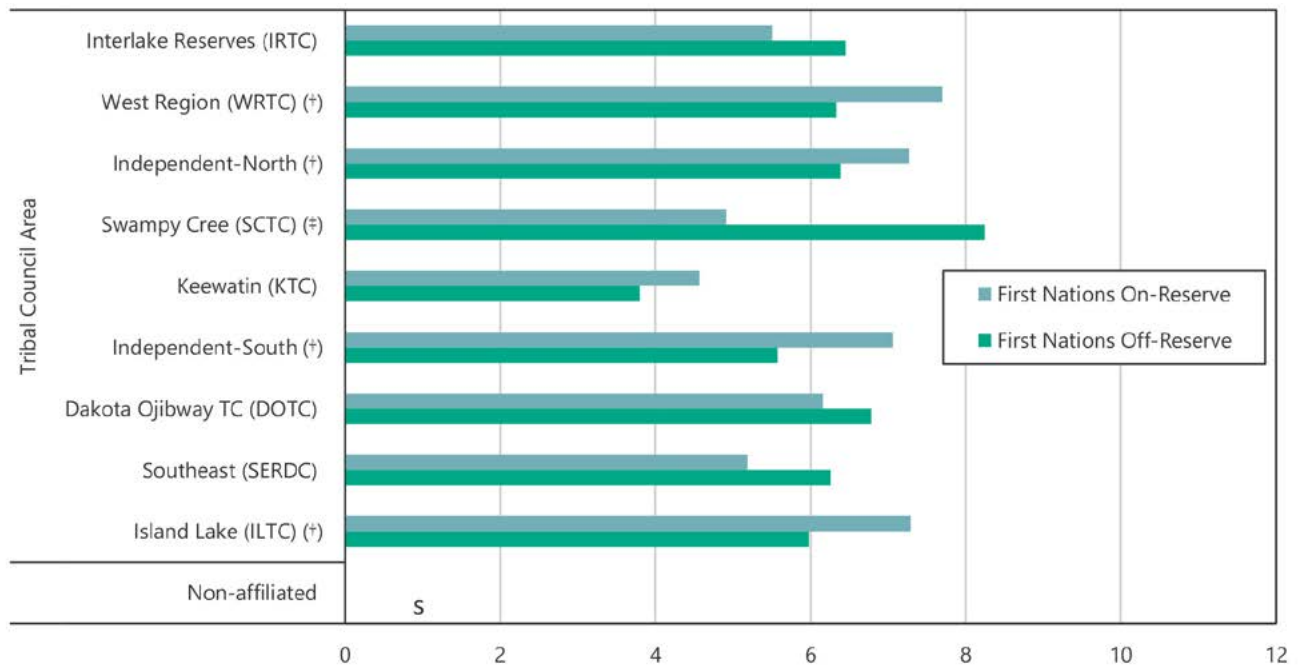
6 - First Nations on-reserve compared to First Nations off-reserve

Avg - Manitoba average

- In Manitoba overall, the SGA rate was lower among First Nations infants (6.2%) compared to other Manitoba infants (8.8%). In Winnipeg RHA, the SGA rate was also lower among First Nations infants compared to other Manitoba infants.
- Among First Nations infants living on-reserve, the SGA rate was higher for those living in Southern RHA compared to the average on-reserve rate.
- The rate was higher among First Nations infants living on-reserve compared to off-reserve in Southern RHA.

Figure 4.6: Percentage of Small-for-Gestational-Age Infants by Tribal Council Area

Crude rate per 100 live births, 2012/13-2016/17

Statistically significant differences ($p < 0.01$):

+ - First Nations on-reserve: TCA compared to the lowest rate (KTC)

- First Nations off-reserve: TCA compared to the lowest rate (KTC)

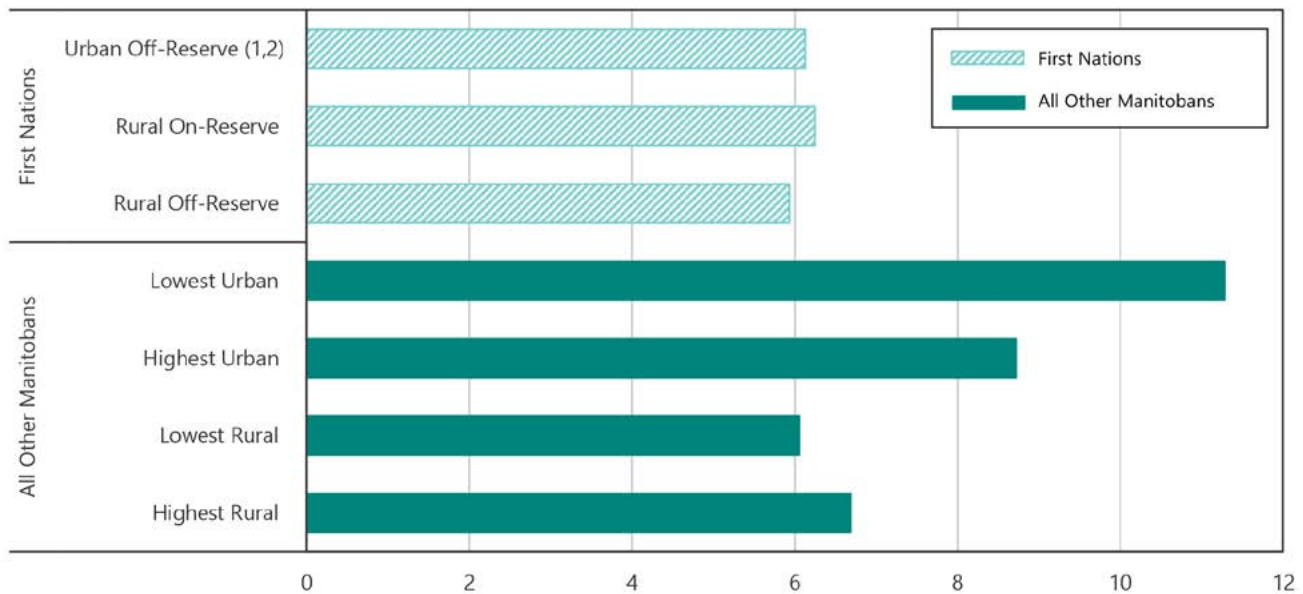
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There was some variation in SGA between TCAs:

- Among First Nations infants living on-reserve, West Region (7.7%), Independent North (7.3%), Independent South (7.1%) and Island Lake Tribal Council (7.3%) had a higher SGA rate compared to Keewatin (4.6%), the tribal council with the lowest rate.
- Among First Nations infants living off-reserve, Swampy Cree Tribal Council had a higher SGA rate compared to Keewatin, the tribal council with the lowest rate.
- Although the SGA rates appear to be different between off-reserve and on-reserve in many TCAs, these differences were not statistically significant.

Figure 4.7: Percentage of Small-for-Gestational-Age Infants for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate per 100 live births, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 4.7 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the SGA rate was lower among First Nations infants (6.1%; living off-reserve) compared to all other Manitoba infants living in the lowest (11.3%) and highest (8.7%) income areas.
- No statistically significant differences were found in rural areas.

How do these Results Compare with Previous Studies on Small-for-Gestational-Age Rates?

These results are consistent with other studies. Heaman and colleagues conducted an analysis of small-for-gestational-age rates in Manitoba using Statistics Canada's linked vital data from 1991-2000 [33]. Comparing our report with the Heaman et al. study, the rate of small-for-gestational-age births was lower for First Nations people living on-reserve (6.3% versus 7.3%) and off-reserve (6.1% versus 8.1%).

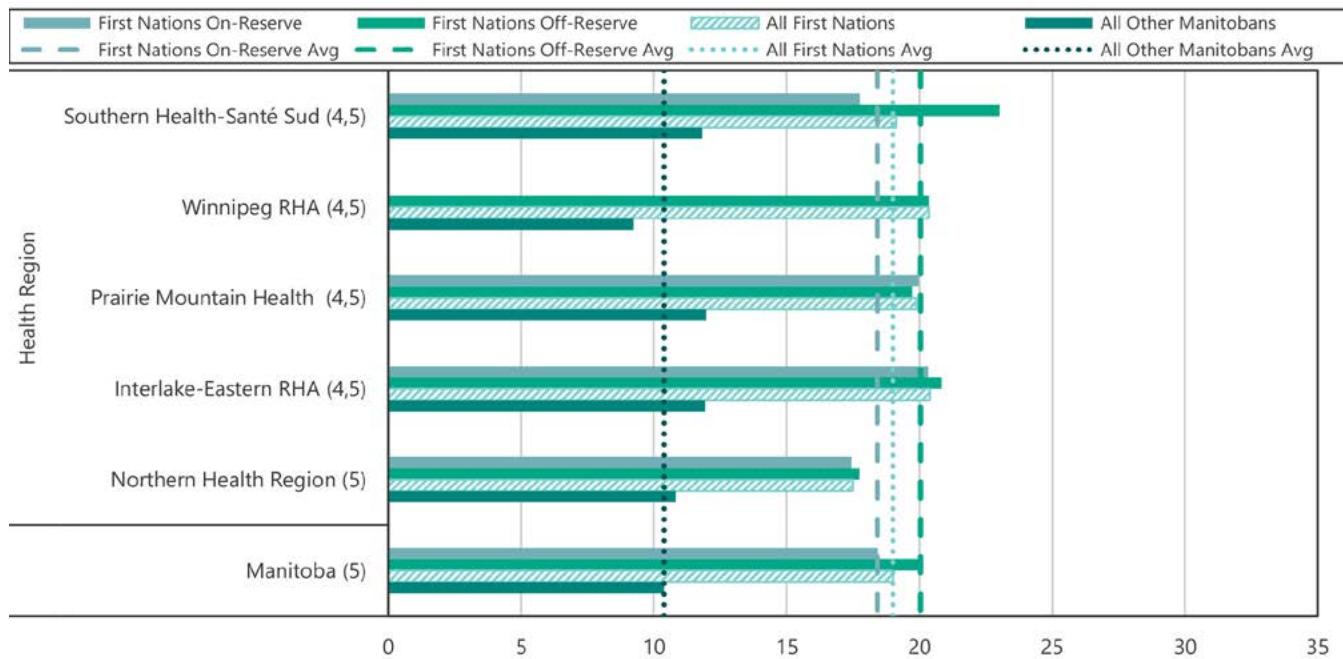
Large-for-Gestational-Age (LGA)

Infants are large-for-gestational-age (LGA) when they are born weighing more than the standard 90th percentile of the

sex-specific birth weight for a given gestational age using a Canadian standard. This indicator was calculated by dividing the number of infants born alive who were LGA at birth by the total number of live hospital births during fiscal years 2012/13 to 2016/17.

Figure 4.8: Percentage of Large-for-Gestational-Age Infants by Health Region

Crude rate per 100 live births, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

4 - All Other Manitobans: RHA compared to the Manitoba average

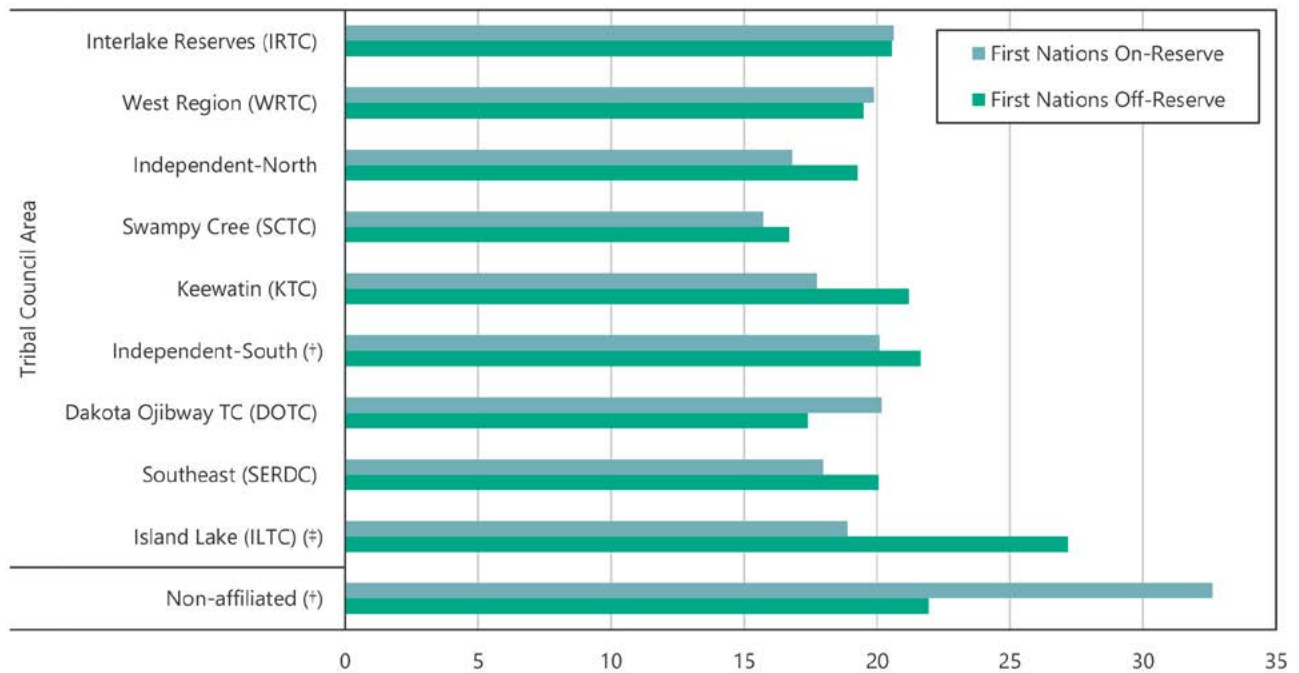
5 - All First Nations compared to All Other Manitobans

Avg - Manitoba average

- In Manitoba overall, the LGA rate was higher among First Nations infants (19.0%) compared to other Manitoba infants (10.4%). This was true across all RHAs.

Figure 4.9: Percentage of Large-for-Gestational-Age Infants by Tribal Council Area

Crude rate per 100 live births, 2012/13-2016/17

Statistically significant differences ($p < 0.01$):

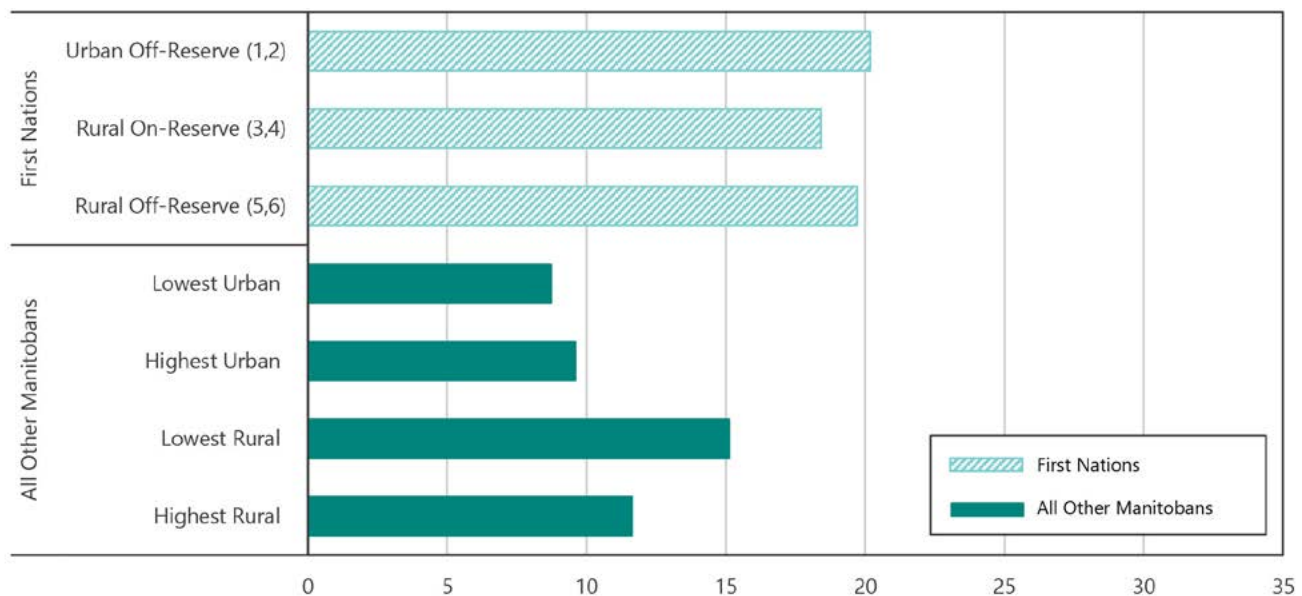
+ - First Nations on-reserve: TCA compared to the lowest rate (SCTC)

- First Nations off-reserve: TCA compared to the lowest rate (SCTC)

- Among First Nations infants living on-reserve, Independent South (20.1%) and non-affiliated (32.6%) tribal council areas had a higher LGA rate compared to Swampy Cree (15.7%), the tribal council with the lowest rate.
- Among First Nations infants living off-reserve, Island Lake had a higher LGA rate compared to Swampy Cree, the tribal council with the lowest rate.

Figure 4.10: Percentage of Large-for-Gestational-Age Infants for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate per 100 live births, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 4.10 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the LGA rate was higher among First Nations infants (20.2%; living off-reserve) compared to all other Manitoba infants living in the lowest (8.7%) and highest (9.6%) income areas.
- Similarly, *in rural areas*, the LGA rate was higher among First Nations infants living on- reserve (18.4%) and off-reserve (19.7%) compared to other Manitoba infants living in the lowest (15.1%) and highest (11.6%) income areas.

How do these Results Compare with Previous Studies on Large-for-Gestational-Age Rates?

These results are consistent with other studies. Heaman and colleagues conducted an analysis of large-for-gestational-age rates in Manitoba using Statistics Canada's linked vital data from 1991 to 2000 [33]. These serve as good comparisons to our data, which are from more recent years. When examining large-for-gestational-age births, we observed little difference between the present study and the previous study on-reserve, however, the LGA rate was higher in the present study for off-reserve (20.0% versus 17.3%). Other studies have shown that the rates of gestational diabetes are four times higher among First Nations women in Manitoba compared to other Manitoba women; this could potentially explain these results [34].

Breastfeeding Initiation

This indicator is based on live born hospital discharge records. It indicates the percentage of newborns whose mothers breastfed exclusively or used both formula and breastfeeding upon hospital discharge.

Figure 4.11: Percentage of Breastfeeding Initiation at Hospital Discharge by Health Region

Crude rate per 100 infants, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

3 - All First Nations: RHA compared to the Manitoba average

5 - All First Nations compared to All Other Manitobans

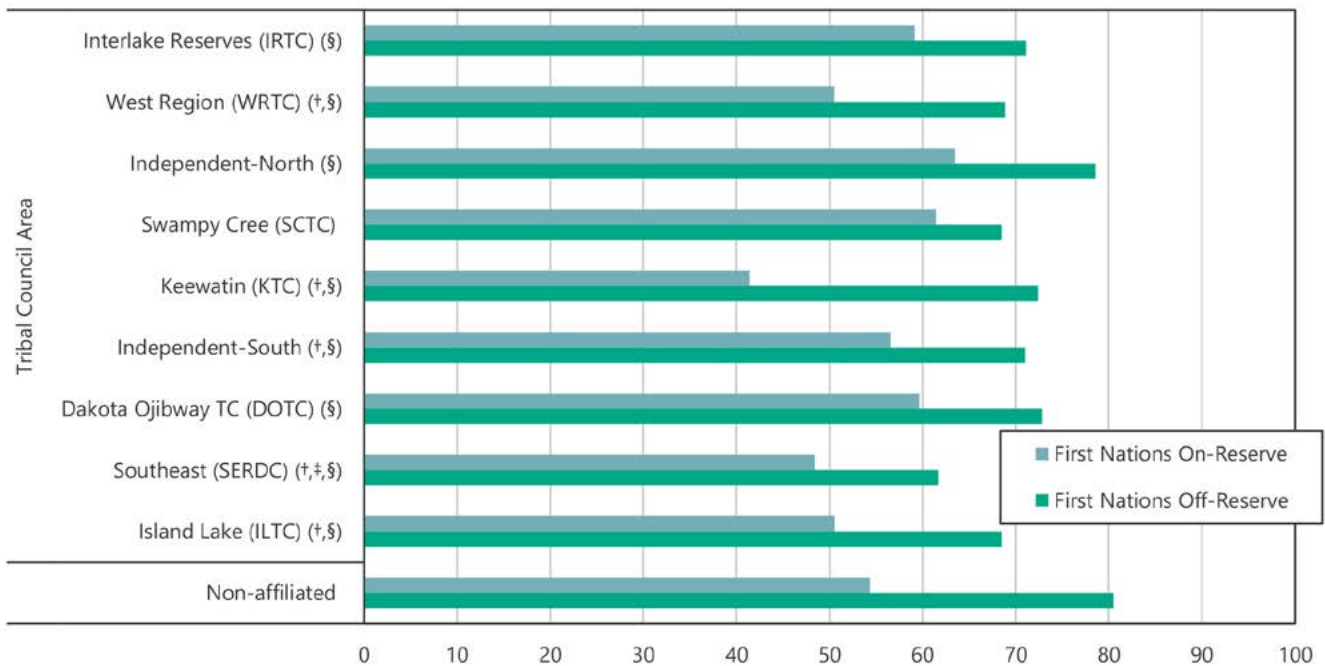
6 - First Nations on-reserve compared to First Nations off-reserve

Avg - Manitoba average

- In Manitoba overall, the breastfeeding initiation rate was lower among First Nations infants (61.0%) compared to other Manitoba infants (90.4%). This was also true for all health regions.
- Among First Nations infants, the breastfeeding initiation rate was higher for those living in Winnipeg RHA compared to the Manitoba First Nations rate. However, it was lower in Northern RHA compared to the Manitoba First Nations rate.
- The breastfeeding initiation rate was higher in First Nations infants living off-reserve compared to on-reserve in each health region and Manitoba overall.

Figure 4.12: Percentage of Breastfeeding Initiation at Hospital Discharge by Tribal Council Area

Crude rate per 100 First Nations infants, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the highest rate (Independent-North)

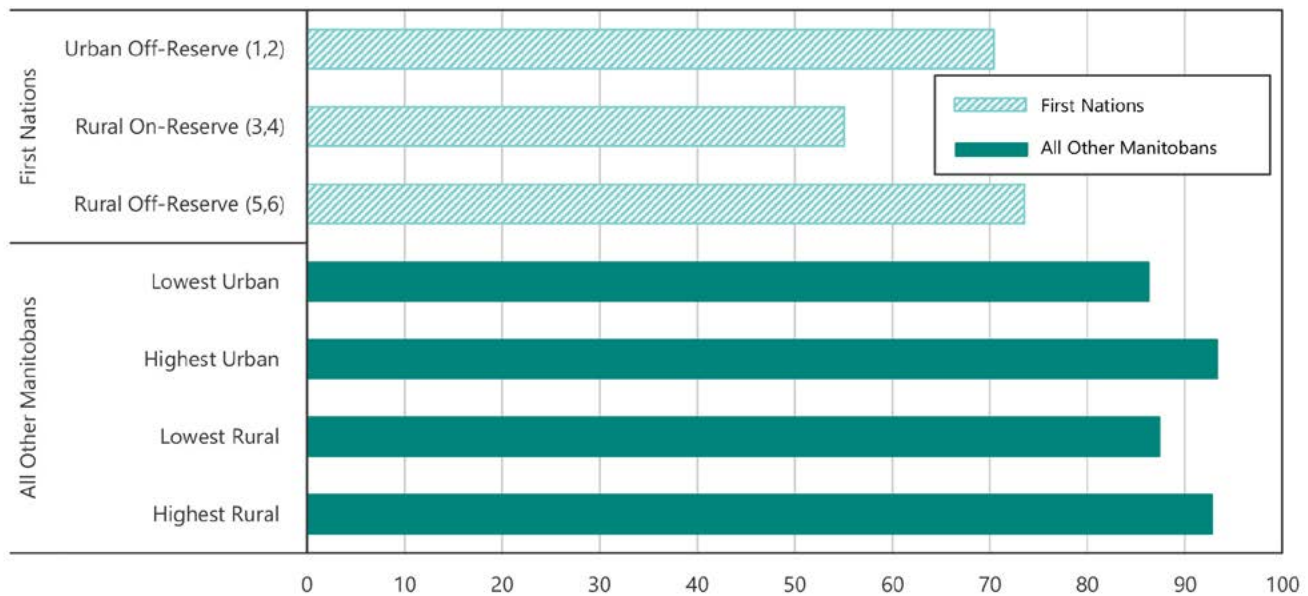
‡ - First Nations off-reserve: TCA compared to the highest rate (Independent-North)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations infants living on-reserve, West Region (50.5%), Keewatin (41.4%), Independent South (56.6%), Southeast (48.4%), and Island Lake (50.6%) had a lower breastfeeding initiation rate compared to Independent North (63.5%), the tribal council with the highest rate.
- Among First Nations infants living off-reserve, only Southeast had a lower breastfeeding initiation rate compared to Independent North, the tribal council with the highest rate.
- In every tribal council, with the exception of Swampy Cree and non-affiliated, the breastfeeding initiation rate was higher off-reserve than on-reserve.

Figure 4.13: Percentage of Breastfeeding Initiation at Hospital Discharge for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate per 100 infants, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 4.13 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the breastfeeding initiation rate was lower among First Nations infants (70.4%; living off-reserve) compared to all other Manitoba infants living in the lowest (86.3%) and highest (93.3%) income areas.
- Similarly, *in rural areas*, the breastfeeding initiation rate was lower among First Nations infants living on-reserve (55.0%) and off-reserve (73.6%) compared to other Manitoba infants living in the lowest (87.4%) and highest (92.8%) income areas.

How do these Results Compare with Previous Studies on Breastfeeding Initiation Rates?

Our results for breastfeeding can be compared to a study led by McIsaac and colleagues [35]. Our data reflects the percentage of newborns whose mother either exclusively breastfed, or used a combination of breastfeeding and formula, at the time of hospital discharge. The data published by McIsaac et al. comes from two surveys: the Canadian Community Health Survey (CCHS) and the First

Nations Regional Health Survey (RHS). In the CCHS and similarly in the RHS, females who had given birth in the last 5 years were asked if “their child was ever breastfed”. The fundamental difference between the two methods of data collection are observed breastfeeding compared to self-report, and nation-wide data compared to Manitoba data. As such, all comparisons must be made with caution. McIsaac and colleagues found 60% of on-reserve children, 81.9% of off-reserve children, and 87.8% of all “non-Aboriginal” children were ever breastfed [35]. Our analysis found only 55.1% and 71.6% of on- and off-reserve children, respectively, and 90.4% of all other Manitoban children were breastfed prior to hospital discharge.

Though the Manitoba First Nations population appeared to have lower rates of newborns that were breastfed, it cannot be said whether these differences would remain if the mothers were to be asked about breastfeeding at a post-discharge follow up, or under different data collection methods such as a survey. The Knowledge Keepers also indicated that these rates could be a reflection of the loss of traditional and cultural knowledge and the removal of childbirth from community requiring new mothers to travel great distances to give birth. This report found that 38% of women had inadequate birthing services in their communities or had to travel over 350 km to give birth.

Teen Pregnancy

This indicator is the ratio of teen pregnancies among females age 15 to 19 years to the total female population

of the same age. It includes hospital records of live and stillbirths, abortions, and molar and ectopic pregnancies. Details describing how we created this indicator are found in Appendix 2.

Figure 4.14: Rate of Teen Pregnancy by Health Region

Crude rate per 1,000 females, age 15-19, 2012/13-2016/17



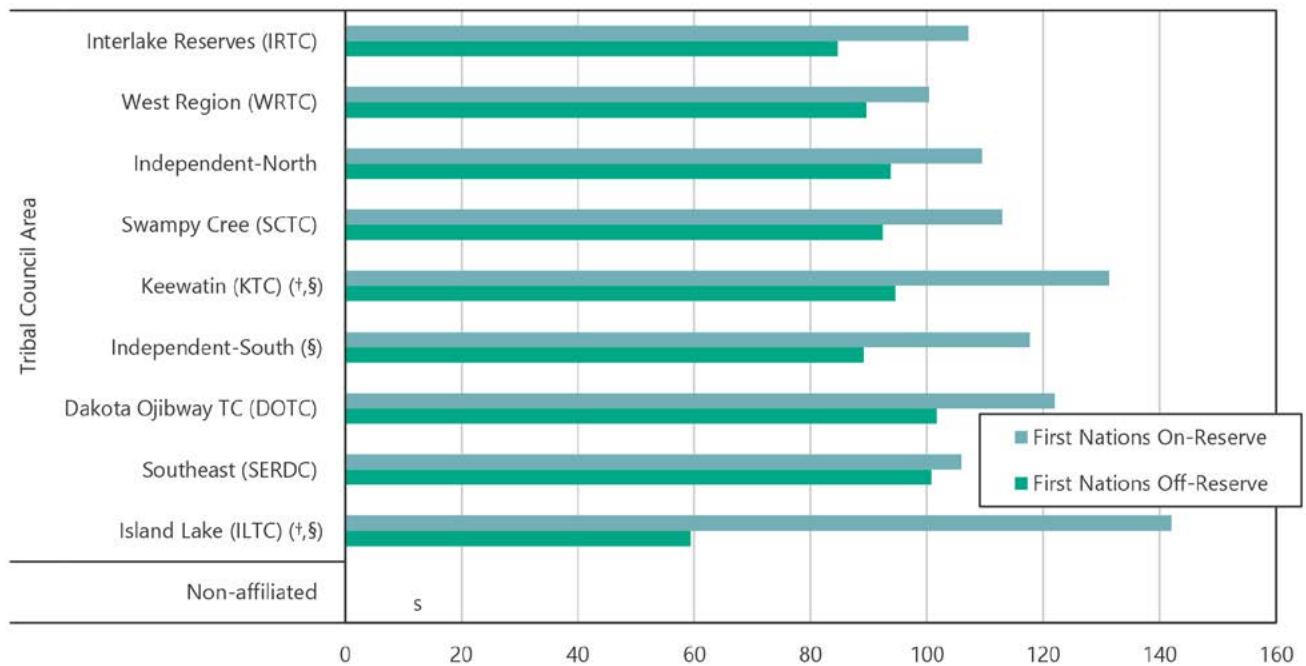
Statistically significant differences ($p < 0.01$):

- 3 - All First Nations: RHA compared to the Manitoba average
- 4 - All Other Manitobans: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- In Manitoba overall, the teen pregnancy rate was higher among First Nations teens (107 per 1,000 teens) compared to other Manitoba teens (18 per 1,000 teens). This was also true in each health region.
- First Nations teens in Northern RHA had a higher pregnancy rate compared to First Nations teens in Manitoba overall.
- The pregnancy rate was higher in First Nations teens living on-reserve compared to off-reserve in Manitoba overall and specifically in Northern RHA.

Figure 4.15: Rate of Teen Pregnancy by Tribal Council Area

Crude rate per 1,000 females, age 15-19, 2012/13-2016/17

Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the lowest rate (WRTC)

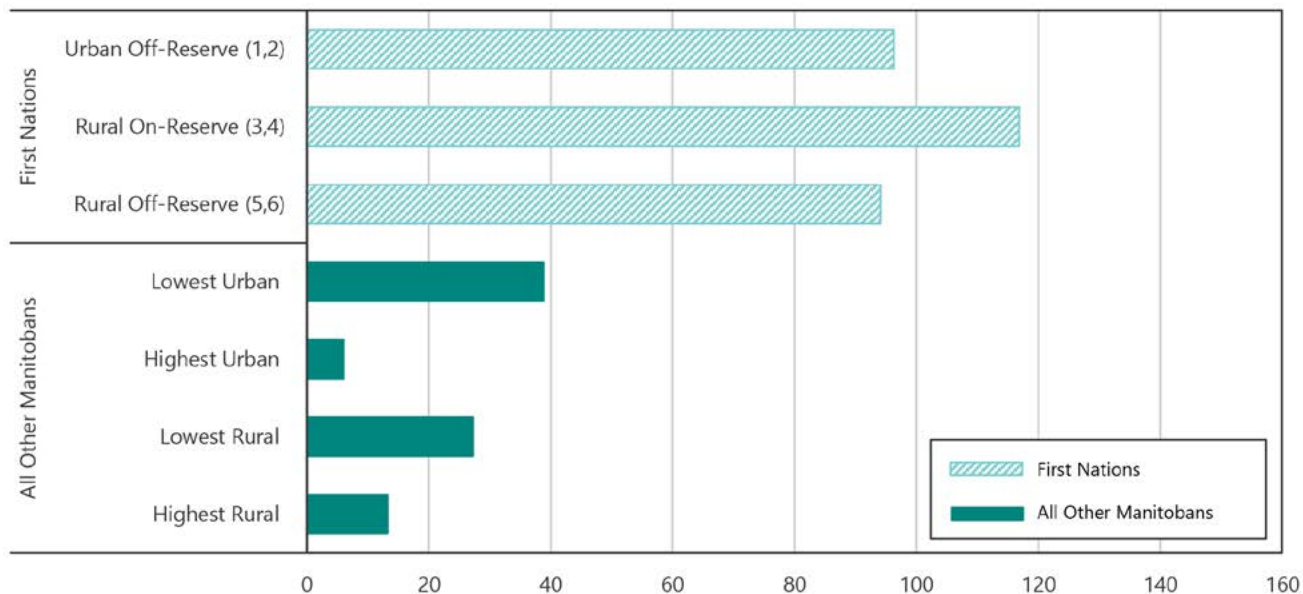
§ - First Nations on-reserve compared to First Nations off-reserve

s - Data suppressed due to small numbers

- Among First Nations teens living on-reserve, Keewatin (131 per 1,000 teens) and Island Lake Tribal Council (142 per 1,000 teens) had a higher pregnancy rate compared to West Region (100 per 1,000 teens), the tribal council with the lowest rate.
- Although the teen pregnancy rates appear to be lower off-reserve compared to on-reserve in most TCAs, this difference was only statistically significant in Keewatin, Independent South and Island Lake Tribal Councils.

Figure 4.16: Rate of Teen Pregnancy for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate per 1,000 females, age 15-19, 2012/13-2016/17

Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 4.16 compares the percentages of First Nations teens to all other Manitoban teens who were living in areas where families had very low income and also in areas where families had very high income.

- In urban areas*, the teen pregnancy rate was higher among First Nations teens (96 per 1,000; living off-reserve) compared to all other Manitoba teens living in the lowest (39 per 1,000) and highest (6 per 1,000) income areas.

- Similarly, *in rural areas*, the teen pregnancy rate was higher among First Nations teens living on-reserve (117 per 1,000) and off-reserve (94 per 1,000) compared to other Manitoba teens living in the lowest (27 per 1,000) and highest (13 per 1,000) income areas.

How do these Results Compare with Previous Studies on Teen Pregnancy Rates?

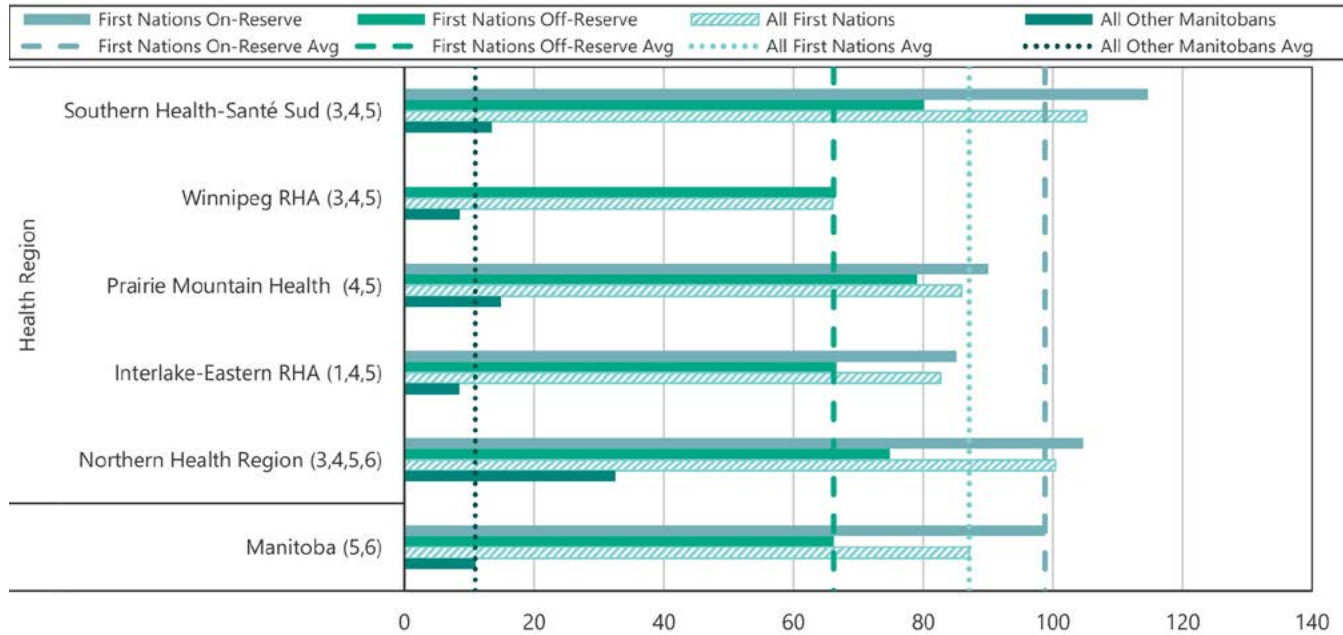
Unfortunately, no previous studies focusing on First Nations children could be found to compare teen pregnancy rates.

Teen Births

This indicator is the ratio of live births in the hospital data among females age 15 to 19 years to the total female population of the same age. Details describing how we created this indicator are found in the Appendix 2.

Figure 4.17: Rate of Teen Births by Health Region

Crude rate per 1,000 females age 15-19, 2012/13-2016/17



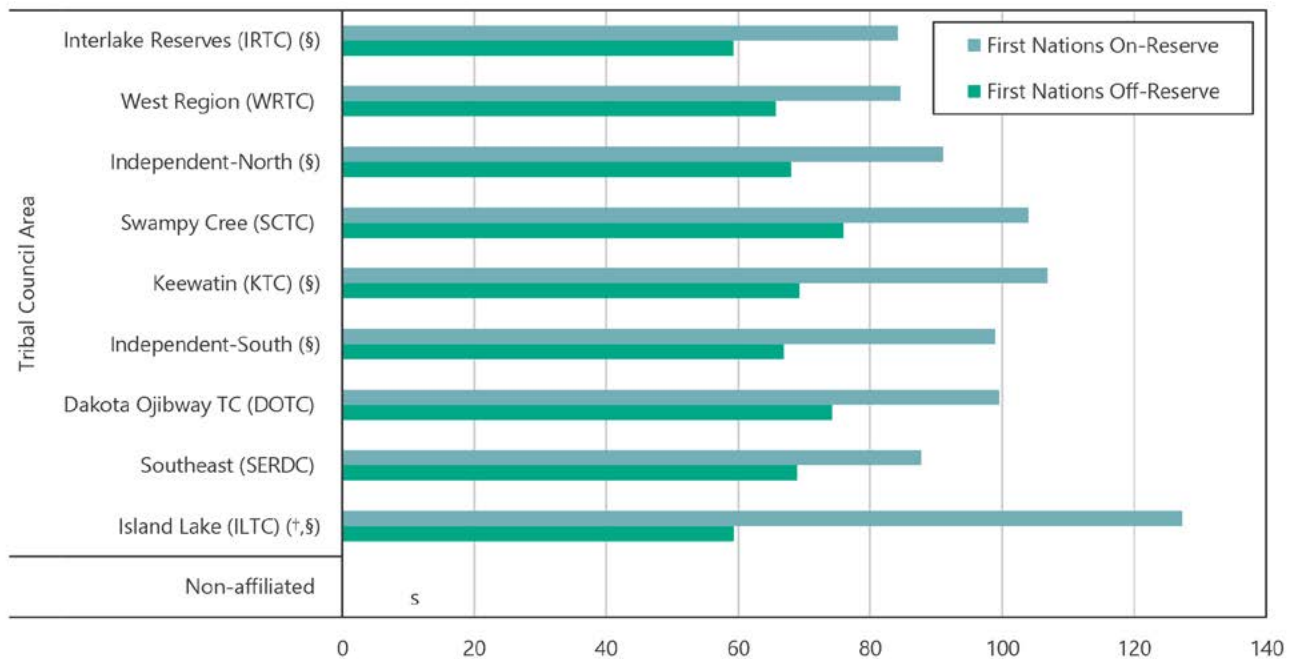
Statistically significant differences ($p < 0.01$):

- 1 - First Nations on-reserve: RHA compared to the Manitoba average
- 3 - All First Nations: RHA compared to the Manitoba average
- 4 - All Other Manitobans: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- In Manitoba overall, the teen birth rate (87 per 1,000 teens) was higher among First Nations teens compared to other Manitoba teens (11 per 1,000 teens). This was also true in each health region.
- Among First Nations teens living on-reserve, the teen birth rate was lower for those living in Interlake-Eastern RHA compared to the average on-reserve rate.
- First Nations teens living in Southern RHA and Northern RHA had a higher birth rate compared to First Nations teens in Manitoba overall; however, those in Winnipeg RHA had a lower rate than the Manitoba First Nations rate.
- The rate was higher in First Nations teens living on-reserve compared to off-reserve in Manitoba overall and specifically in Northern RHA.

Figure 4.18: Rate of Teen Births by Tribal Council Area

Crude rate per 1,000 females, age 15-19, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the lowest rate (IRTC)

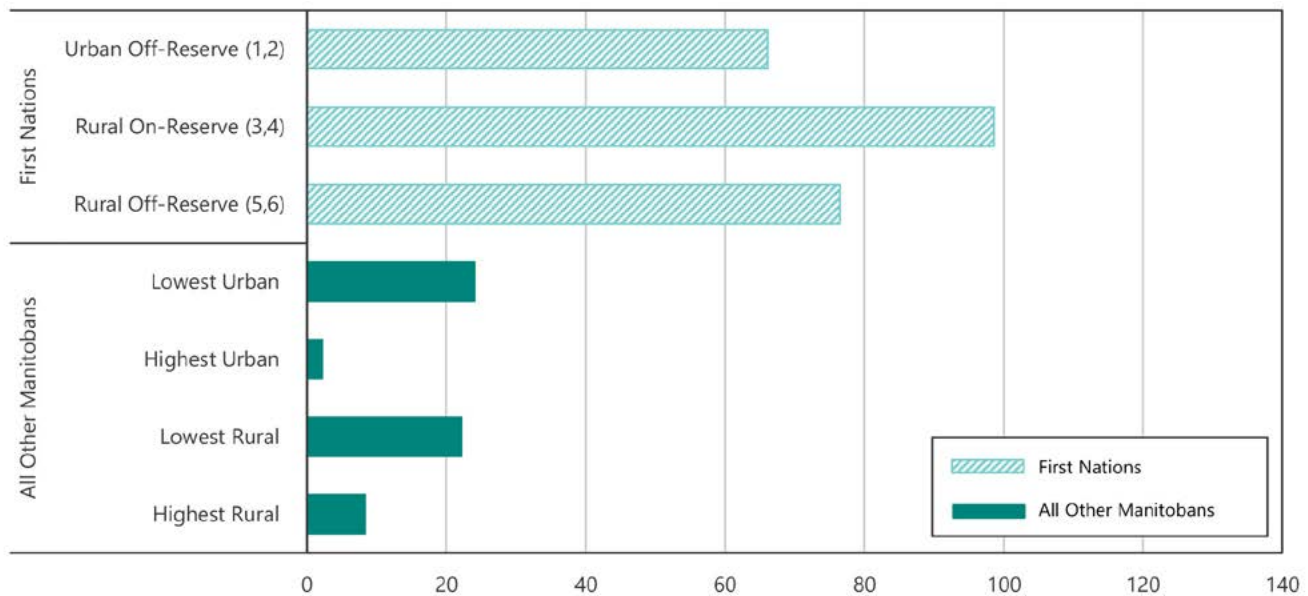
§ - First Nations on-reserve compared to First Nations off-reserve

s - Data suppressed due to small numbers

- Among First Nations teens living on-reserve, Island Lake Tribal Council (127 per 1,000 teens) had a higher birth rate compared to the Interlake Reserves (84 per 1,000 teens), the tribal council with the lowest rate.
- In most tribal councils, the teen birth rates were higher on-reserve compared to off-reserve, including Interlake Reserves, Keewatin, Independent North, Independent South and Island Lake Tribal Councils.

Figure 4.19: Rate of Teen Births for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate per 1,000 females, age 15-19, 2012/13-2016/17

Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 4.19 compares the percentages of First Nations teens to all other Manitoban teens who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the teen birth rate was higher among First Nations teens (66 per 1,000; living off-reserve) compared to all other Manitoba teens living in the lowest (24 per 1,000) and highest (2 per 1,000) income areas.
- Similarly, *in rural areas*, the teen birth rate was higher among First Nations teens living on-reserve (99 per 1,000) and off-reserve (76 per 1,000) compared to other Manitoba teens living in the lowest (22 per 1,000) and highest (8 per 1,000) income areas.

How do these Results Compare with Previous Studies on Teen Birth Rates?

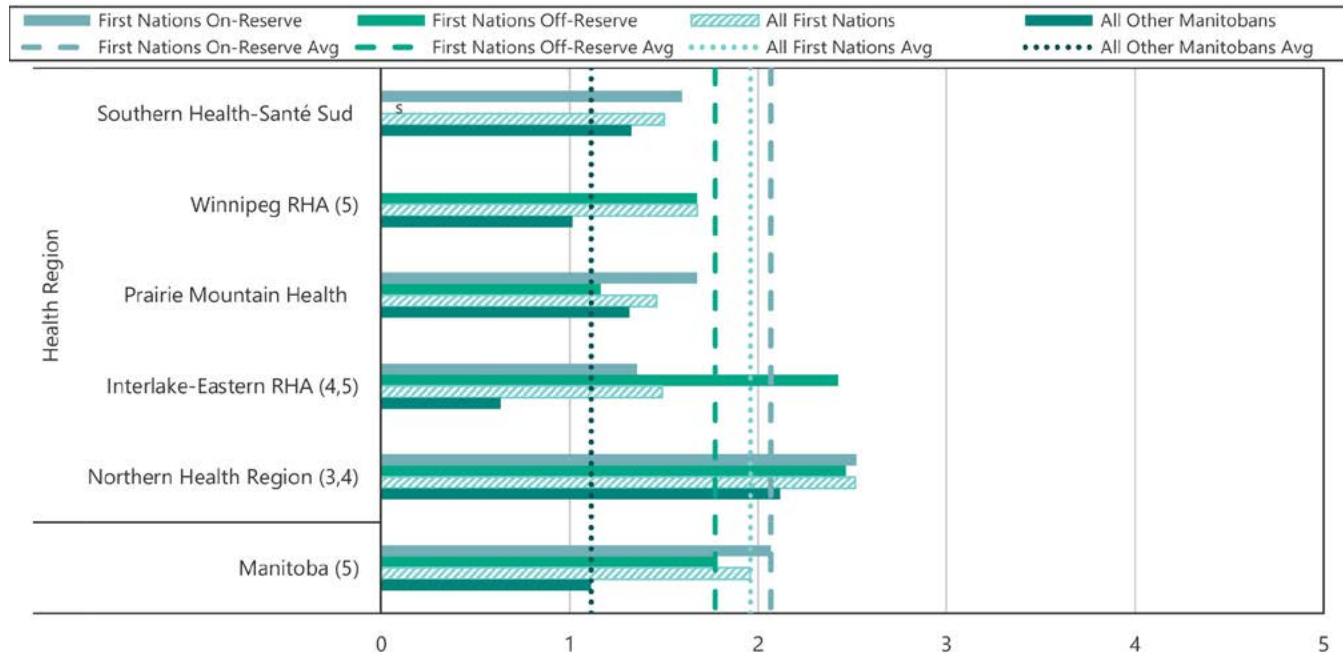
Unfortunately, no previous studies focusing on First Nations children could be found to compare teen births rates. However, our Knowledge Keepers indicated that the higher rates may be a reflection of the cultural belief systems of the sacredness of the child, which could impact teenagers' or families' decisions to carry the child to term.

Newborn Readmissions

This indicator was calculated by counting the number of hospital readmissions for newborns born between calendar

years 2012 and 2016 who were discharged and then readmitted to the hospital within 28 days of their birth, and dividing by the total number of live hospital births.

Figure 4.20: Percentage of Newborn Readmissions by Health Region
Crude rate per 100 live births, 2012-2016



Statistically significant differences ($p < 0.01$):

3 - All First Nations: RHA compared to the Manitoba average

4 - All Other Manitobans: RHA compared to the Manitoba average

5 - All First Nations compared to All Other Manitobans

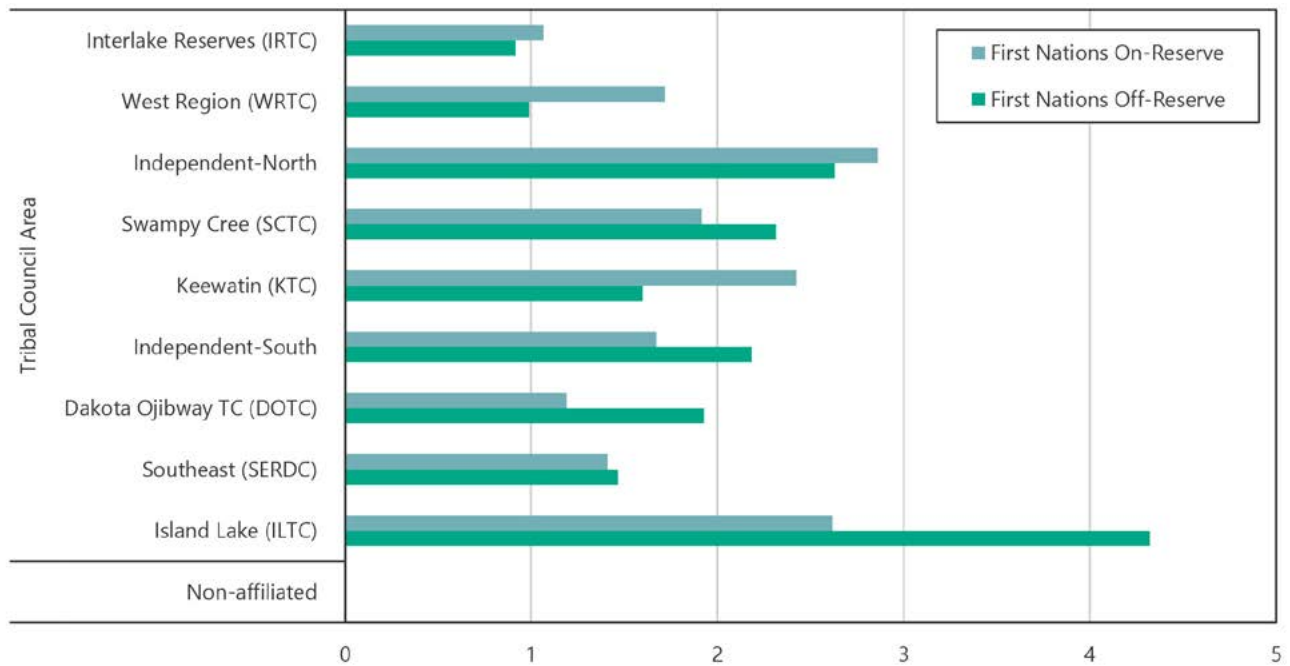
s - Data suppressed due to small numbers

Avg - Manitoba average

- In Manitoba overall, the newborn readmission rate was higher among First Nations infants (2.0%) compared to other Manitoba infants (1.1%). This was also true in Winnipeg RHA and Interlake-Eastern RHA; however, it wasn't the case in the other health regions.
- First Nations infants living in Northern RHA had a higher newborn readmission rate compared to First Nations infants in Manitoba overall.

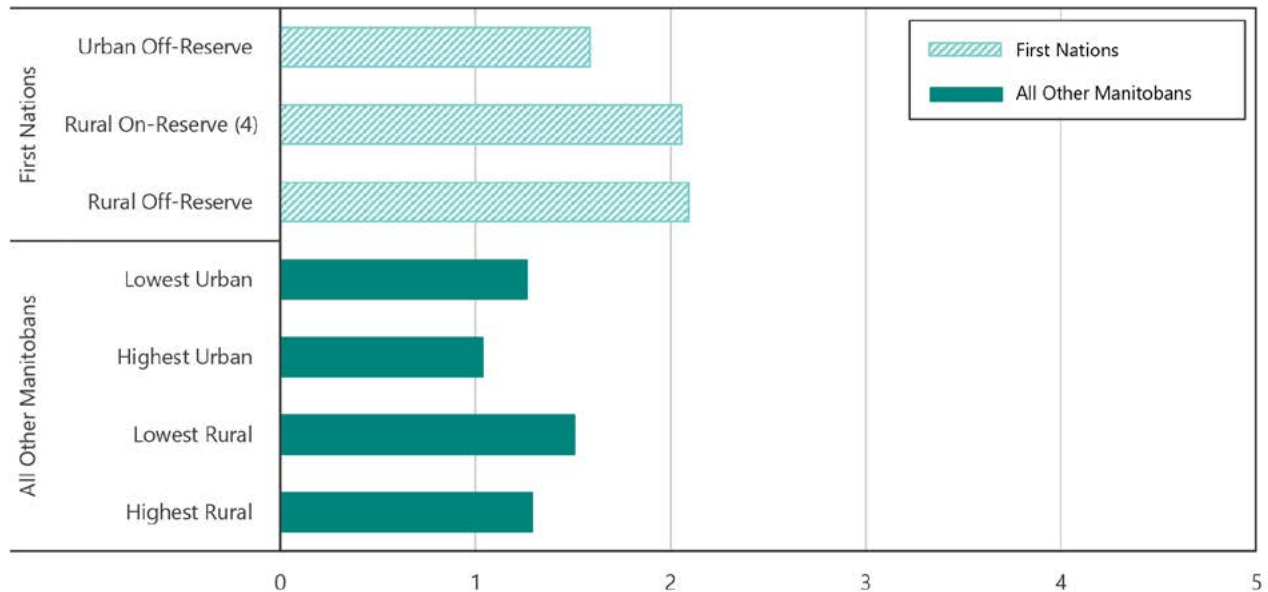
Figure 4.21: Percentage of Newborn Readmissions by Tribal Council Area

Crude rate per 100 live (hospital) births, 2012-2016



- Although the newborn readmission rates appear to be different across tribal councils and between off-reserve and on-reserve, these differences were not statistically significant.

Figure 4.22: Percentage of Newborn Readmissions for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile
Crude rate per 100 live (hospital) births, 2012-2016



Statistically significant differences ($p < 0.01$):

4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile

Figure 4.22 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- In rural areas, the newborn readmission to hospital rate was higher among First Nations infants (2.1%; living on-reserve) compared to all other Manitoba infants living in the highest (1.3%) income areas.

- No other statistically significant differences were found in urban areas or among First Nations living off-reserve.

How do these Results Compare with Previous Studies on Newborn Admission Rates?

Unfortunately, no previous studies focusing on First Nations children could be found to compare newborn readmission rates.

Chapter 5:

Physical Health

In this chapter, we describe medical conditions of children, thereby providing data on their physical health. Poverty has devastating effects on health, as do substandard education, housing and access to clean water. For example, during the study period (2016/17) there were boil water advisory in nine First Nations communities in Manitoba¹⁰. The effects of colonization have rendered living conditions in First Nations communities extremely challenging. The poverty rates among First Nations children are staggeringly high; the worst rates are among children living on-reserve (60%), and in Manitoba particularly (76%) [16].

The Knowledge Keepers acknowledged that First Nations people are suffering from numerous health problems. They noted that these problems are often not reported and health care is not accessed for many reasons. Unemployment is very high in First Nations communities. Many families are struggling and are focused on basic needs. People may be feeling depressed and have little motivation to eat well and to live a healthy lifestyle. People are not living their traditional way of life. They are not hunting, gathering and fishing. Some children don't ever encounter traditional foods. Families need to know their creation stories to bring them strength. The Knowledge Keepers remarked that another important reason for not accessing health care is that First Nations communities have few services and parents cannot necessarily travel to the city to access them. For example, there is no access to pharmacies on-reserve. When the weather is bad, people run out of medication and sometimes they go for a week or more without. When children are taken to a nursing station, they may not be diagnosed properly or early enough to make a difference. Doctors come once a week and they cannot diagnose everyone in that short time. Cultural safety is an important consideration, as are language barriers.

¹⁰ Fortunately, efforts at addressing this issue appear to have been fruitful. At the time of writing, the number of First Nations communities still under boil water advisory had gone from nine to two, with plans to fully resolve the issue within the next year (<https://www.sac-isc.gc.ca/eng/1506514143353/1533317130660>).

Most children are generally healthy; however, there are some medical conditions that are all too common in children (listed below). A definition of each of the indicators is provided prior to presentation of the results.

- Asthma
- Diabetes
- Dental Surgeries (Indicator of severe early childhood caries)
- Lower Respiratory Tract Infection
- Otitis Media (Middle ear infection)
- Atopic Dermatitis (Eczema)
- Developmental Disabilities

Cautions regarding the data on which these results

are based: The indicators for these medical conditions are derived from diagnoses captured during a visit to a physician or a nurse practitioner or from hospital records. In the north, we are likely undercounting the number of medical conditions because we do not have data from nursing stations.

Notes about Statistical Significance:

- Only statistically significant results are described in the text. In general, we do not comment if there is no statistically significant result.
- In graphs of Tribal Council Areas, we compared rates of each TCA to the TCA with the lowest rates for indicators (e.g., lowest rates of diabetes) to evaluate differences between TCAs within a relevant context.
- In graphs of health regions, we did not describe results of All Other Manitoba Children as they are not the focus of this report.
- Differences between groups were tested at $p < 0.01$ level of significance.

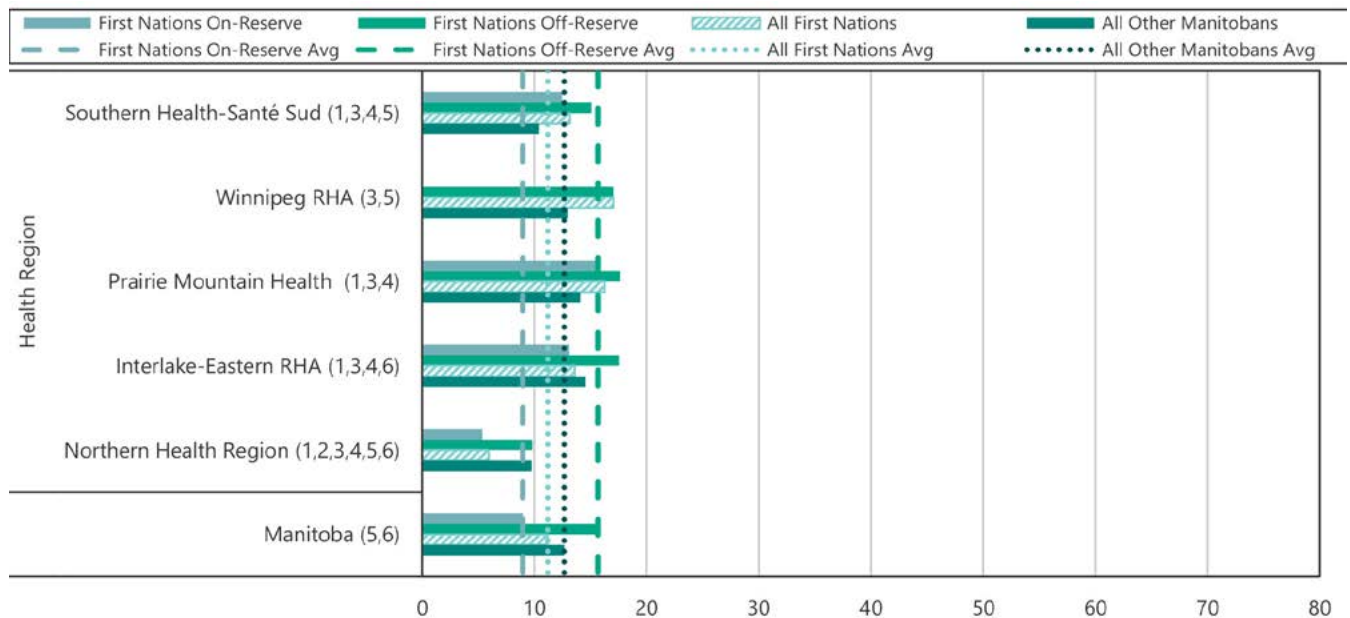
Asthma

Asthma is an inflammatory disorder of the airways, characterized by periodic attacks of wheezing, shortness of breath, chest tightness and coughing. It is the most common chronic condition in children. Mould, too often found in the homes of First Nations families, increases the risk of asthma.

This report provides the asthma prevalence in children age 6 and older because we cannot distinguish chronic asthma from wheezing in preschool children with the asthma definition that was used in this report [36,37]. We defined asthma using combinations of physician diagnosis, symptom treatment during hospitalizations and drug prescriptions. In the north, we are likely undercounting the number of asthma diagnoses because we do not have data from nursing stations. Details describing how we created this indicator are found in Appendix 2.

Figure 5.1: Prevalence of Asthma by Health Region

Age- and sex-adjusted rate per 100 children, age 6-19, 2016/2017



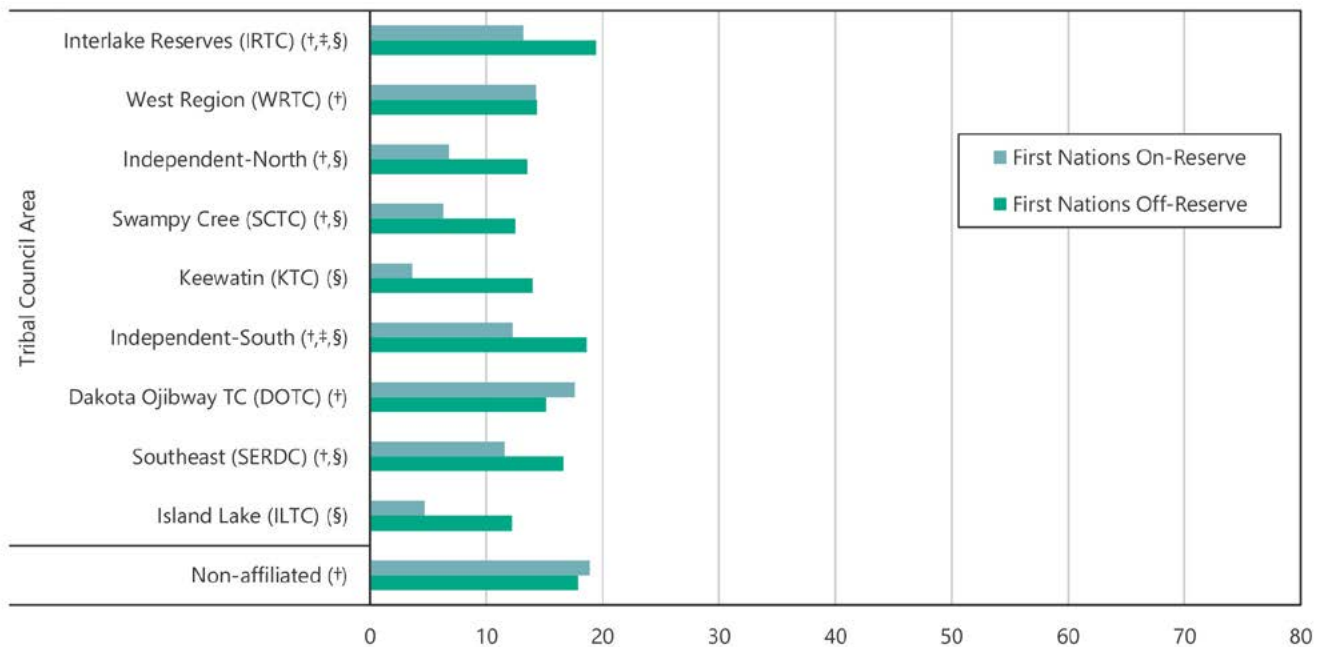
Statistically significant differences ($p < 0.01$):

- 1 - First Nations on-reserve: RHA compared to the Manitoba average
 - 2 - First Nations off-reserve: RHA compared to the Manitoba average
 - 3 - All First Nations: RHA compared to the Manitoba average
 - 4 - All Other Manitobans: RHA compared to the Manitoba average
 - 5 - All First Nations compared to All Other Manitobans
 - 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- The prevalence of asthma among all (on- and off-reserve) First Nations children (11.2%) was lower than among all other children (12.7%) living in Manitoba overall. Likewise, this prevalence was lower for First Nations children in Northern RHA, but higher for First Nations children living in Southern RHA and Winnipeg RHA compared to all other Manitoba children (see footnote 5 in the graph).
- Among First Nations children living on-reserve, those living in Northern RHA had a lower asthma prevalence compared to the Manitoba prevalence. However, those living in Southern RHA, Prairie Mountain RHA and Interlake-Eastern RHA had a higher prevalence.
- Among First Nations children living off-reserve, those living in Northern RHA had a lower asthma prevalence compared to the Manitoba prevalence.
- The prevalence was higher for all First Nations children (on- and off-reserve) living in Southern RHA, Winnipeg RHA, Prairie Mountain RHA and Interlake-Eastern RHA compared to all First Nations children in Manitoba overall; however, it was lower in Northern RHA.
- The prevalence of asthma was lower for First Nations children living on-reserve compared to off-reserve in Manitoba overall, Interlake-Eastern RHA and Northern RHA.

Figure 5.2: Prevalence of Asthma by Tribal Council Area

Age- and sex-adjusted rate per 100 children, age 6-19, 2016/2017



Statistically significant differences ($p < 0.01$):

+ - First Nations on-reserve: TCA compared to the lowest rate (KTC)

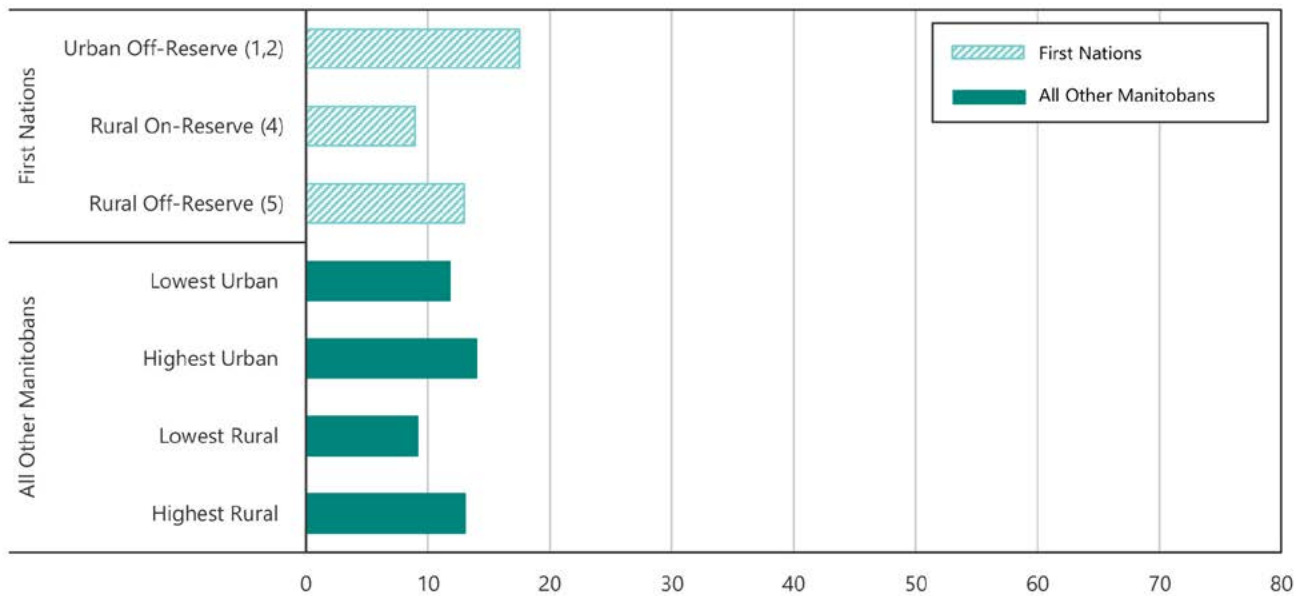
++ - First Nations off-reserve: TCA compared to the lowest rate (ILTC)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Interlake Reserves (13.2%), West Region (14.3%), Independent North (6.8%), Swampy Cree (6.3%), Independent South (12.3%), Dakota Ojibway (17.6%) and Southeast (11.6%) had a higher asthma prevalence compared to Keewatin (3.7%), the tribal council with lowest prevalence.
- Among First Nations children living off-reserve, Interlake Reserves and Independent South had a higher asthma prevalence compared to Island Lakes, the tribal council with lowest prevalence.
- In seven TCAs, the prevalence of asthma was lower for First Nations children living on-reserve compared to off-reserve, namely, Interlake Reserves, Independent North, Swampy Cree, Keewatin, Independent South, Southeast and Island Lake Tribal Councils.

Figure 5.3: Prevalence of Asthma for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 100 children, age 6-19, 2016/2017

Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile

Figure 5.3 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the asthma prevalence was higher among First Nations children (17.5%; living off-reserve) compared to all other Manitoba infants living in the lowest (11.8%) and highest (14.0%) income areas.
- *In rural areas*, the asthma prevalence was lower among First Nations children living on-reserve (8.9%) compared to other Manitoba children living in the highest (13.0%) income areas. However, the asthma prevalence was higher among First Nations children living off-reserve (13.0%) compared to other Manitoba children living in the lowest (9.1%) income areas.

How do these Results Compare with Previous Studies on Asthma?

The asthma prevalence was higher for children living off-reserve compared to those living on-reserve and comparable to rates of children living in high income areas. This suggests that children living off-reserve might be obtaining an asthma diagnosis adequately, although these results do not confirm that the children are being adequately treated for asthma. The lower rates in the northern communities may be because of lack of access to health services but also because data from nursing stations are not captured in the data housed at MCHP.

Our results are similar to other studies. Using the First Nations and Inuit Regional Health Survey, MacMillan et al. found that 12% of First Nations children living on-reserve experienced asthma [26]. In a more recent study, the prevalence of asthma among off-reserve First Nations children was reported to be 14.3% in children 6 to 14 years of age [38]. These same authors also noted that children from remote or isolated communities were less likely to report asthma than those from urban or rural settings [39]. Lifetime prevalence of asthma in First Nations adolescents was 16% based on the Canadian Aboriginal Peoples Survey conducted off-reserve [40], and this prevalence was higher than in the general adolescent population.

Diabetes

Diabetes is a chronic condition in which the pancreas no longer produces enough insulin (type 1 diabetes) or cells stop responding to the insulin that is produced (type 2 diabetes), preventing glucose in the blood from being absorbed into the cells of the body. Type 1 diabetes is controlled by regular insulin injections, whereas type 2 diabetes can usually be controlled with diet and oral medication.

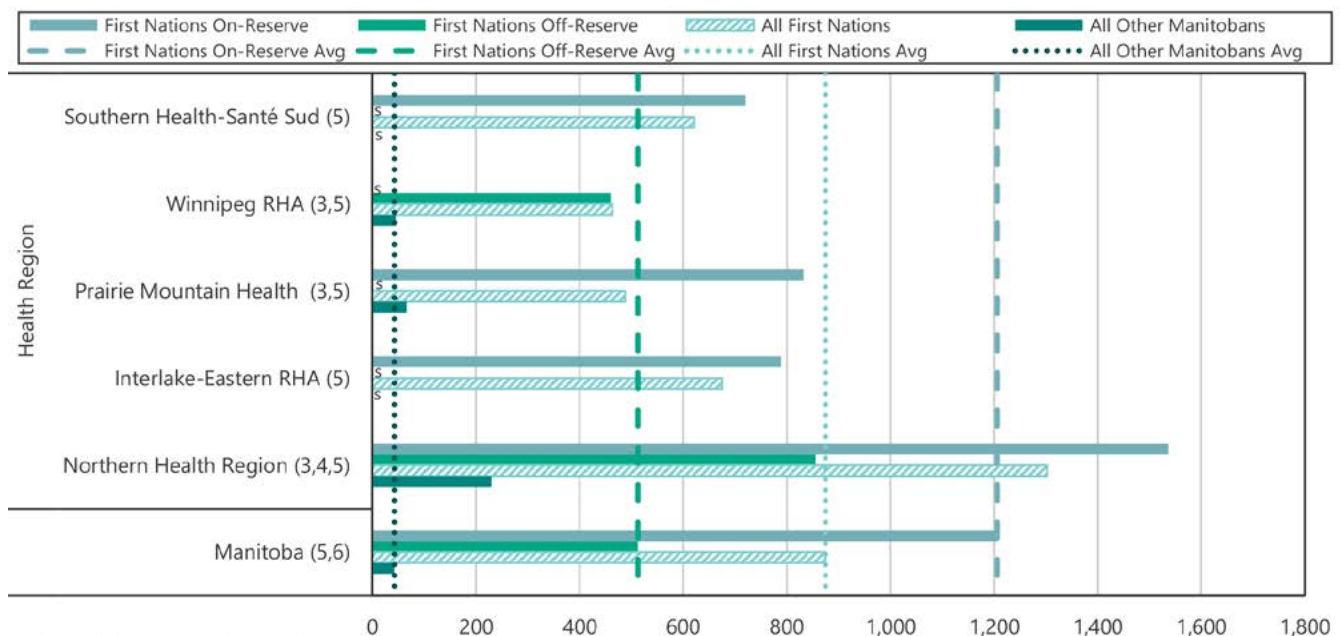
While type 1 diabetes is the more common type of diabetes in children [41], child poverty and food insecurity have increased the risk of type 2 diabetes among First Nations people [42]. Mosby describes how residential school attendance and the accompanying hunger and malnutrition

have put First Nations people at substantial risk of diabetes [43]. Interested readers may wish to read a recent report that was devoted to diabetes in Manitoba entitled *Type 2 Diabetes in Manitoba* [44].

In this report, we present the combined prevalence of type 1 and type 2 diabetes because the medical claims data do not distinguish between these types. Although rates of type 2 diabetes are increasing, the rates of diabetes during the study period are still very low, and so the prevalence is calculated over 5 years and per 100,000 children. It was challenging to conduct statistical testing due to the small numbers, and therefore meaningful differences might not be detected. For some tribal council areas, the number of children with diabetes was 5 or less and could not be reported.

Figure 5.4: Prevalence of Diabetes by Health Region

Crude rate per 100,000 children age 7-17, 2014-2018



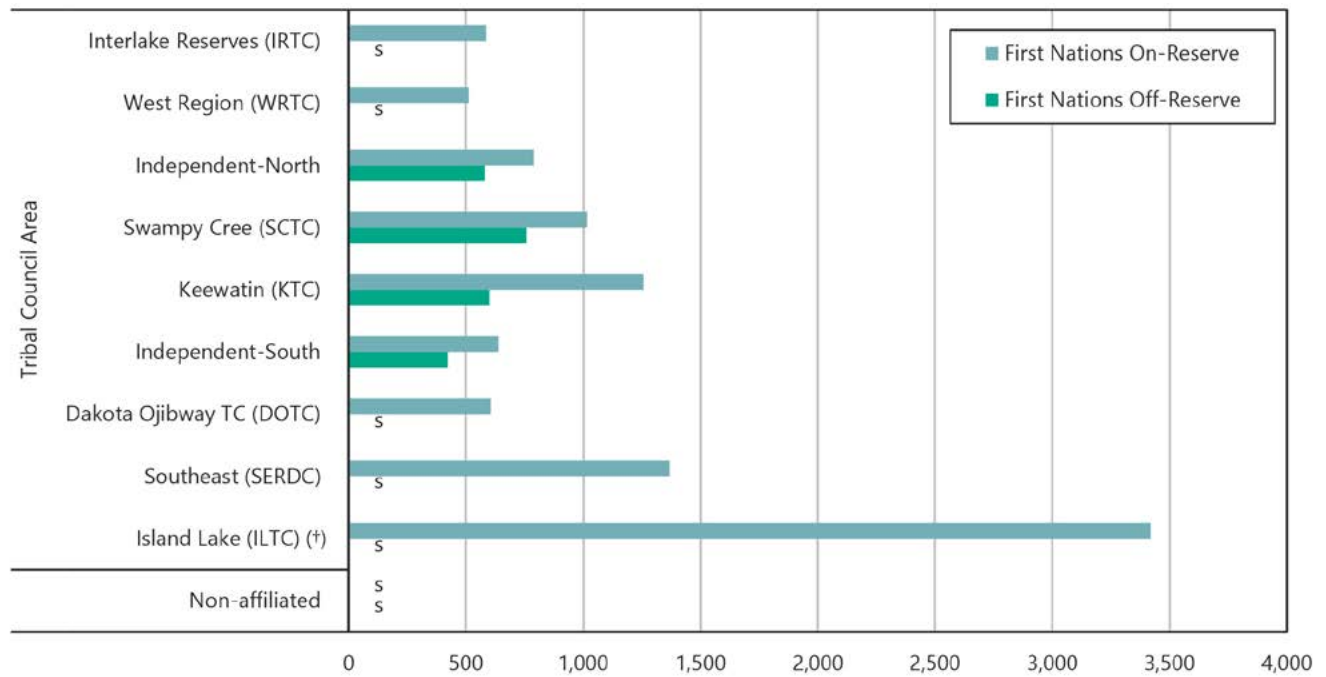
Statistically significant differences ($p < 0.01$):

- 3 - All First Nations: RHA compared to the Manitoba average
- 4 - All Other Manitobans: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- 6 - On-Reserve compared to Off-Reserve
- s - Data suppressed due to small numbers
- Avg - Manitoba average

- The diabetes rate for all (on- and off-reserve) First Nations children (875 per 100,000 children) was higher than among all other children (43 per 100,000 children) living in Manitoba overall. This was true in every health region in Manitoba.
- The rate was higher for all First Nations children (on- and off-reserve) living in Northern RHA compared to First Nations children in Manitoba overall; however, the rate was lower in Winnipeg RHA and Prairie Mountain Health.
- The diabetes rate was higher for First Nations children living on-reserve compared to off-reserve in Manitoba overall.

Figure 5.5: Proportion of Diabetes by Tribal Council Area

Crude rate per 100,000 children age 7-17, 2014-2018

Statistically significant differences ($p < 0.01$):

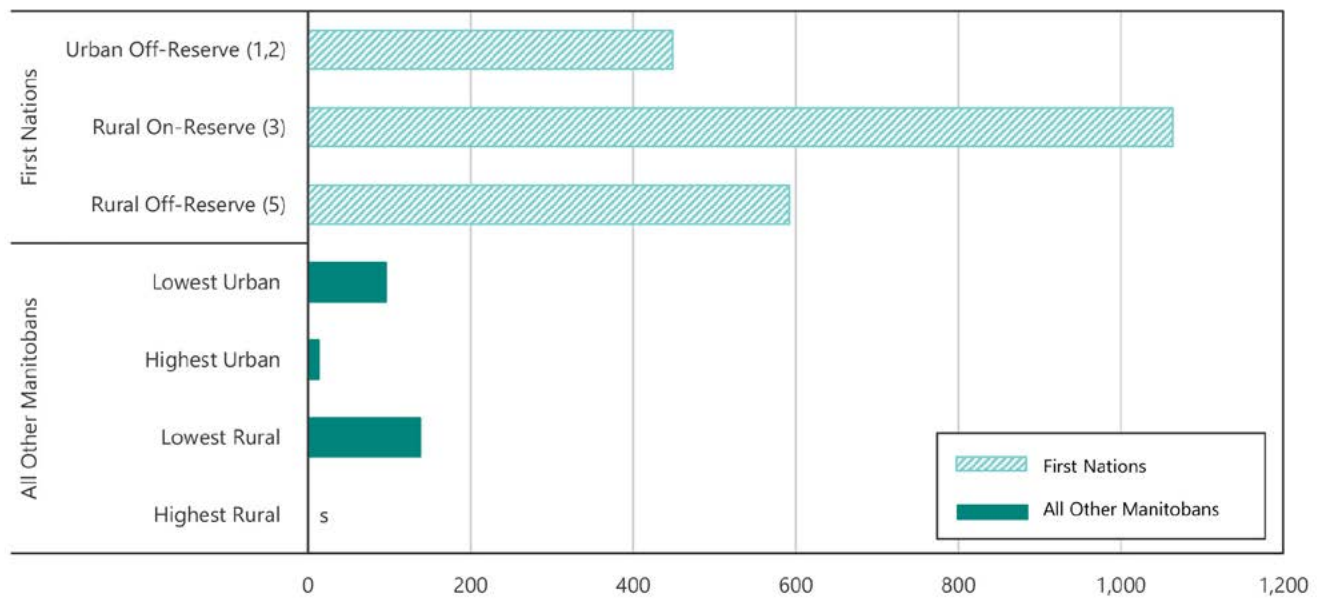
+ - First Nations on-reserve: TCA compared to the lowest rate (WRTC)

s- Data suppressed due to small numbers

- Among First Nations children living on-reserve, Island Lake (3,419 per 100,000) had a higher diabetes rate compared to West Region (514 per 100,000), the tribal council with lowest rate.
- No differences were found between the TCAs for children living off-reserve. Also, within each tribal council, no statistically significant difference in diabetes was found between children living on- and off-reserve.

Figure 5.6: Prevalence of Diabetes for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate per 100,000 children age 7-17, 2014-2018

Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- s - Data suppressed due to small numbers

Figure 5.6 compares the rates of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- In urban areas*, the diabetes rate was higher among First Nations children (449 per 100,000; living off-reserve) compared to all other Manitoba children living in the lowest (96 per 100,000) and highest (13 per 100,000) income areas.
- Similarly, *in rural areas*, the rate was higher among First Nations children living on-reserve (1,064 per 100,000) and off-reserve (592 per 100,000) compared to other Manitoba children living in the lowest (138 per 100,000) income areas. The diabetes rate among all Manitoba children living in the highest income areas was too low to do statistical testing.

How do these Results Compare with Previous Studies on Diabetes?

Previous studies on diabetes rates among Indigenous children used different methods and time frames, making comparisons with the current report difficult. However, these studies all show higher rates among Indigenous children compared to the general child population. In a surveillance study involving Canadian pediatricians, Amed et al. [45] found that over a two-year period, 12.5 children per 100,000 had diabetes and that Indigenous children in Manitoba had a diabetes rate 20 times higher than non-Indigenous children. In 2009, a US study using data from health management organizations reported a type 2 diabetes rate of 1,200 per 100,000 Indigenous children over a one-year period and 460 per 100,000 children in the general population [41]. Although these rates appear lower than other health problems examined in children, the consequences are serious for children's health. Dart et al. (2014) found that major complications for children were found within 10 years of a diagnosis of diabetes, namely, blindness, amputations, renal and neurologic health conditions [46].

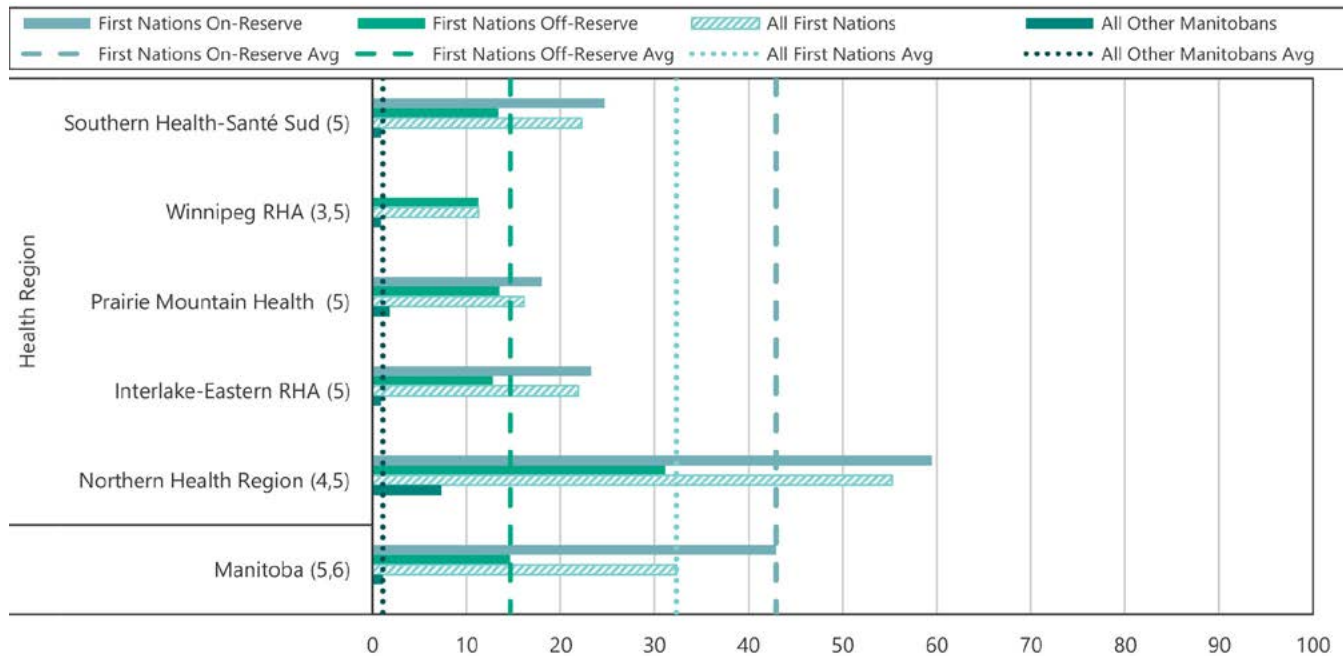
Dental Surgeries

Severe early childhood caries (S-ECC) are very common among children in North America and adversely affect their health and well-being. The most severe early childhood

caries require dental surgery, either through inpatient or day surgeries. This indicator includes all preschool children (0 to 6 years) who underwent rehabilitative surgery under general anesthetic to treat S-ECC. Details describing how we created this indicator are found in Appendix 2.

Figure 5.7: Rate of Dental Surgeries by Health Region

Age- and sex-adjusted rate, per 1,000 children, age 0-5, 2016/17



Statistically significant differences ($p < 0.01$):

3 - All First Nations: RHA compared to the Manitoba average

4 - All Other Manitobans: RHA compared to the Manitoba average

5 - All First Nations compared to All Other Manitobans

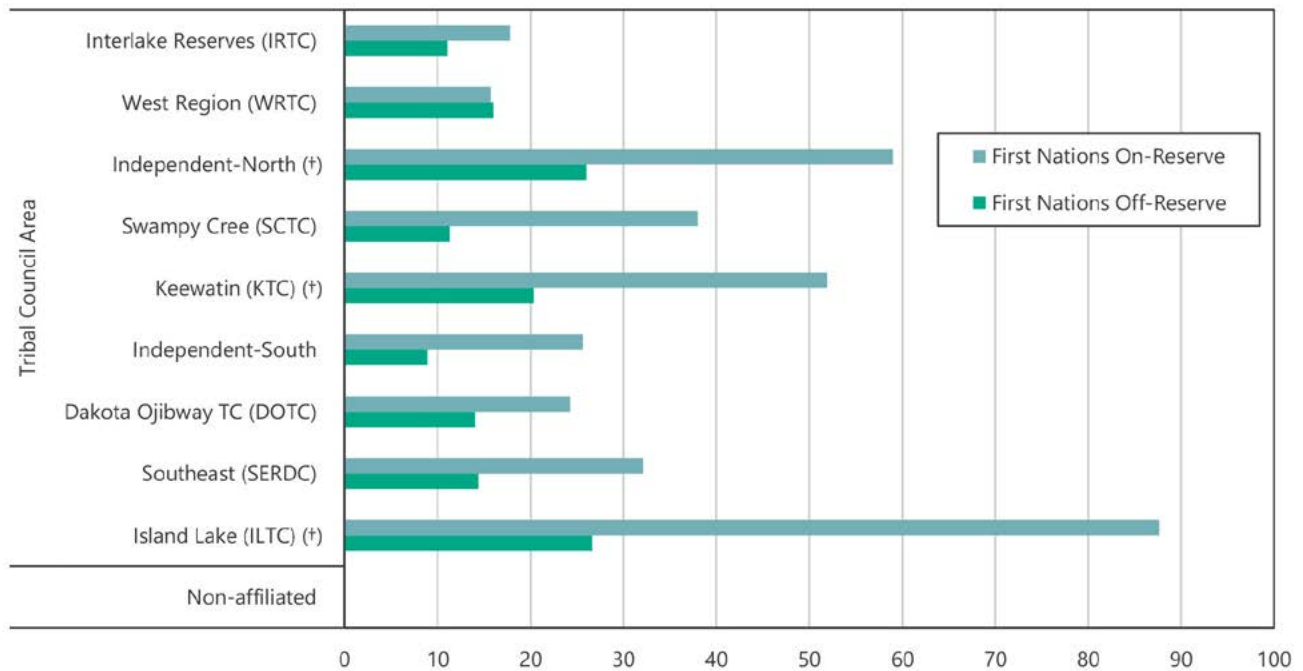
6 - First Nations on-reserve compared to First Nations off-reserve

Avg - Manitoba average

- The rate of dental surgeries among all (on- and off-reserve) First Nations children (32.3 per 1,000 children) was higher than among all other children (1.1 per 1,000 children) living in Manitoba overall. This was true in every health region in Manitoba to varying degrees (see footnote 5 in the graph).
- First Nations children living in Winnipeg RHA had a lower rate of dental surgeries compared to the average Manitoba rate for all First Nations children.
- The rate of dental surgeries was higher for First Nations children living on-reserve compared to off-reserve in Manitoba overall.

Figure 5.8: Rate of Dental Surgeries by Tribal Council Area

Age- and sex-adjusted rate, per 1,000 children, age 0-5, 2016/17

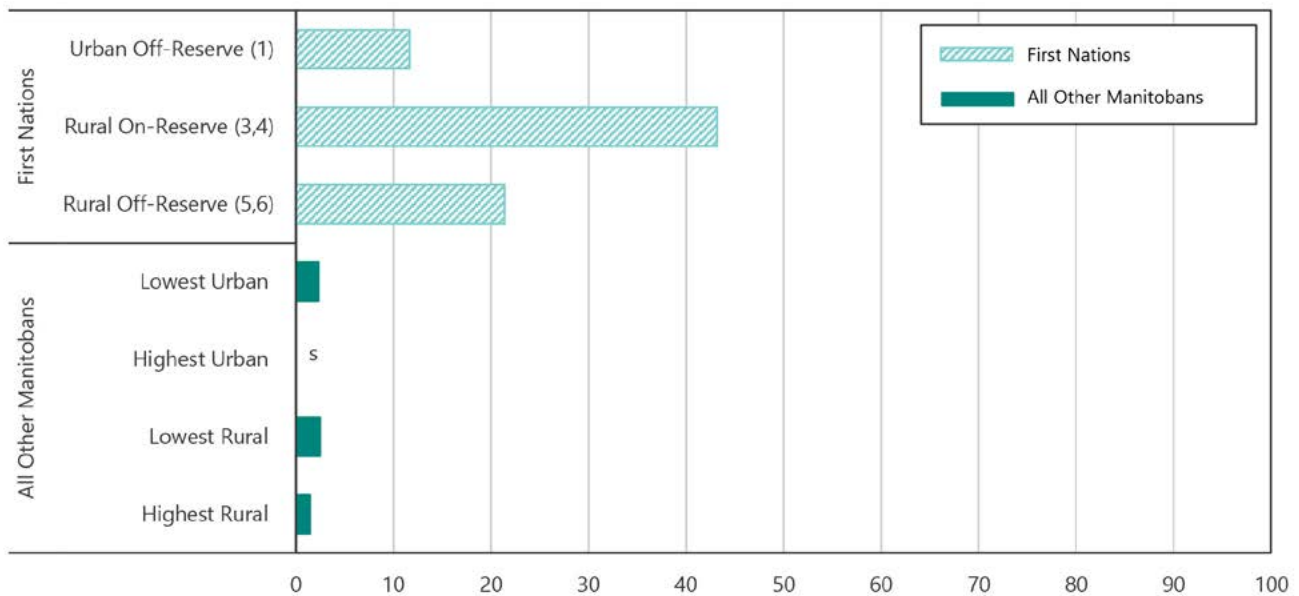


Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the lowest rate (WRTC)

- Among First Nations children living on-reserve, Independent North (59 per 1,000), Keewatin (52 per 1,000) and Island Lake (88 per 1,000) had higher rates of dental surgeries compared to West Region, the tribal council with lowest rate (16 per 1,000).
- No differences were found between the TCAs for children living off-reserve. Also, within each tribal council, no statistically significant difference in dental surgeries was found between children living on- and off-reserve.

Figure 5.9: Rate of Dental Surgeries for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile
Age- and sex-adjusted rate, per 1,000 children, age 0-5, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- s - Data suppressed due to small numbers

Figure 5.9 compares the rates of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the dental surgery rate was higher among First Nations children (12 per 1,000; living off-reserve) compared to all other Manitoba children (2 per 1,000) living in the lowest income areas. The dental surgery rate among all Manitoba children living in the highest income areas was too low to do statistical testing.
- Similarly, *in rural areas*, the dental surgery rate was higher among First Nations children living on-reserve (43 per 1,000) and off-reserve (21 per 1,000) compared to other Manitoba children living in the lowest (3 per 1,000) and highest (1 per 1,000) income areas.

How do these Results Compare with Previous Studies on Dental Surgeries?

Our results are consistent with the high prevalence of dental caries among children living in First Nations communities [47]. For example, Schroth et al. (2005) reported that 53.7% of children living in four First Nations communities in Manitoba had early childhood caries [48]. The Canadian Paediatric Society considers the poor oral health of Indigenous children of Canada to be a major health concern [49].

Lower Respiratory Tract Infections

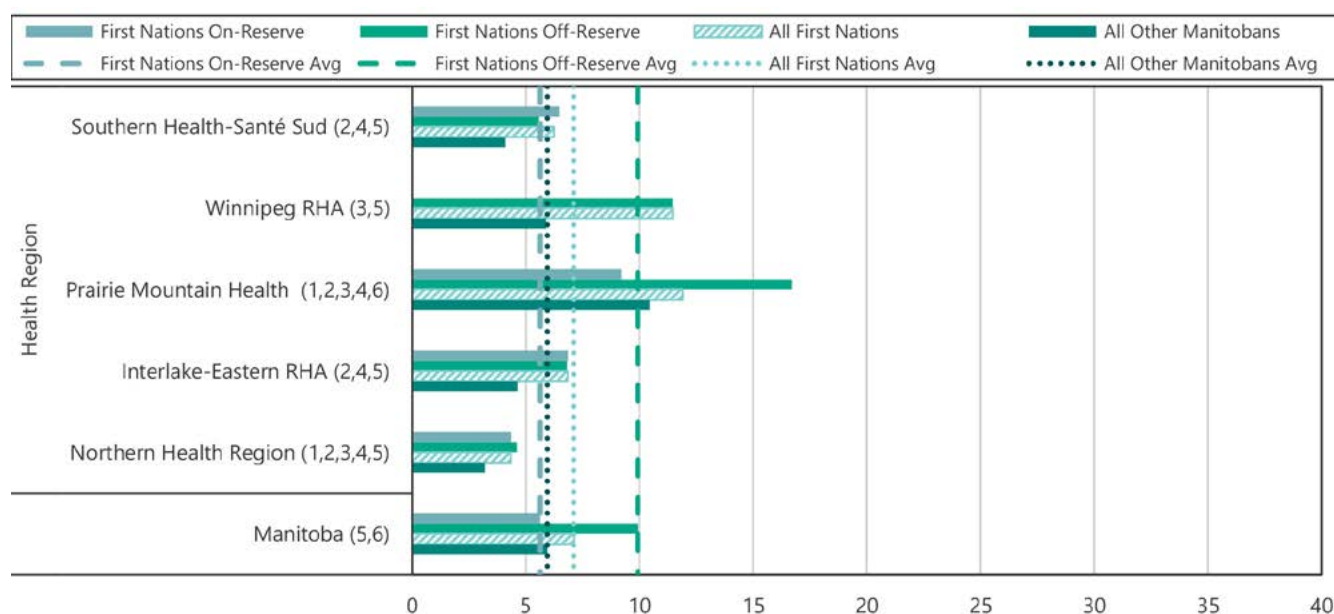
Respiratory infections are more frequent and more severe in Indigenous children than other children in the general population, often resulting in respiratory complications. Some risk factors include socioeconomic factors (e.g., education, household crowding and nutrition), environmental factors (e.g., smoke exposure and poor access to health care) and biological factors. Lower respiratory tract infections are particularly of concern in young children as they may be associated with long-term

respiratory complications, large disease burden and early mortality, and they impact both the child and their family.

In our report, this indicator was defined as the percentage of children who were diagnosed with lower respiratory tract infections, from either physician visits or hospitalization records, in fiscal year 2016/17. In the north, we are likely undercounting the number of lower respiratory tract infections because we do not have data from nursing stations. Our definition of lower respiratory tract infections does not include asthma, given that asthma is not an infection and has been examined separately. More details of how we created this indicator are found in Appendix 2.

Figure 5.10: Prevalence of Lower Respiratory Tract Infections by Health Region

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/17



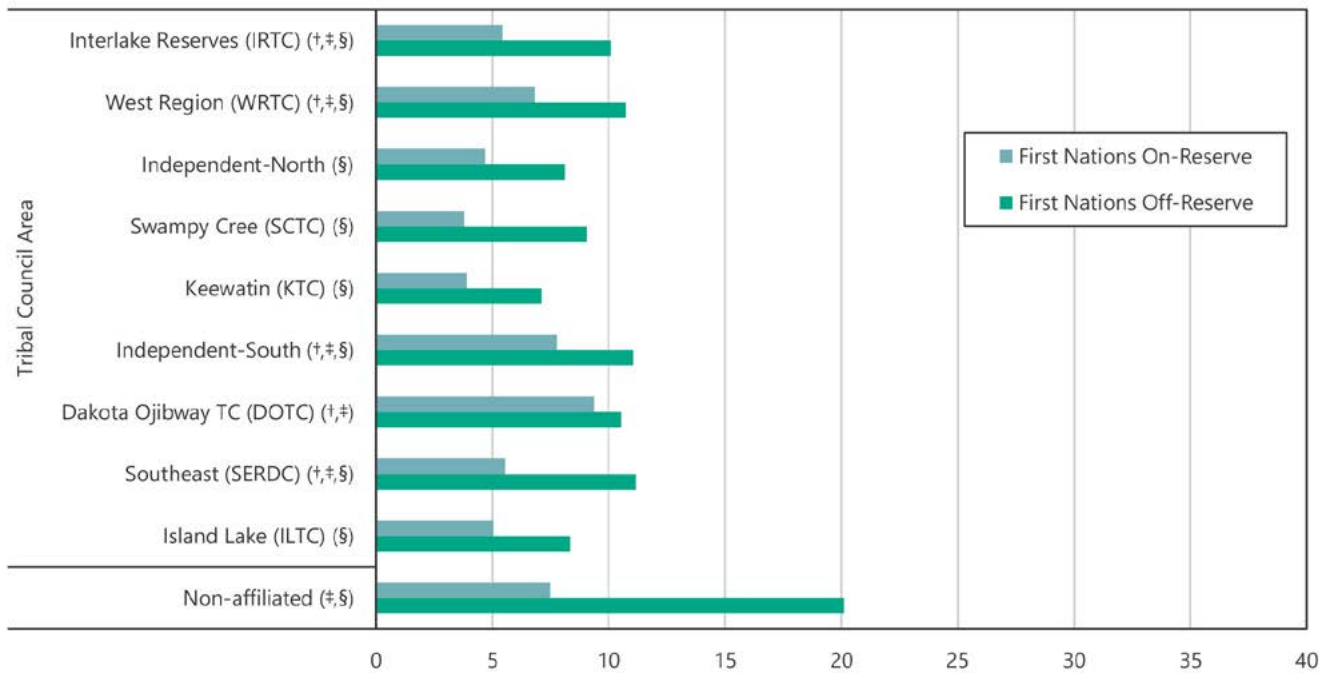
Statistically significant differences ($p < 0.01$):

- 1 - First Nations on-reserve: RHA compared to the Manitoba average
 - 2 - First Nations off-reserve: RHA compared to the Manitoba average
 - 3 - All First Nations: RHA compared to the Manitoba average
 - 4 - All Other Manitobans: RHA compared to the Manitoba average
 - 5 - All First Nations compared to All Other Manitobans
 - 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- The prevalence of lower respiratory tract infections among all First Nations children (7.1%) was higher compared to the prevalence among all other children (6.0%) living in Manitoba overall. The prevalence was also higher among First Nations children compared to all other children in most health regions, including Southern RHA, Winnipeg RHA, Interlake-Eastern RHA and Northern RHA (see footnote 5 in graph).
- Among First Nations children living on-reserve, those living in Northern RHA had a lower prevalence and those living in Prairie Mountain RHA had a higher prevalence compared to the Manitoba prevalence.
- Among First Nations children living off-reserve, those living in Southern RHA, Interlake-Eastern RHA and Northern RHA had a lower prevalence of lower respiratory tract infections and those living in Prairie Mountain RHA had a higher prevalence compared to the Manitoba prevalence.
- The prevalence was lower for all First Nations children (on- and off-reserve) living in Northern RHA compared to First Nations children in Manitoba overall; however, the prevalence was higher in Winnipeg RHA and Prairie Mountain RHA.
- The prevalence of lower respiratory tract infections was lower for First Nations children living on-reserve compared to off-reserve in Manitoba overall and specifically in Prairie Mountain RHA.

Figure 5.11: Prevalence of Lower Respiratory Tract Infections by Tribal Council Area

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/17

Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the lowest rate (SCTC)

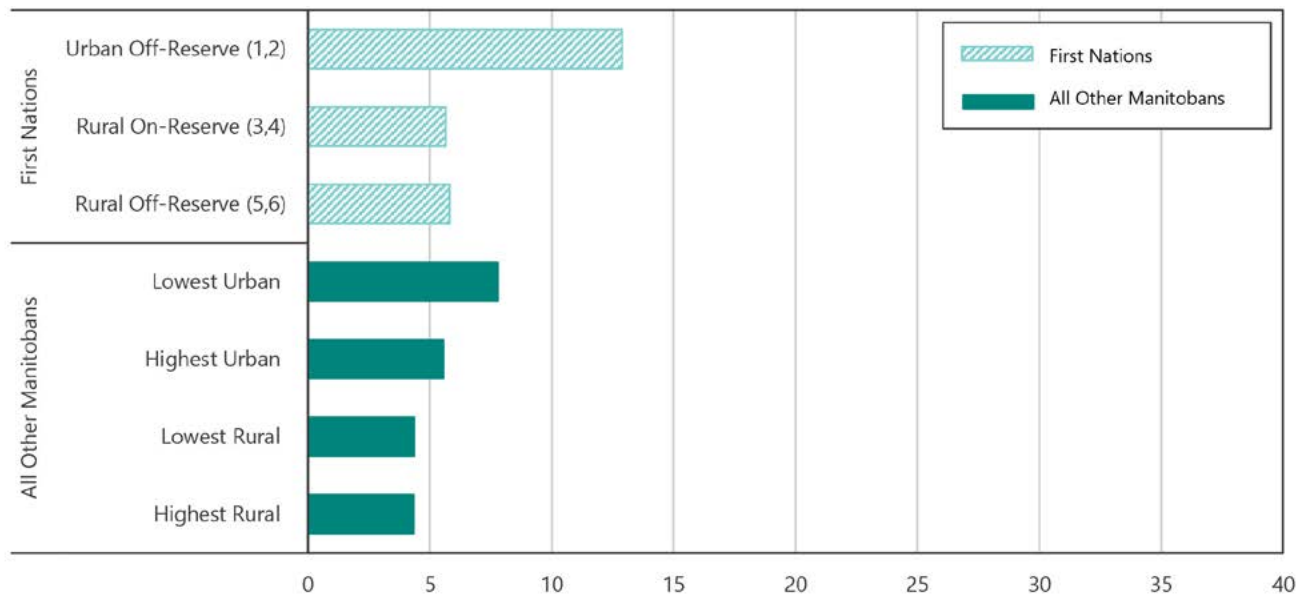
‡ - First Nations off-reserve: TCA compared to the lowest rate (KTC)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Interlake Reserves (5.4%), West Region (6.8%), Independent-South (7.8%), Dakota Ojibway (9.4%) and Southeast (5.6%) Tribal Councils had a higher prevalence of lower respiratory tract infections compared to Swampy Cree (3.8%), the tribal council with lowest prevalence.
- Among First Nations children living off-reserve, Interlake Reserves, West Region, Independent South, Dakota Ojibway, Southeast and non-affiliated tribal councils had a higher prevalence compared to Keewatin, the tribal council with the lowest prevalence.
- In all TCAs (with the exception of Dakota Ojibway), the prevalence of lower respiratory tract infections was lower among First Nations children living on-reserve compared to off-reserve.

Figure 5.12: Prevalence of Lower Respiratory Tract Infection for First Nations by On- and Off-Reserve and for all Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 5.12 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the prevalence of lower respiratory tract infections was higher among First Nations children (12.9%; living off-reserve) compared to all other Manitoba children living in the lowest (7.8%) income areas and the highest (5.5%) income areas.
- Similarly, *in rural areas*, the prevalence of lower respiratory tract infections was higher among First Nations children living on-reserve (5.7%) and off-reserve (5.8%) compared to other Manitoba children living in the lowest (4.4%) and highest (4.3%) income areas.

How do these Results Compare with Previous Studies on Lower Respiratory Tract Infections?

Although the prevalence of respiratory infections reported is different in other studies we found, most studies reported that Indigenous children are at a higher risk for respiratory infections than non-Indigenous children [50,51]. For example, Albarbi et al. found that Indigenous children were more than five times more likely to present with adenovirus lower respiratory tract infections than non-Indigenous children [52]. The exact prevalence depends on which respiratory infections are included and how the data were collected.

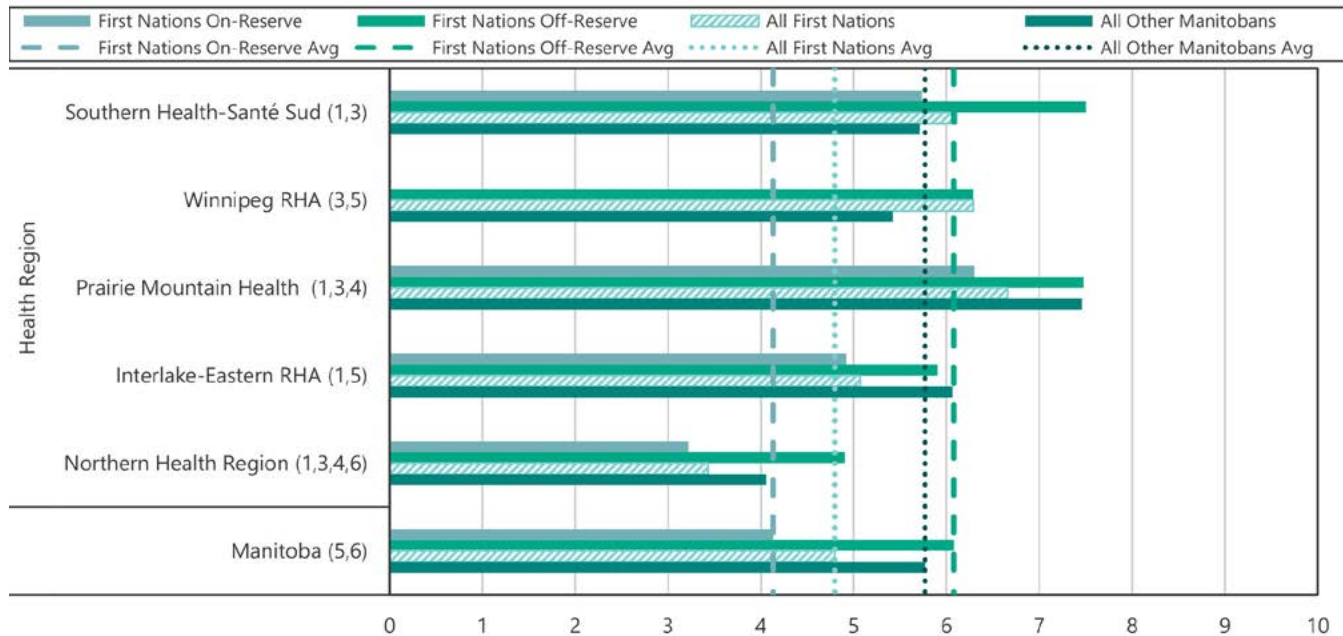
Otitis Media (Middle Ear Infections)

Otitis media is the term for an infection of the middle ear that commonly affects children. Acute otitis media is an infection that comes on quickly and is painful. Otitis media with effusion is when there is fluid in the middle

ear for more than three months, and this condition can be associated with hearing loss. This indicator is defined as the percentage of children who were diagnosed with otitis media, from either physician visits or hospitalization records, in fiscal year 2016/17. In Northern RHA, we are likely undercounting the number of cases because we do not have data from nursing stations. More details describing this indicator are found in Appendix 2.

Figure 5.13: Prevalence of Otitis Media by Health Region

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/17



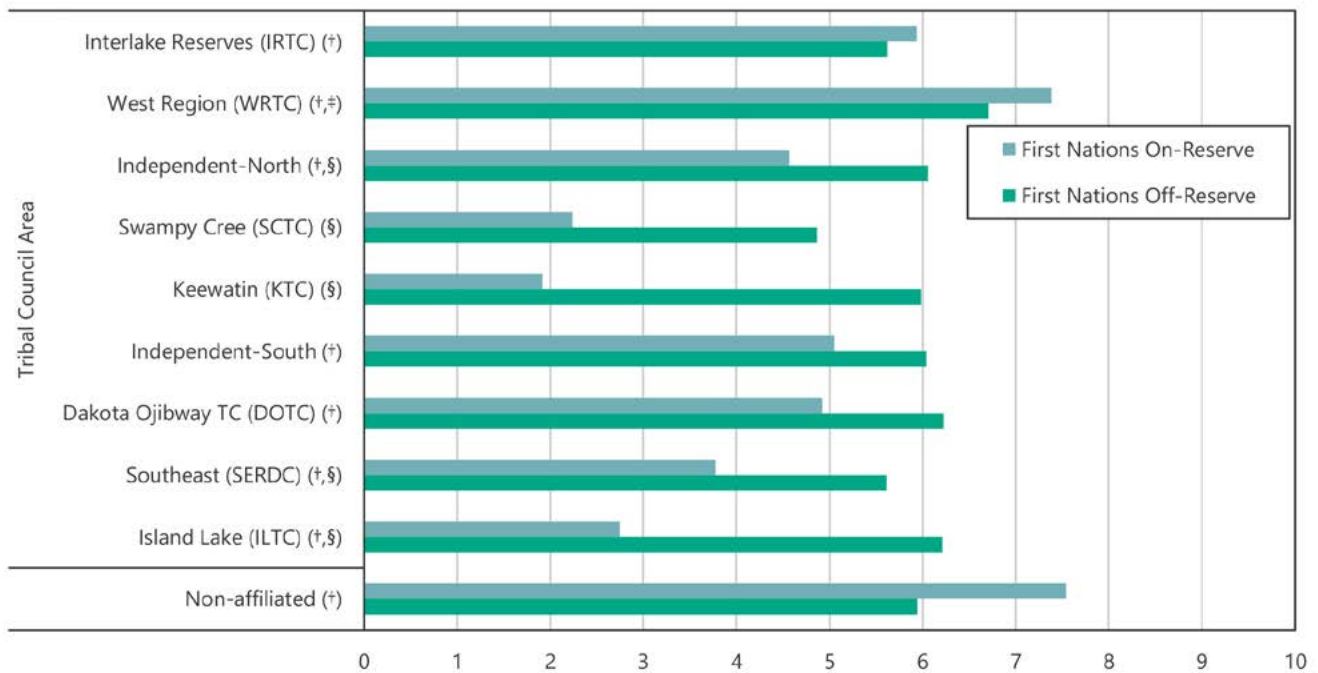
Statistically significant differences ($p < 0.01$):

- 1 - First Nations on-reserve: RHA compared to the Manitoba average
- 3 - All First Nations: RHA compared to the Manitoba average
- 4 - All Other Manitobans: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- The prevalence of otitis media among all First Nations children (5%) was lower compared to the prevalence of all other children (6%) living in Manitoba overall. It was also lower among First Nations children living in Interlake-Eastern RHA. However, the prevalence of otitis media was higher in Winnipeg RHA among First Nations children compared to all other Manitoba children.
- Among First Nations children living on-reserve, those living in Northern RHA had a lower prevalence and those living in Southern RHA, Prairie Mountain RHA and Interlake-Eastern RHA had a higher prevalence compared to the Manitoba prevalence.
- The prevalence was lower for all First Nations children (on- and off-reserve) living in Northern RHA compared to First Nations children in Manitoba overall; however, it was higher in Southern RHA, Winnipeg RHA and Prairie Mountain RHA.
- In Northern RHA and in Manitoba overall, the prevalence of otitis media was lower for First Nations children living on-reserve compared to off-reserve.

Figure 5.14: Prevalence of Otitis Media by Tribal Council Area

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/17



Statistically significant differences ($p < 0.01$):

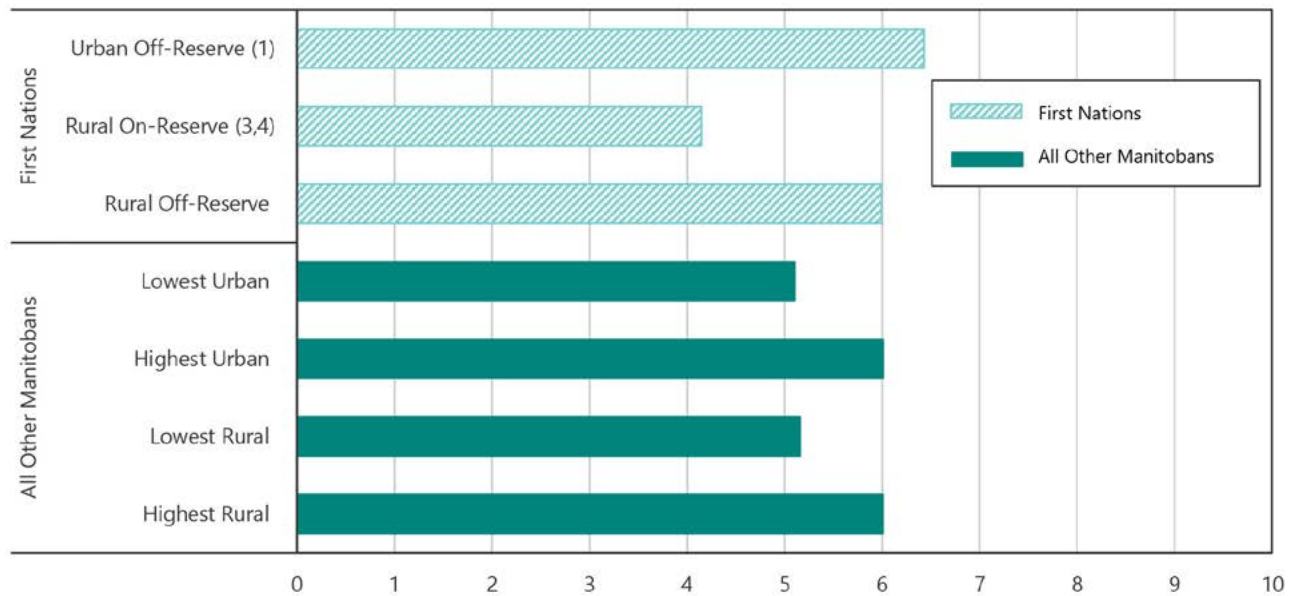
† - First Nations on-reserve: TCA compared to the lowest rate (KTC)

‡ - First Nations off-reserve: TCA compared to the lowest rate (Swampy Cree)

§ - First Nations on-reserve compared to First Nations off-reserve lowest rate (Swampy Cree)

- Among First Nations children living on-reserve, Interlake Reserves (5.9%), West Region (7.4%), Independent North (4.6%), Independent South (5.1%), Dakota Ojibway (4.9%), Southeast (3.8%), Island Lake (2.7%) and non-affiliated (7.5%) tribal councils had a higher prevalence of otitis media compared to Keewatin (1.9%), the tribal council with the lowest prevalence.
- Among First Nations children living off-reserve, West Region had a higher prevalence compared to Swampy Cree, the tribal council with the lowest prevalence.
- In several of the TCAs (including Independent North, Swampy Cree, Keewatin, Southeast and Island Lake), the prevalence of otitis media was lower among First Nations children living on-reserve compared to off-reserve.

Figure 5.15: Prevalence of Otitis Media for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile
Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile

Figure 5.15 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the prevalence of otitis media was higher among First Nations children (6.4%; living off-reserve) compared to all other Manitoba children (5.1%) living in the lowest income areas. No difference was found between First Nations children and all other Manitoba children living in the highest income areas.
- Conversely, *in rural areas*, the prevalence of otitis media was lower among First Nations children living on-reserve (4.1%) compared to other Manitoba children living in the lowest (5.2%) and highest (6.0%) income areas. No differences were found between First Nations children (off-reserve) and all other Manitoba children living in the lowest and highest income areas.

How do these Results Compare with Previous Studies on Otitis Media (Middle Ear Infections)?

We found that the prevalence of otitis media among all First Nations children (4.8%) was lower compared to the prevalence of all other children (5.8%) living in Manitoba overall. In urban areas, this prevalence was higher and in some rural and northern areas, this prevalence was lower for First Nations children. These findings are not consistent with previous research where otitis media was more prevalent among Indigenous children than non-Indigenous [53]. A study of Cree and Ojibway schoolchildren found that between 8-30% of these children showed signs of otitis media [54]. More recently, MacMillan et al., (2010) found that 15% of First Nations children living on-reserve experienced ear problems [26]. The contrast between previous studies and our results suggest that the present report may be underreporting cases of otitis media.

Atopic Dermatitis (Atopic Eczema)

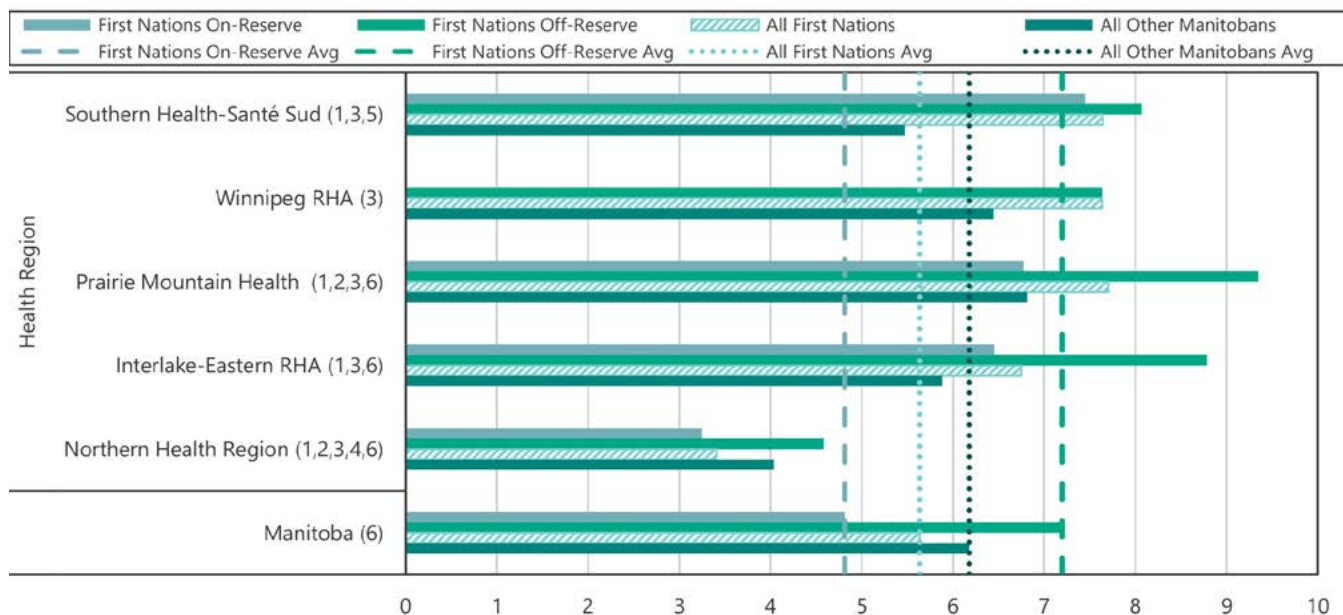
Atopic dermatitis, or eczema, is a type of inflammation of the skin that results in red, swollen, itchy and cracked skin. Scratching worsens symptoms and affected children have an increased risk of skin infections or of developing hay fever or asthma. This condition often starts in childhood with

changing severity over the years, and it can affect much of the body in infants.

We used physician visits and hospitalization records to create this indicator. In the north, we are likely undercounting the number of medical conditions because we do not have data from nursing stations. More details describing how we created this indicator are found in Appendix 2.

Figure 5.16: Prevalence of Atopic Dermatitis by Health Region

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/17



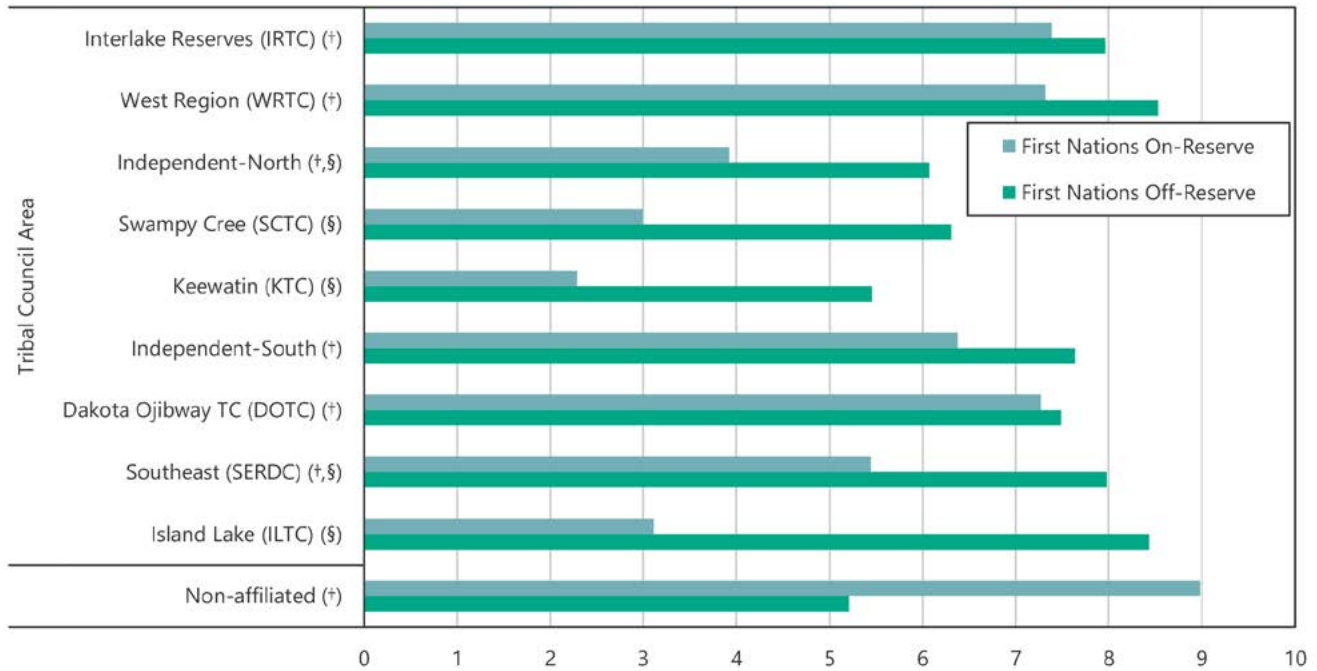
Statistically significant differences ($p < 0.01$):

- 1 - First Nations on-reserve: RHA compared to the Manitoba average
 - 2 - First Nations off-reserve: RHA compared to the Manitoba average
 - 3 - All First Nations: RHA compared to the Manitoba average
 - 4 - All Other Manitobans: RHA compared to the Manitoba average
 - 5 - All First Nations compared to All Other Manitobans
 - 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- The prevalence of atopic eczema among all First Nations children (6%) was similar to the prevalence among all other children (6%) living in Manitoba overall. However, this prevalence was higher in Southern RHA among First Nations children compared to all other children.
- Among First Nations children living on-reserve, those living in Northern RHA had a lower prevalence and those living in Southern RHA, Prairie Mountain RHA and Interlake-Eastern RHA had a higher prevalence compared to the Manitoba prevalence.
- Among First Nations children living off-reserve, those living in Northern RHA had a lower prevalence of atopic eczema and those living in Prairie Mountain RHA had a higher prevalence compared to the Manitoba prevalence.
- The prevalence was lower for all First Nations children (on- and off-reserve) living in Northern RHA compared to First Nations children in Manitoba overall; however, it was higher for all other health regions.
- The prevalence of atopic eczema was lower for First Nations children living on-reserve compared to off-reserve in Manitoba overall and specifically in Prairie Mountain RHA, Interlake-Eastern RHA and Northern RHA.

Figure 5.17: Prevalence of Atopic Dermatitis by Tribal Council Area

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/17

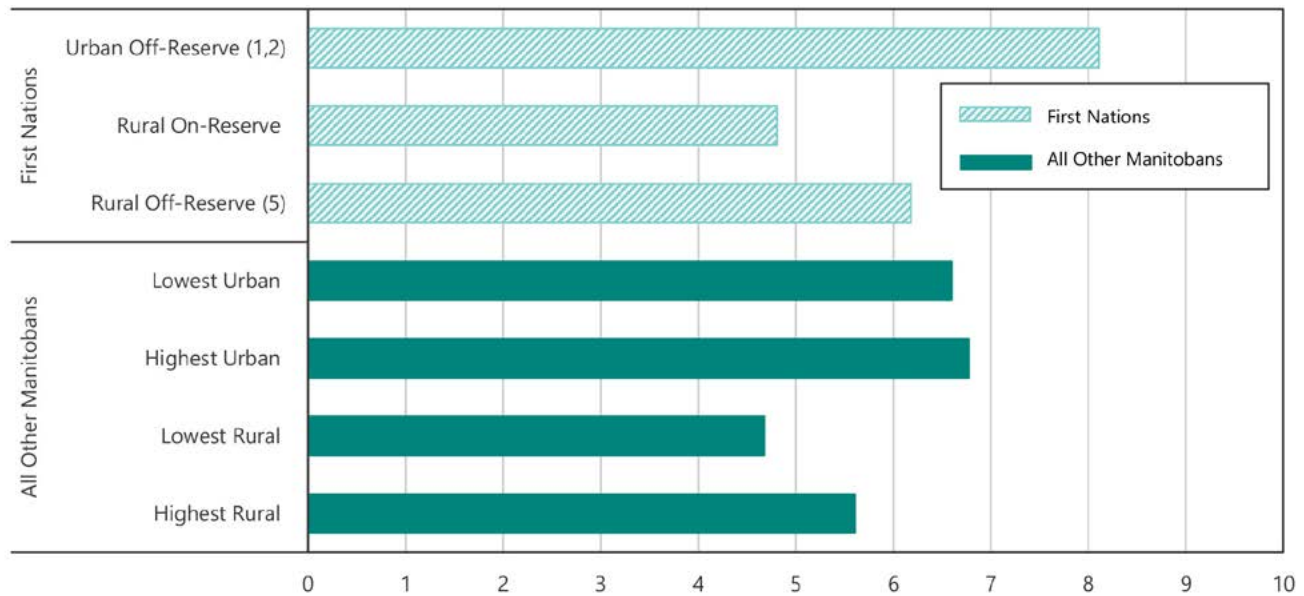
Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the lowest rate (KTC)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Interlake Reserves (7.4%), West Region (7.3%), Independent North (3.9%), Independent South (6.4%), Dakota Ojibway (7.3%), and Southeast (5.4%) Tribal Council as well as communities who are non-affiliated (9.0%) had a higher prevalence of atopic eczema compared to Keewatin (2.3%), the tribal council with the lowest prevalence.
- In many TCAs, including Independent North, Swampy Cree, Keewatin, Southeast and Island Lake Tribal Council, the prevalence of atopic eczema was lower in First Nations children living on-reserve compared to off-reserve.

Figure 5.18: Prevalence of Atopic Dermatitis for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile
Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile

Figure 5.18 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the prevalence of atopic eczema was higher among First Nations children (8.1%; living off-reserve) compared to all other Manitoba children living in the lowest (6.6%) income areas and the highest (6.8%) income areas.
- Similarly, *in rural areas*, the prevalence of atopic eczema was higher among First Nations children living off-reserve (6.2%) compared to other Manitoba children (4.7%) living in the lowest income areas. However, no differences were found between First Nations children (on-reserve) and all other Manitoba children living in the lowest and highest income areas.

How do these Results Compare with Previous Studies on Atopic Dermatitis?

We found that the prevalence of atopic dermatitis among First Nations children (5.6%) was similar to the prevalence among all other children (6.2%) living in Manitoba overall. Few studies were found regarding skin conditions. However, using the First Nations and Inuit Regional Health Survey, MacMillan et al., (2010) found that 13% of First Nations children living on-reserve experienced allergies, which are often related to skin conditions [26].

Developmental Disorders – including Autism

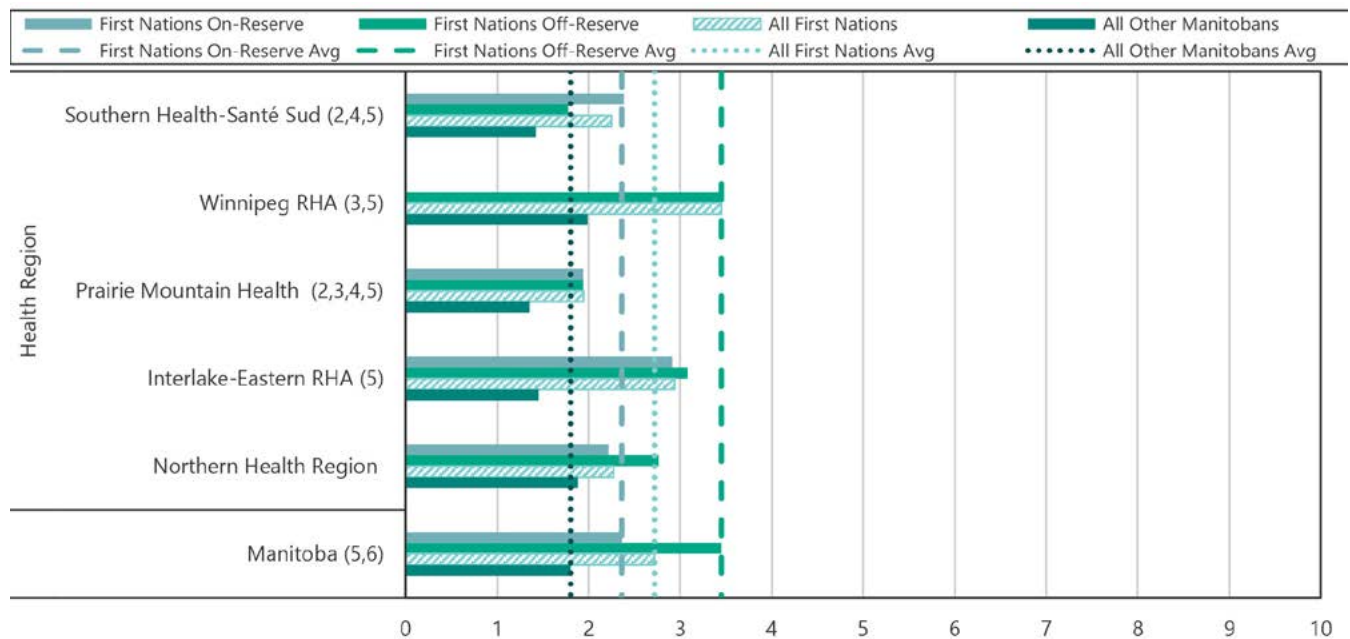
Developmental disorders are characterized by significant impediments in intellectual and adaptive functioning from a very early age. 'Adaptive functioning' means carrying out everyday activities, such as communicating and interacting with others, managing money, doing household activities and attending to personal care. The definition of developmental disorders used in this report includes disorders such as mental retardation, chromosomal anomalies (including Down, Patau and Edwards

syndromes), Fetal Alcohol Spectrum Disorders (FASD), and Autism Spectrum Disorders (ASD).

We defined this indicator as at least one diagnosis of a developmental disorder over the course of a child's lifetime, and calculated the prevalence as the number of children with a diagnosis over the number of all children (0-19 years). Children with developmental disorders who live on-reserve may not have access to evaluation and other services, and therefore we may be undercounting the true number of children with developmental disorders who live on-reserve. More details describing how we created this indicator are found in Appendix 2.

Figure 5.19: Prevalence of Lifelong Developmental Disorders by Health Region

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/17



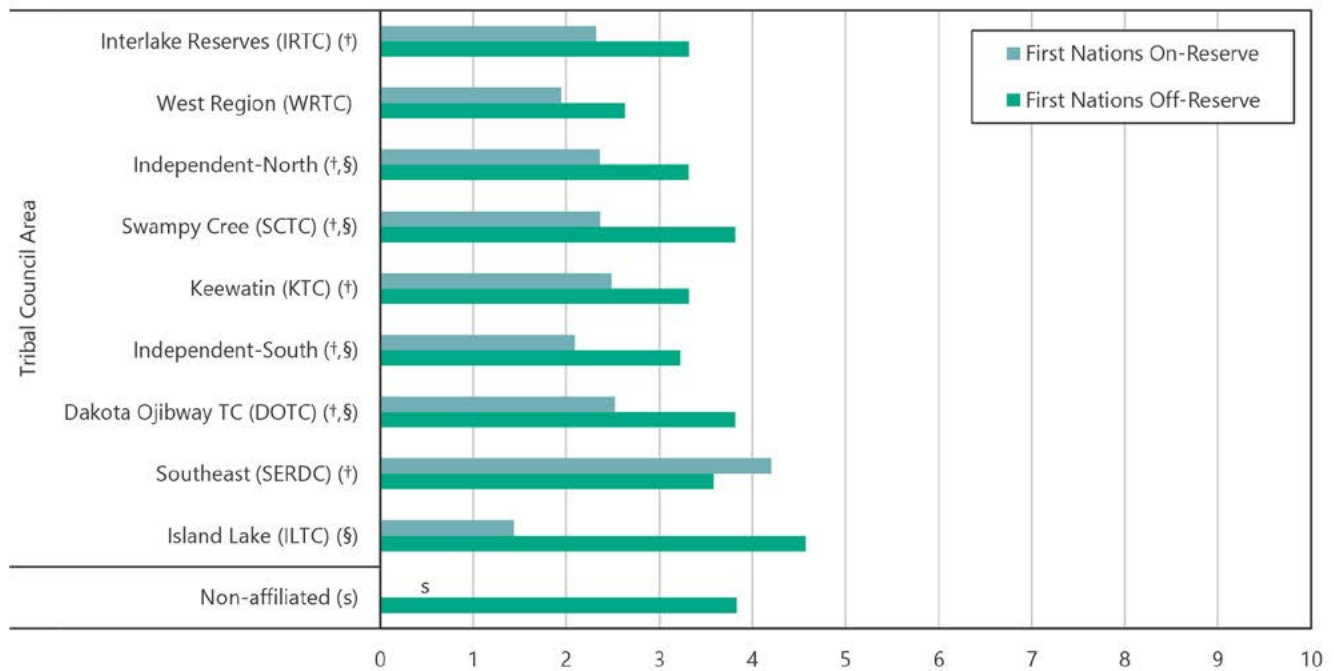
Statistically significant differences ($p < 0.01$):

- 2 - First Nations off-reserve: RHA compared to the Manitoba average
- 3 - All First Nations: RHA compared to the Manitoba average
- 4 - All Other Manitobans: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- The lifetime prevalence of diagnosed developmental disorders among all First Nations children (2.7%) was higher than among all other children (1.8%) living in Manitoba overall. This was also true when comparing First Nations children to all other children in Southern RHA, Winnipeg RHA, Prairie Mountain RHA and Interlake-Eastern RHA (see footnote 5 in graph).
- Among First Nations children living off-reserve, those living in Southern RHA and Prairie Mountain RHA had a lower prevalence of developmental disorders compared to the Manitoba prevalence.
- The prevalence was lower for all First Nations children (on- and off-reserve) living in Prairie Mountain RHA compared to First Nations children in Manitoba overall; however, the prevalence was higher for those living in Winnipeg RHA.
- The prevalence of developmental disorders was lower for First Nations children living on-reserve compared to off-reserve in Manitoba overall.

Figure 5.20: Prevalence of Lifelong Developmental Disorders by Tribal Council Area

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/17



Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the lowest rate (ILTC)

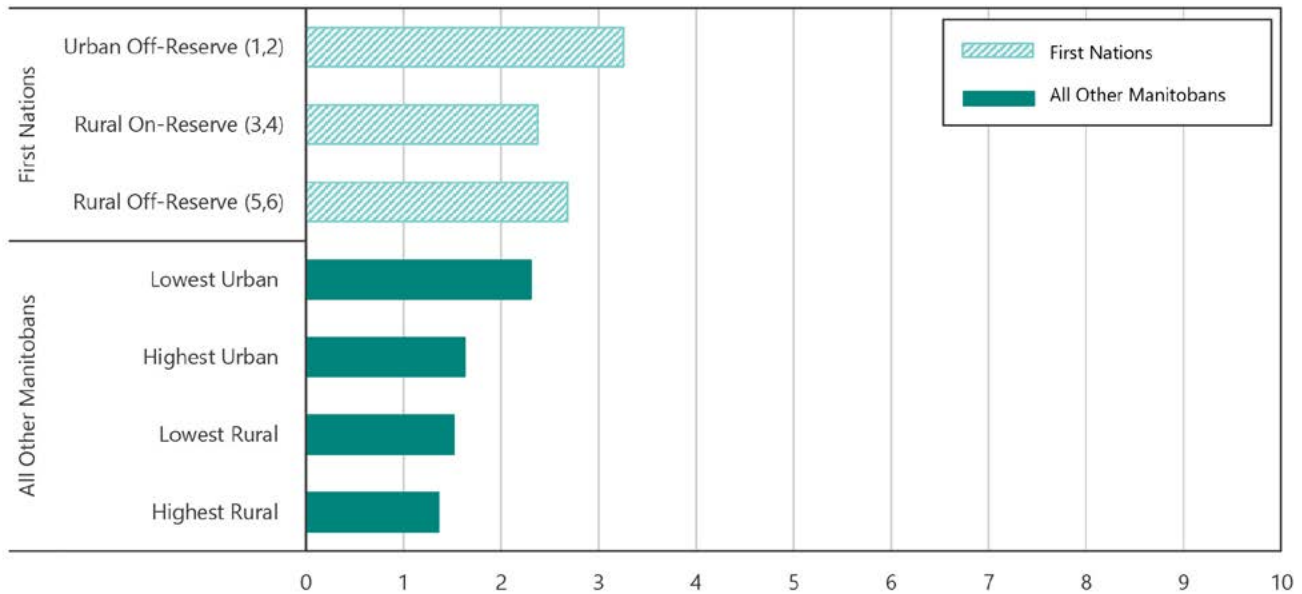
§ - First Nations on-reserve compared to First Nations off-reserve

s - Data suppressed due to small numbers

- Among First Nations children living on-reserve, Interlake Reserves (2.3%), Independent North (2.4%), Swampy Cree (2.4%), Keewatin (2.5%), Independent South (2.1%), Dakota Ojibway (2.5%) and Southeast (4.2%) Tribal Council had a higher lifetime prevalence of developmental disorders compared to Island Lake (1.4%) Tribal Council, the tribal council with the lowest prevalence.
- In five TCAs, the prevalence of developmental disorders was lower among First Nations children living on-reserve compared to off-reserve, including Independent North, Swampy Cree, Independent South, Dakota Ojibway and Island Lake Tribal Council.

Figure 5.21: Prevalence of Lifelong Developmental Disorders for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted Rate, per 100 children, age 0-19, 2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 5.21 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the prevalence of developmental disorders was higher among First Nations children (3.3%; living off-reserve) compared to all other Manitoba children living in the lowest (2.3%) income areas and the highest (1.6%) income areas.
- Similarly, *in rural areas*, the prevalence of lower respiratory tract infections was higher among First Nations children living on-reserve (2.4%) and off-reserve (2.7%) compared to other Manitoba children living in the lowest (1.5%) and highest (1.4%) income areas.

How do these Results Compare with Previous Studies on Developmental Disorders?

In this report, the lifetime prevalence of developmental disorders (including autism) among First Nations children (2.7%) was higher than among all other children (1.8%) living in Manitoba overall. This report examined a wide array of developmental disorders, which may explain differences between our report and other studies. Earlier studies found lower rates of autism among children of Aboriginal mothers compared to non-Aboriginal mothers [55]. A previous study of pervasive developmental disability rates in Manitoba and Prince Edward Island also showed lower rates among Aboriginal children [56]. Lindblom (2014) writes that possible reasons for lower rates include less help-seeking by Aboriginal parents, lack of culturally sensitive diagnostic tools, cultural and languages barriers, and the historical oppression and the legacy of residential schools that prevent parents from seeking help for children with symptoms of developmental disorders [57]. We speculate that lower access to diagnostic and screening services may be responsible for undercounting the number of children with developmental disorders.



Chapter 6:

Mental Health

In this chapter, we examine the diagnostic prevalence of mental disorders for children, as well as rates of suicide and suicide attempts. Mental disorders are very common in children and youth and yet they receive relatively little attention [58]. A recent MCHP study showed that mental illness in children predisposes them to mental illness as adults and precedes many other adverse outcomes as well [5]. First Nations children are at greater risk of experiencing mental disorders than other children from the general population because of societal, family and individual factors. Racism is a strong societal factor which has a profound impact on the health of children's bodies and minds through prolonged exposure to stress. Racism poses barriers to opportunities and services for Indigenous families and children [17]. First Nations children face historical oppression, parental mental disorders, family trauma and stressful life events, all factors that threaten their mental health. Fortunately, many factors also protect children from these harms, including their identity, spirituality, connectedness and social supports [18].

The mental disorders we examined are listed below. A definition of each of the following indicators is provided prior to presentation of the results.

- Attention-Deficit Hyperactivity Disorder (ADHD)
- Mood and Anxiety Disorders
- Substance Use Disorders
- Schizophrenia
- Hospitalization for Suicide Attempts
- Suicide

Cautions regarding the data on which the results are

based: We caution that we will likely be undercounting mental disorders in children. The indicators for these mental disorders are derived from diagnoses made during a visit to a physician or a nurse practitioner or from hospital records (and for ADHD, we also used prescription data). We will know about the children who were diagnosed with a mental disorder by these health professionals, but we will not know about children who were diagnosed by a psychologist or seen by mental health counsellors, social workers or nurses, nor will we be able to count those who never visited a health professional for a mental health problem. We know that many children and youth do not receive help for mental disorders. Their parents may try to get them services/assessments but waits are long and sometimes services are not available near their homes. The undercounting will be an issue particularly in the north, because we do not have data from nursing stations.

Regarding the suicide rate in this report, it is important to know that these data are from Vital Statistics. It is sometimes difficult to determine if a death occurred by suicide or not. In this report, we have counted all deaths

from suicides and some deaths that were of undetermined reason to calculate a rate that is closest to the actual suicide rate. Readers should note that the rates of suicide attempts are based on hospitalizations. However, a large proportion of suicide attempts are treated out of hospital and they will not be included in this report.

Notes about Statistical Significance:

- Only statistically significant results are described in the text. In general, we do not comment if there is no statistically significant result.
- In graphs of tribal council areas, we compared rates of each TCA to the TCA with the lowest rates (e.g., lowest rates of schizophrenia) to evaluate differences between TCAs within a relevant context.
- In graphs of health regions, we did not describe results of all other manitoba children as they are not the focus of this report.
- Differences between groups were tested at $p < 0.01$ level of significance.

Attention-Deficit Hyperactivity Disorder

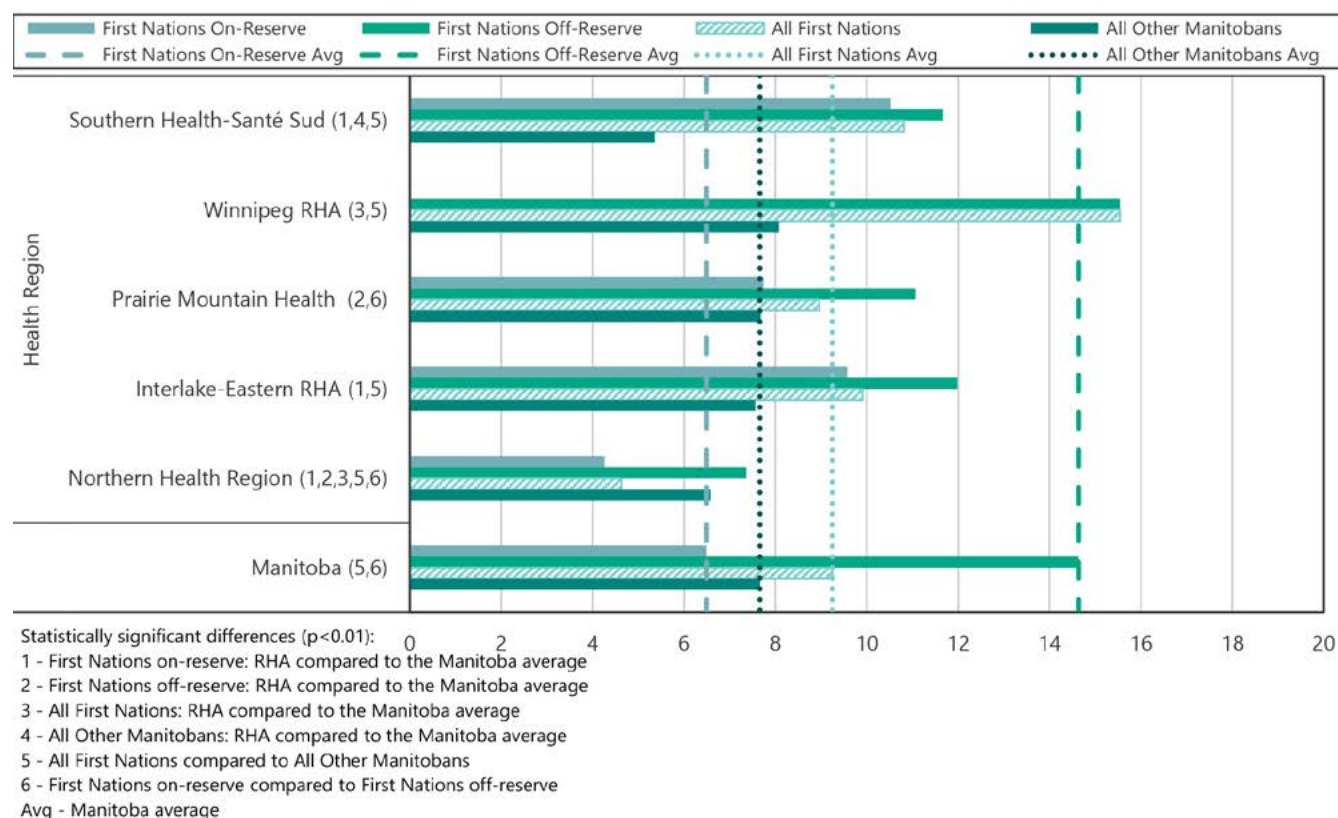
Attention-deficit hyperactivity disorder (ADHD) is a mental disorder that is characterized by a persistent pattern of impulsiveness, hyperactivity and absence of attention in children. The disorder is often identified during school ages, and symptoms may continue into adulthood [59]. The

symptoms significantly affect many facets of behaviour and performance, and disrupt both school and home life [60].

In this study, we used physician visits, hospitalization records and prescription records to determine if a child (age 6-19) had a diagnosis of ADHD over a one-year period. In the north, we are likely undercounting the number of children diagnosed with ADHD because we do not have data from nursing stations. Details describing how we created this indicator are found in Appendix 2.

Figure 6.1: Prevalence of ADHD by Health Region

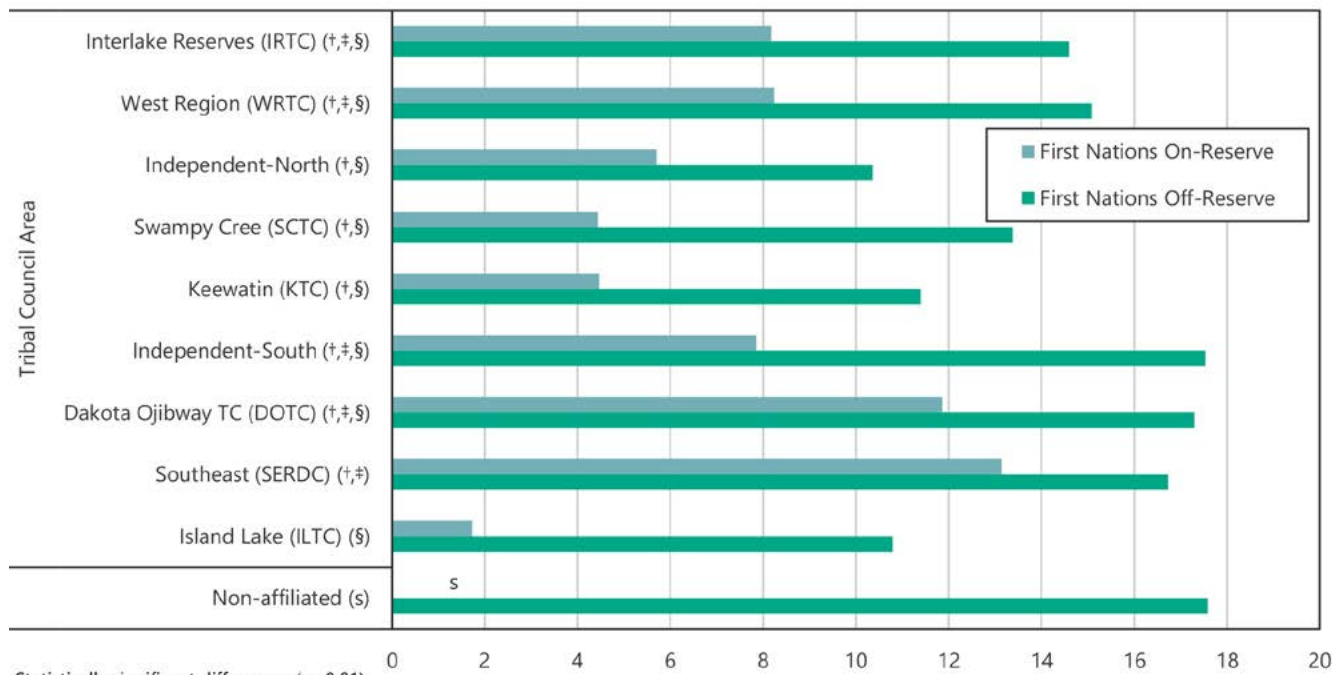
Age- and sex-adjusted rate, per 100 children, age 6-19, 2012/13-2016/17



- In Manitoba overall, the ADHD prevalence was higher among First Nations children (9.2%) compared to other Manitoba children (7.7%). This was true in many regions, with the exception of Northern RHA (where the prevalence was lower) and in Prairie Mountain RHA (where no statistically significant differences were found).
- Among First Nations children living on-reserve, the ADHD prevalence was lower for those living in Northern RHA compared to the average Manitoba on-reserve rate; however, it was higher for Southern RHA and Interlake-Eastern RHA.
- Among First Nations children living off-reserve, the ADHD prevalence was lower for those living in Prairie Mountain RHA and Northern RHA compared to the average Manitoba off-reserve prevalence.
- First Nations children living in Winnipeg RHA had a higher ADHD prevalence compared to all First Nations children in Manitoba; however, those in Northern RHA (on- and off-reserve) had a lower prevalence than the Manitoba First Nations prevalence.
- This prevalence was lower among First Nations children living on-reserve compared to off-reserve in Manitoba overall and specifically in Prairie Mountain RHA and Northern RHA.

Figure 6.2: Prevalence of ADHD by Tribal Council Area

Age- and sex-adjusted rate, per 100 children, age 6-19, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the lowest rate (ILTC)

‡ - First Nations off-reserve: TCA compared to the lowest rate (Independent-North)

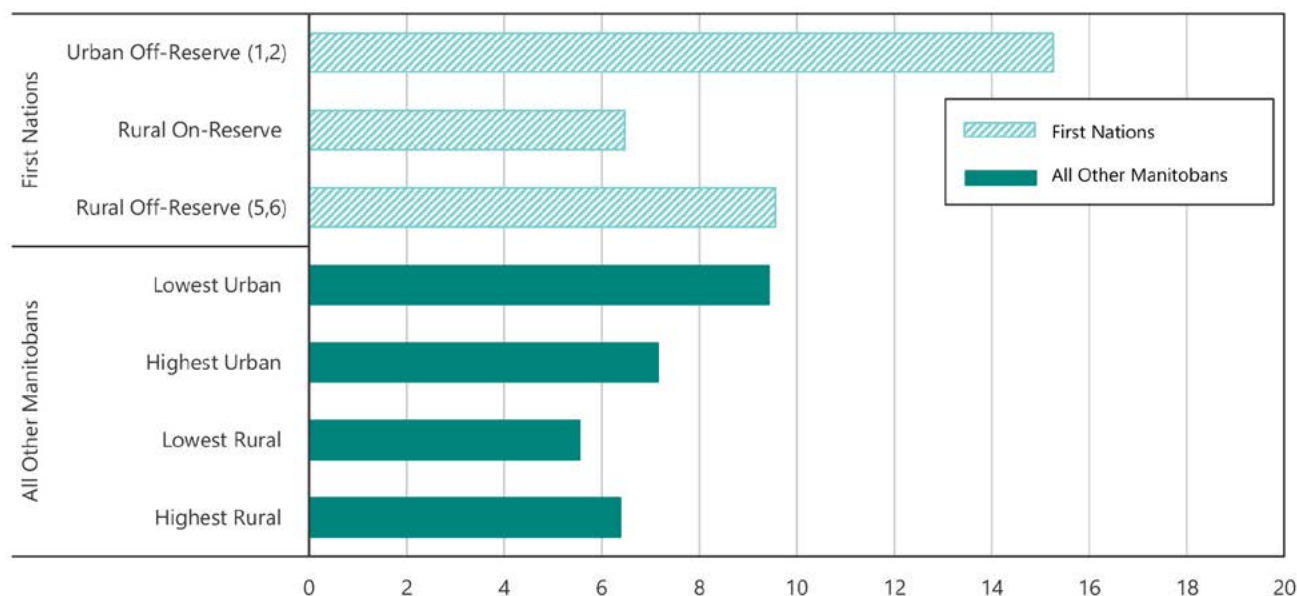
§ - First Nations on-reserve compared to First Nations off-reserve

s - Data suppressed due to small numbers

- Among First Nations children living on-reserve, all TCAs (with the exception of non-affiliated TCAs) had a higher prevalence of ADHD compared to Island Lake Tribal Council (1.7%), the tribal council with the lowest prevalence.
- Among First Nations children living off-reserve, Interlake Reserves, West Region, Independent South, Dakota Ojibway, and Southeast had a higher prevalence compared to Independent North, the tribal council with the lowest prevalence.
- The ADHD prevalence was lower on-reserve than off-reserve for all TCAs, with the exception of Southeast, where the difference was not statistically significant.

Figure 6.3: Prevalence of ADHD for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 100 children, age 6-19, 2012/13-2016/17

Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 6.3 compares the percentages of First Nations children and adolescents to all other Manitoban children and adolescents who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the ADHD prevalence was higher among First Nations children (15.3%; living off-reserve) compared to all other Manitoba children living in the lowest (9.4%) income areas and the highest (7.2%) income areas.
- Similarly, *in rural areas*, the ADHD prevalence was higher among First Nations children living off-reserve (9.6%) compared to other Manitoba children living in the lowest (5.5%) and highest (6.4%) income areas. However, no differences were found between First Nations children (on-reserve) and all other Manitoba children living in the lowest and highest income areas.

How do these Results Compare with Previous Studies on Attention-Deficit Hyperactivity Disorder (ADHD)?

Consistent with the present study, an Australian study found that Aboriginal youth have a higher diagnosed prevalence of ADHD than their non-Aboriginal counterparts [61]. To contrast, a study at two sites in the US and two sites in Canada indicated more similarities in ADHD diagnosis than differences when comparing Indigenous and non-Indigenous children [62]. The present report found no differences in the ADHD prevalence between First Nations children living on-reserve and other children living in rural areas, both high and low income areas. This is in contrast with the findings that very high rates of ADHD were found among First Nations children living off-reserve in both urban and rural areas. We speculate that this points to greater accessibility of mental health services off-reserve than on-reserve.

Mood and Anxiety Disorders

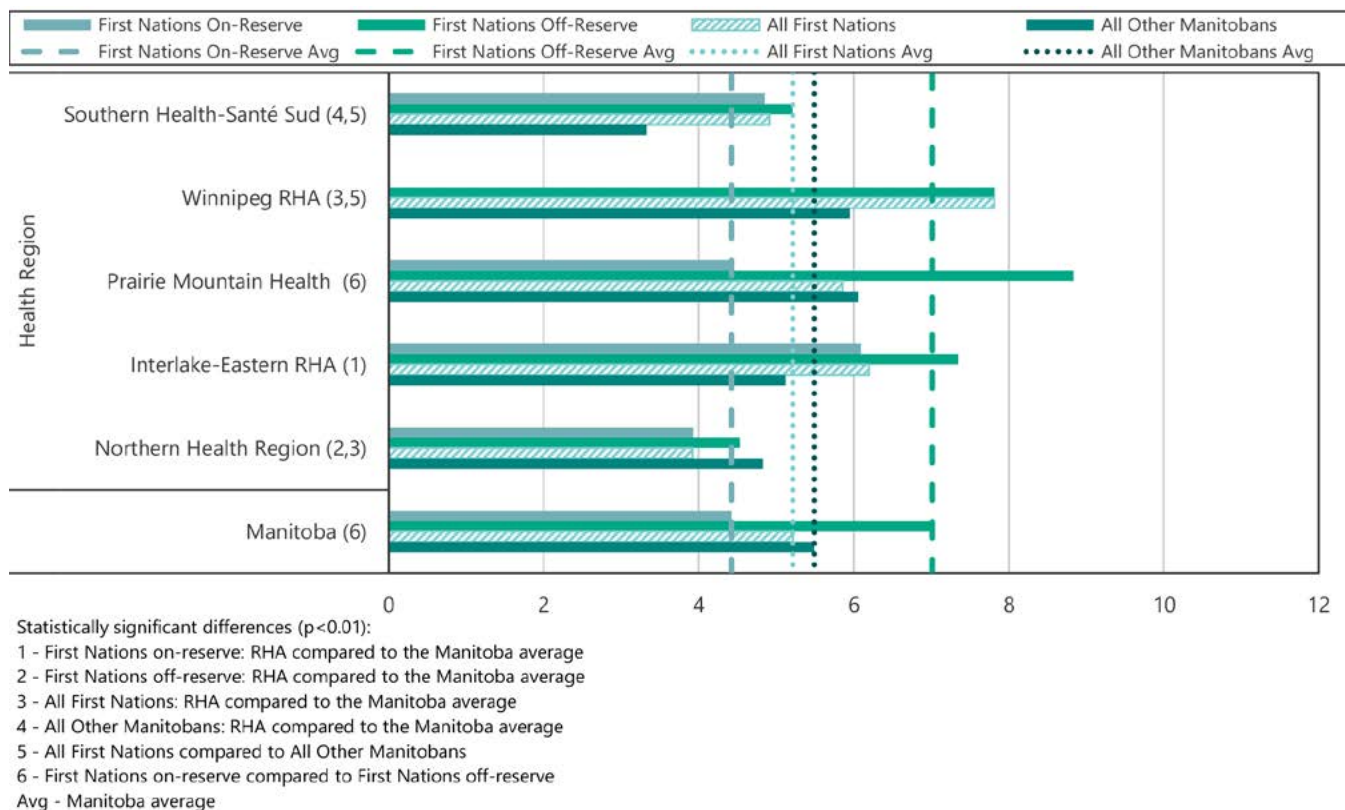
Mood and anxiety disorders are a large group of distressing mental disorders. Depressive disorders are characterized by depressed mood and diminished interest in almost all activities. Symptoms of bipolar disorders include elevated mood and increased energy that may or may not occur along with symptoms of depression. The main characteristics of anxiety disorders are excessive fear, anxiety, or worry and there is often avoidance of situations that provoke these strong emotions. Mood and anxiety disorders interfere with family and peer relationships,

cognitive abilities and performance at school [63,64]. For the purposes of this study, these disorders were grouped together because they often occur together and medications used to treat them are similar.

In this study, we used physician visits and hospitalization records to determine if a child or adolescent (age 6-19) had a diagnosis of a mood or anxiety disorder over a five-year period. In the north, we are likely undercounting the number of children diagnosed with a mood or anxiety disorder because we do not have data from nursing stations. Details describing how we created this indicator are found in Appendix 2.

Figure 6.4: Prevalence of Mood and Anxiety Disorders by Health Region

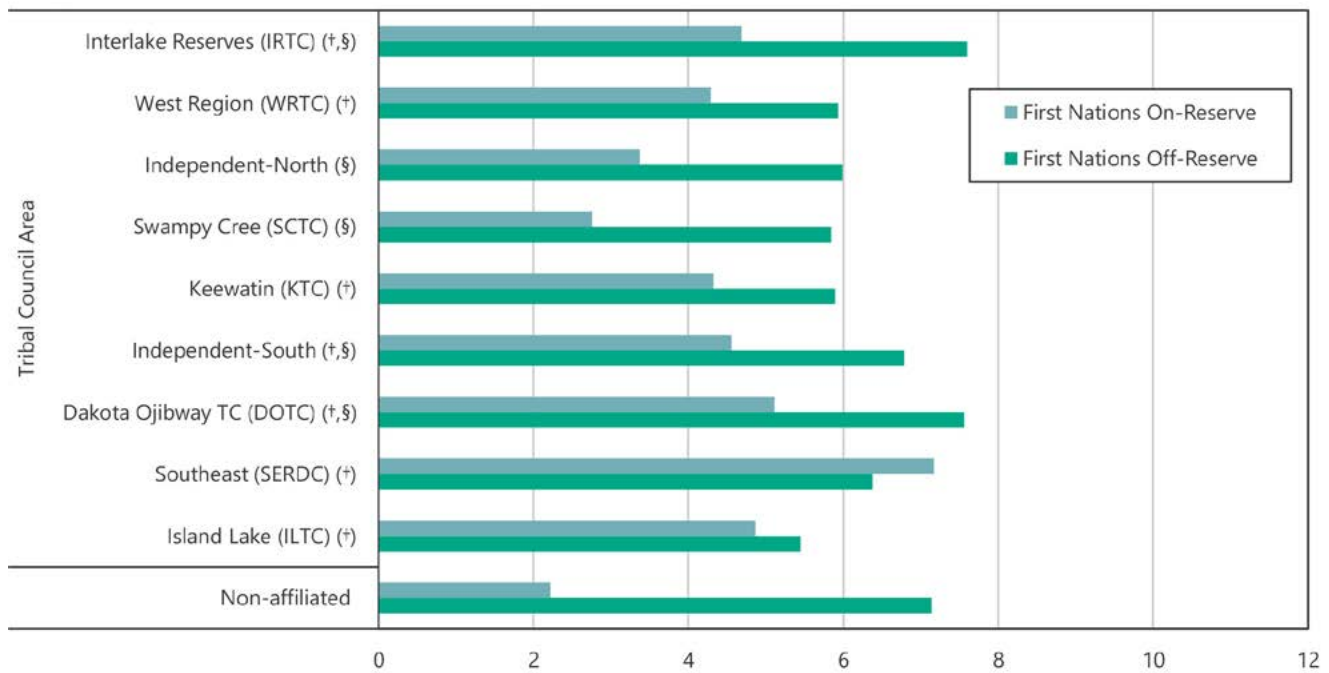
Age- and sex-adjusted rate, per 100 children, age 6-19, 2012/13-2016/17



- In Manitoba overall, no differences were found in mood and anxiety disorders between First Nations children (5.2%) and other Manitoba children (5.5%); however, in Southern RHA and Winnipeg RHA, the prevalence was higher among First Nations children compared to other Manitoba children.
- Among First Nations children living on-reserve, there was little difference in the prevalence of mood and anxiety disorders across health regions, except where it was higher for children living in Interlake-Eastern RHA compared to the average Manitoba on-reserve rate.
- Among First Nations children living off-reserve, the prevalence was lower for those living in Northern RHA compared to the average Manitoba off-reserve prevalence.
- First Nations children living in Winnipeg RHA had a higher prevalence of mood and anxiety disorders compared to all First Nations children in Manitoba; however, those in Northern RHA (on- and off-reserve) had a lower prevalence than the Manitoba First Nations prevalence.
- The prevalence of mood and anxiety disorders was lower among First Nations children living on-reserve compared to off-reserve in Manitoba overall and specifically in Prairie Mountain RHA.

Figure 6.5: Prevalence of Mood and Anxiety Disorders by Tribal Council Area

Age- and sex-adjusted rate, per 100 children, age 6-19, 2012/13-2016/17

Statistically significant differences ($p < 0.01$):

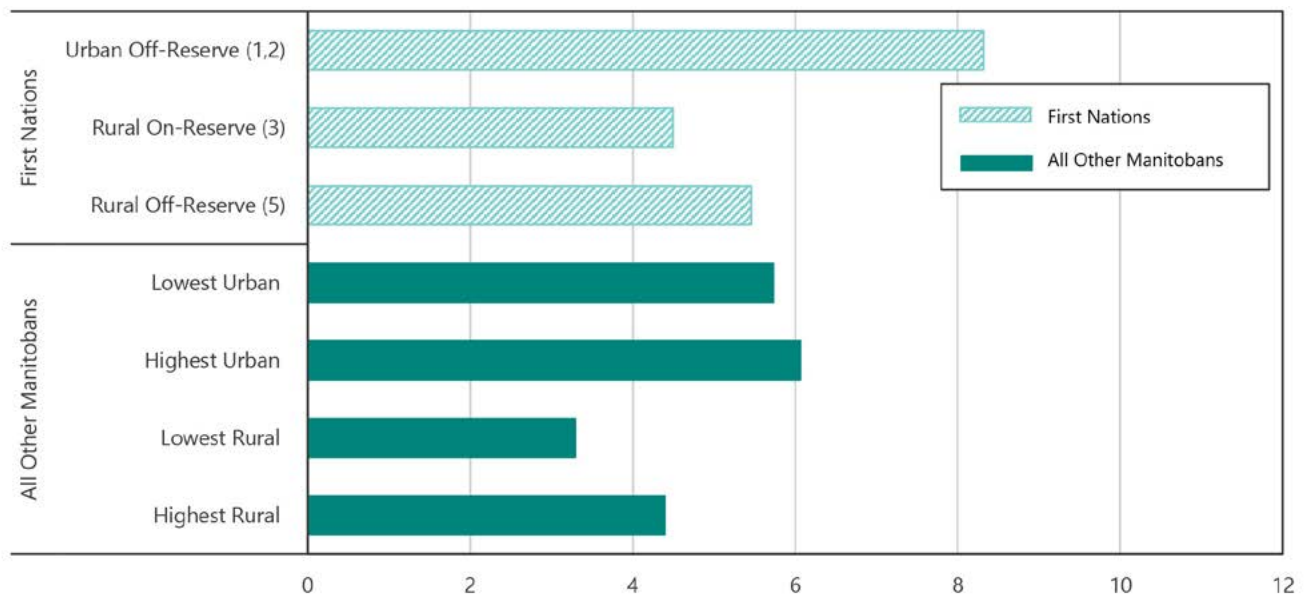
† - First Nations on-reserve: TCA compared to the lowest rate (SCTC)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Interlake Reserves (4.7%), West Region (4.3%), Keewatin (4.3%), Independent South (4.6%), Dakota Ojibway (5.1%), Southeast (7.2%), and Island Lake Tribal Council (4.9%) had a higher prevalence of mood and anxiety disorders compared to Swampy Cree (2.8%), the tribal council with the lowest prevalence.
- No differences in the prevalence of mood and anxiety disorders were found across TCAs among First Nations children living off-reserve.
- The prevalence of mood and anxiety disorders was lower on-reserve than off-reserve for the following tribal council areas: Interlake Reserves, Independent North, Swampy Cree, Independent South, and Dakota Ojibway.

Figure 6.6: Prevalence of Mood and Anxiety Disorders for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 100 children, age 6-19, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile

Figure 6.6 compares the percentages of First Nations children and adolescents to all other Manitoban children and adolescents who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the prevalence of mood and anxiety disorders was higher among First Nations children (8.3%; living off-reserve) compared to all other Manitoba children living in the lowest (5.7%) income areas and the highest (6.1%) income areas.
- *In rural areas*, the prevalence of mood and anxiety disorders was higher among First Nations children living on-reserve (4.5%) and off-reserve (5.5%) compared to other Manitoba children living in the lowest (3.3%) income areas. However, no differences were found between First Nations children (on- and off-reserve) and all other Manitoba children living in the highest income areas.

How do these Results Compare with Previous Studies on Mood and Anxiety Disorders?

The present study found few differences in mood and anxiety disorders between First Nations children and other Manitoba children. Curiously, First Nations children living on-reserve had a lower prevalence of mood and anxiety disorders than those living off-reserve. As with ADHD, we wondered about accessibility of mental health services for First Nations children living on-reserve. A Saskatchewan study found that when other factors (socioeconomic status, education and sex) were accounted for, Indigenous youth were not more likely than non-Indigenous youth to report a depressed mood [65]. Whitbeck et al, found that Indigenous girls were twice as likely to be diagnosed with mental disorders as boys, and that as youth age, the prevalence of having a lifetime mental disorder increases [13].

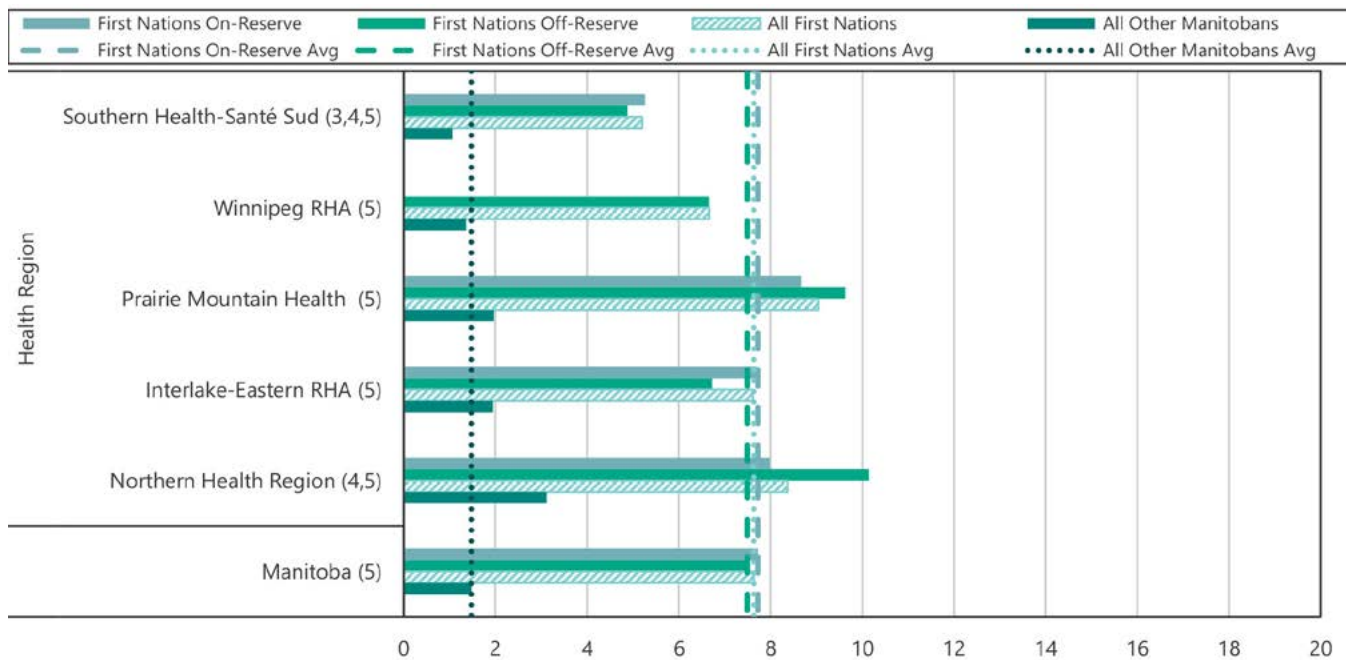
Substance Use Disorders

Substance use disorders are characterized by excess use of and reliance on a drug, alcohol or other chemicals that leads to severe negative effects on an individual's health and well-being or on the welfare of others. In children and adolescents, substance use not only affects their current health and functioning, but also negatively influences their development and can have longer term consequences [66].

In this study, we used physician visits and hospitalization records to determine if an adolescent (age 13-19) had a diagnosis of a substance use disorder over a five-year period. In the north, we are likely undercounting the number of adolescents diagnosed with substance use disorders because we do not have data from nursing stations. Details describing how we created this indicator are found in Appendix 2.

Figure 6.7: Prevalence of Substance Use Disorders by Health Region

Age- and sex-adjusted rate, per 100 adolescents, age 13-19, 2012/13-2016/17



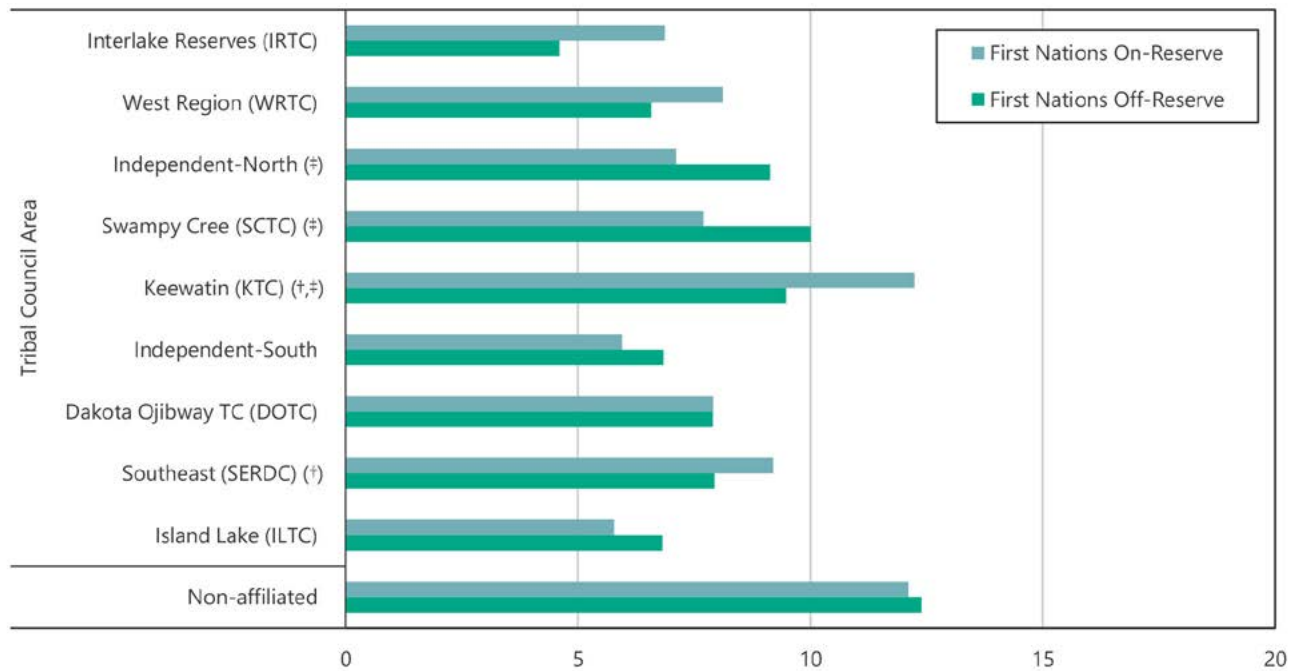
Statistically significant differences ($p < 0.01$):

- 3 - All First Nations: RHA compared to the Manitoba average
- 4 - All Other Manitobans: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- Avg - Manitoba average

- In Manitoba overall, the prevalence of substance use disorders was higher among First Nations adolescents (7.6%) compared to other Manitoba adolescents (1.5%). This was also true in each health region.
- Among all First Nations adolescents, there were few differences in the prevalence of substance use disorders across health regions, except for those living in Southern RHA, where the prevalence was lower compared to the average Manitoba rate.
- No differences in prevalence of substance use disorders were found between First Nations adolescents living on-reserve and those living off-reserve.

Figure 6.8: Prevalence of Substance Use Disorders by Tribal Council Area

Age- and sex-adjusted rate, per 100 adolescents, age 13-19, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

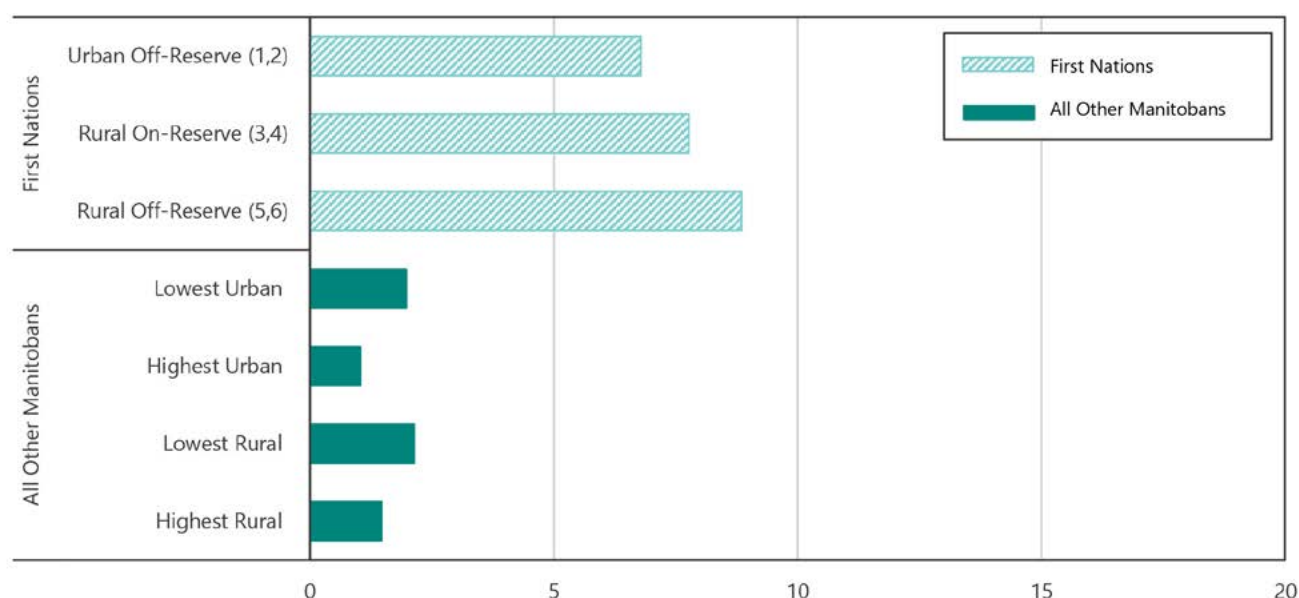
† - First Nations on-reserve: TCA compared to the lowest rate (Island Lake)

‡ - First Nations off-reserve: TCA compared to the lowest rate (Interlake Reserves)

- Among First Nations adolescents living on-reserve, Keewatin (12.2%) and Southeast (9.2%) had a higher prevalence of substance use disorders compared to Island Lake (5.8%), the tribal council with the lowest prevalence.
- Among First Nations adolescents living off-reserve, Independent North, Swampy Cree, and Keewatin had a higher prevalence of substance use disorders compared to Interlake Reserves, the tribal council with the lowest prevalence.
- No differences in prevalence were found between First Nations adolescents living on-reserve and those living off-reserve.

Figure 6.9: Prevalence of Substance Use Disorders for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 100 adolescents, age 13-19, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 6.9 compares the percentages of First Nations adolescents to all other Manitoban adolescents who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the prevalence of substance use disorders was higher among First Nations adolescents (6.8%; living off-reserve) compared to all other Manitoba adolescents living in the lowest (2.0%) income areas and the highest (1.0%) income areas.
- Similarly, *in rural areas*, the prevalence of substance use disorders was higher among First Nations adolescents living on-reserve (7.8%) and those living off-reserve (8.9%) compared to other Manitoba adolescents living in the lowest (2.1%) and highest (1.5%) income areas.

How do these Results Compare with Previous Studies on Substance Use Disorder?

The present study findings were consistent with other studies showing high rates of substance use disorders among Indigenous youth. A study of Saskatchewan adolescents reported that the prevalence of alcohol use (23.5%) and marijuana use (14.7%) among First Nations youth living on-reserve was higher than among youth living in a nearby community (5.4% and 2.7%, respectively) [67]. Another Canadian study showed that 10.6% of Indigenous youth in Canada had used a prescription drug to get high during 2008/09 [68]. Currie & Wild suggest that risk factors such as racial discrimination and emotional distress played important roles in these high rates and that school connectedness was protective against substance use [68]. Recent research found that discrimination and associating with peers who drink increases the rate of alcohol use disorder among Indigenous youth in the US and Canada [69].

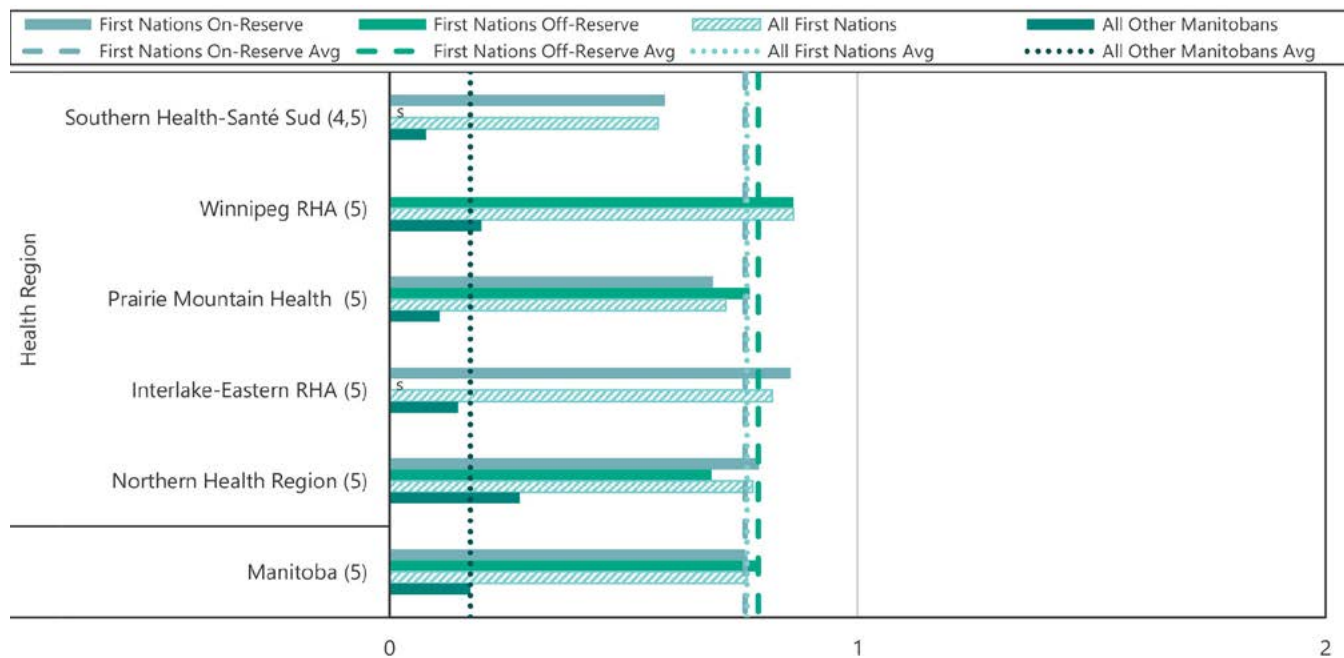
Schizophrenia

Schizophrenia is a severe mental disorder characterized by difficulty in distinguishing between real and unreal experiences (delusions and hallucinations), thinking logically, having normal emotional responses to others and behaving normally in social situations. To obtain a diagnosis of schizophrenia, the symptoms must be present for at least one month [70].

In this study, we used physician visits and hospitalization records to determine if an adolescent (age 13-19) had a diagnosis of schizophrenia over a five-year period. Details describing how we created this indicator are found in Appendix 2.

Figure 6.10: Prevalence of Schizophrenia by Health Region

Age- and sex-adjusted rate, per 100 adolescents, age 13-19, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

4 - All Other Manitobans: RHA compared to the Manitoba average

5 - All First Nations compared to All Other Manitobans

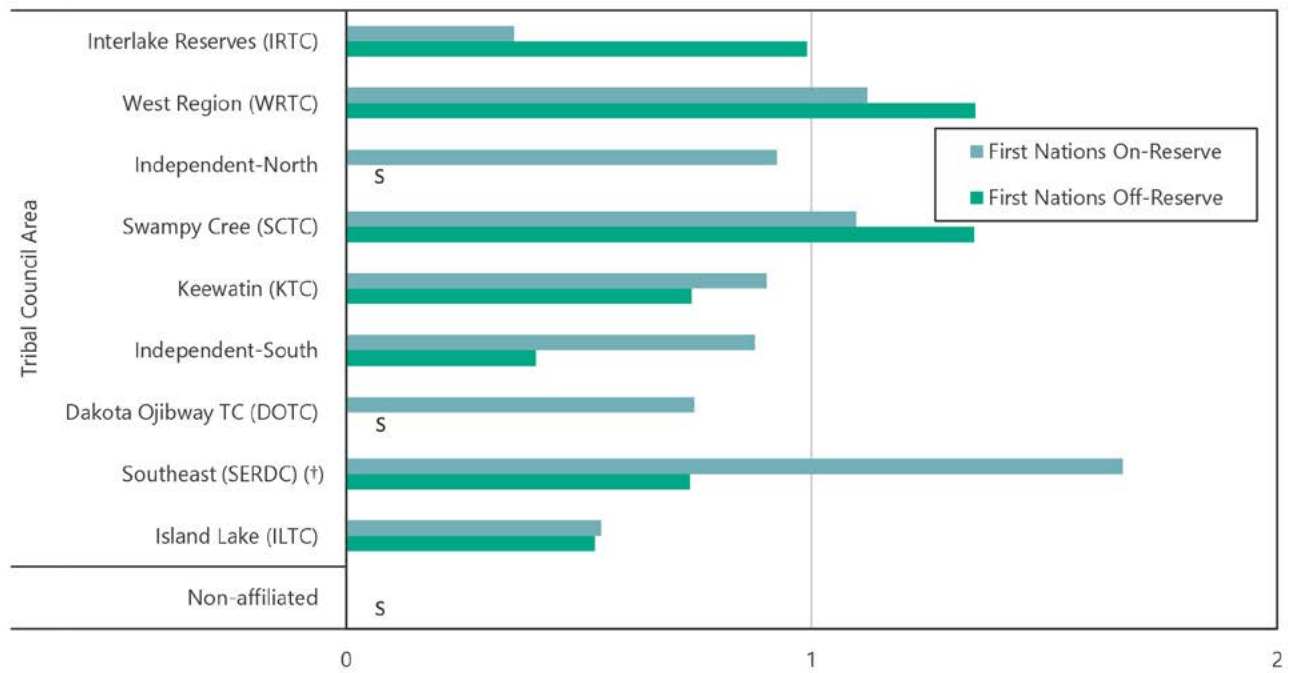
s - Data suppressed due to small numbers

Avg - Manitoba average

- In Manitoba overall, the prevalence of schizophrenia was higher among First Nations adolescents (0.76%) compared to other Manitoba adolescents (0.17%). This was also true in each health region when comparing First Nations adolescents to all other adolescents.
- Among all First Nations adolescents living both on-reserve and off-reserve, no differences were found in the prevalence of schizophrenia.

Figure 6.11: Prevalence of Schizophrenia by Tribal Council Area

Crude rate, per 100 adolescents, age 13-19, 2012/13-2016/17

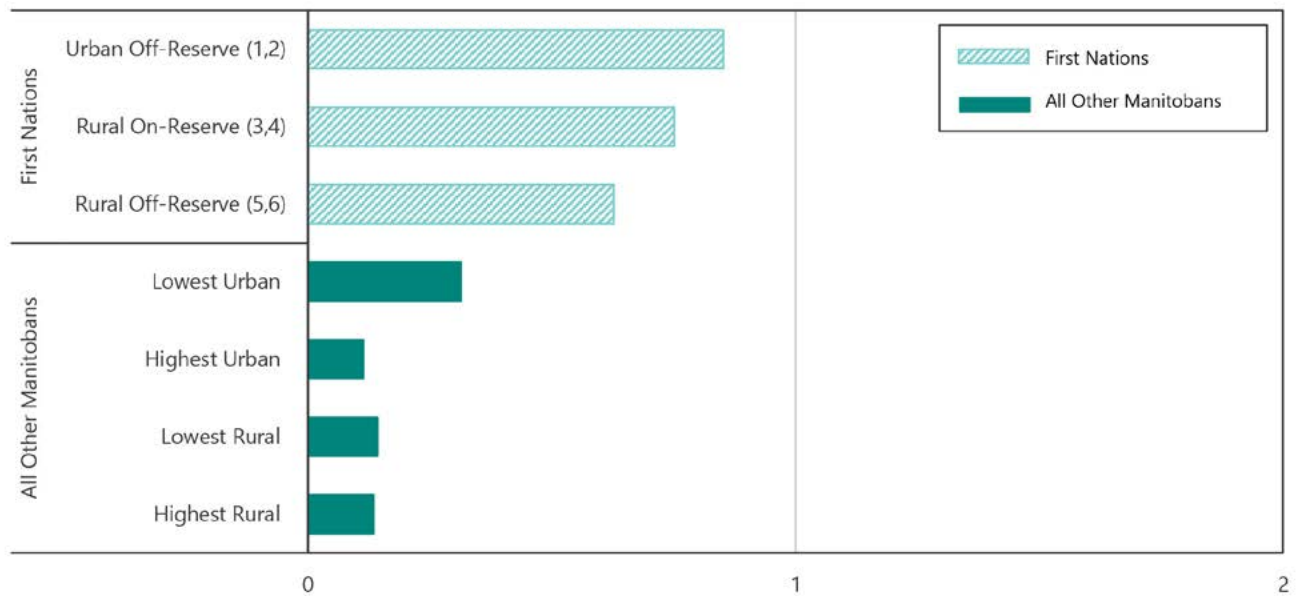
Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the lowest rate (Interlake Reserves)

s - Data suppressed due to small numbers

- Among First Nations adolescents living on-reserve, Southeast (1.67%) had a higher prevalence of schizophrenia compared to Interlake Reserves (0.36%), the tribal council with the lowest prevalence.
- Otherwise, no statistically significant differences were found across tribal council areas for First Nations adolescents living off-reserve and between adolescents living on-reserve and off-reserve.

Figure 6.12: Prevalence of Schizophrenia for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile
Age- and sex-adjusted rate, per 100 adolescents, age 13-19, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 6.12 compares the percentages of First Nations adolescents to all other Manitoban adolescents who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the schizophrenia prevalence was higher among First Nations adolescents (0.85%; living off-reserve) compared to all other Manitoba adolescents living in the lowest (0.31%) income areas and the highest (0.11%) income areas.
- Similarly, *in rural areas*, the schizophrenia prevalence was higher among First Nations adolescents living on-reserve (0.75%) and those living off-reserve (0.63%) compared to other Manitoba adolescents living in the lowest (0.14%) and highest (0.13%) income areas.

How do these Results Compare with Previous Studies on Schizophrenia?

The disparity in the prevalence of schizophrenia between First Nations adolescents and other adolescents in Manitoba is very large. We found few studies that reported schizophrenia in Indigenous youth. Consistent with the findings of the present study, Maori youth in New Zealand were found to be over-represented in the schizotypal group compared to non-Aboriginal youth [71]. This New Zealand study suggests that the high prevalence is due to factors such as inequality, stress, resilience and social adversity. Although the study was conducted in New Zealand, many parallels can be drawn between Canada's Indigenous population and New Zealand's Aboriginal population.

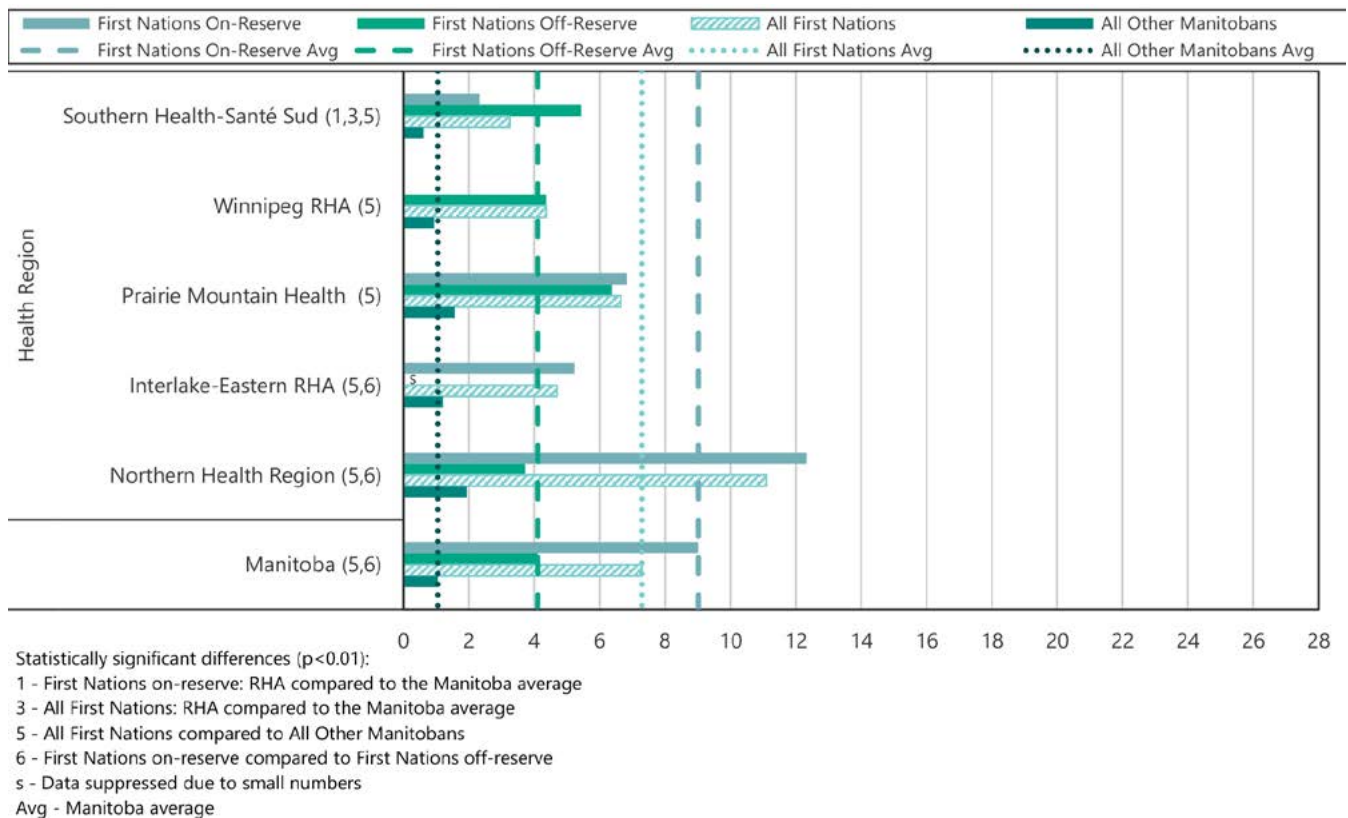
Hospitalization for Attempted Suicide

In this report, an attempted suicide is defined as an inpatient hospitalization with a diagnosis code for self-inflicted injury, or a diagnosis code for accidental poisoning combined with a psychiatric tariff code from medical claims, either during the hospital stay or within 30 days

of discharge. It was not possible to distinguish self-harm from attempted suicide in this indicator. An adolescent (age 13-19) was considered to have attempted suicide in a five-year time period if they were hospitalized for the reasons described above. For attempted suicide, rates were calculated as the rate per 1,000 adolescents (rather than percentages) because of the small numbers of individuals in this cohort. More details describing how we created this indicator are found in Appendix 2.

Figure 6.13: Rate of Hospitalizations for Suicide Attempts by Health Region

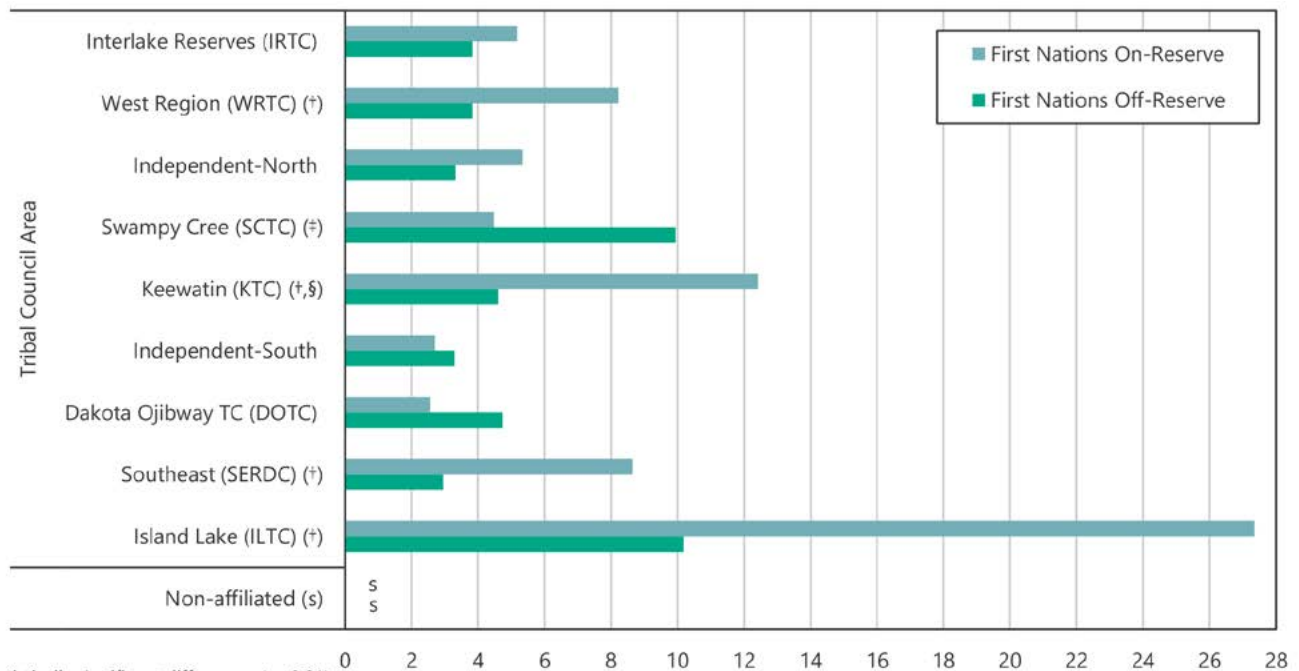
Age- and sex-adjusted rate, per 1,000 adolescents, age 13-19, 2012-2016



- Across Manitoba overall, the attempted suicide rate was 7.3 per 1,000 for First Nations adolescents and 1.0 per 1,000 for other Manitoba adolescents. Also, in all health regions, the rate of attempted suicide was higher among First Nations adolescents compared to other Manitoba adolescents.
- Among First Nations adolescents living on-reserve, the rate for attempted suicide was lower for those living in Southern RHA compared to the average Manitoba on-reserve rate.
- First Nations children living in Southern RHA had a lower prevalence rate compared to all First Nations children in Manitoba
- The attempted suicide rate was higher among First Nations adolescents living on-reserve compared to off-reserve in Manitoba overall and specifically in Interlake-Eastern and Northern RHAs.

Figure 6.14: Rate of Hospitalizations for Suicide Attempts by Tribal Council Area

Age- and sex-adjusted rate, per 1,000 adolescents, age 13-19, 2012-2016



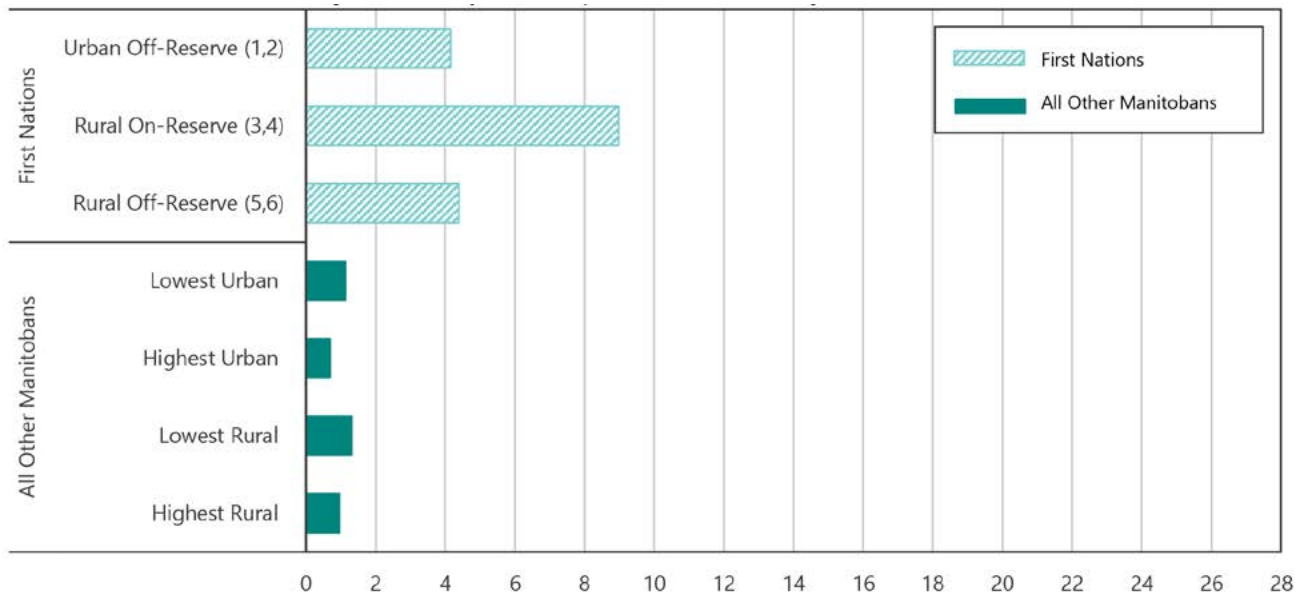
Statistically significant differences ($p < 0.01$):

- + - First Nations on-reserve: TCA compared to the lowest rate (DOTC)
- + - First Nations off-reserve: TCA compared to the lowest rate (SERDC)
- § - First Nations on-reserve compared to First Nations off-reserve
- s - Data suppressed due to small numbers

- Among First Nations adolescents living on-reserve, West Region (8 per 1,000), Keewatin (12 per 1,000), Southeast (9 per 1,000), and Island Lake (27 per 1,000) had a higher attempted suicide rate compared to Dakota Ojibway (3 per 1,000), the tribal council with the lowest rate.
- Among First Nations adolescents living off-reserve, Swampy Cree had a higher attempted suicide rate compared to Southeast, the tribal council with the lowest rate.
- Keewatin was the only TCA where a statistically significant difference was found between the on-reserve and off-reserve rate.

Figure 6.15: Rate of Hospitalizations for Suicide Attempts for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 1,000 adolescents, age 13-19, 2012-2016



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared to AOM in the highest income quintile

Figure 6.15 compares the rates of First Nations adolescents to all other Manitoban adolescents who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the rate of hospitalizations for attempted suicide was higher among First Nations adolescents (4 per 1,000: living off-reserve) compared to all other Manitoba adolescents living in the lowest (1 per 1,000) income areas and the highest (1 per 1,000) income areas.
- Similarly, *in rural areas*, the rate of hospitalizations for attempted suicide was higher among First Nations adolescents living on-reserve (9 per 1,000) and those living off-reserve (4 per 1,000) compared to other Manitoba adolescents living in the lowest (1 per 1,000) and highest (1 per 1,000) income areas.

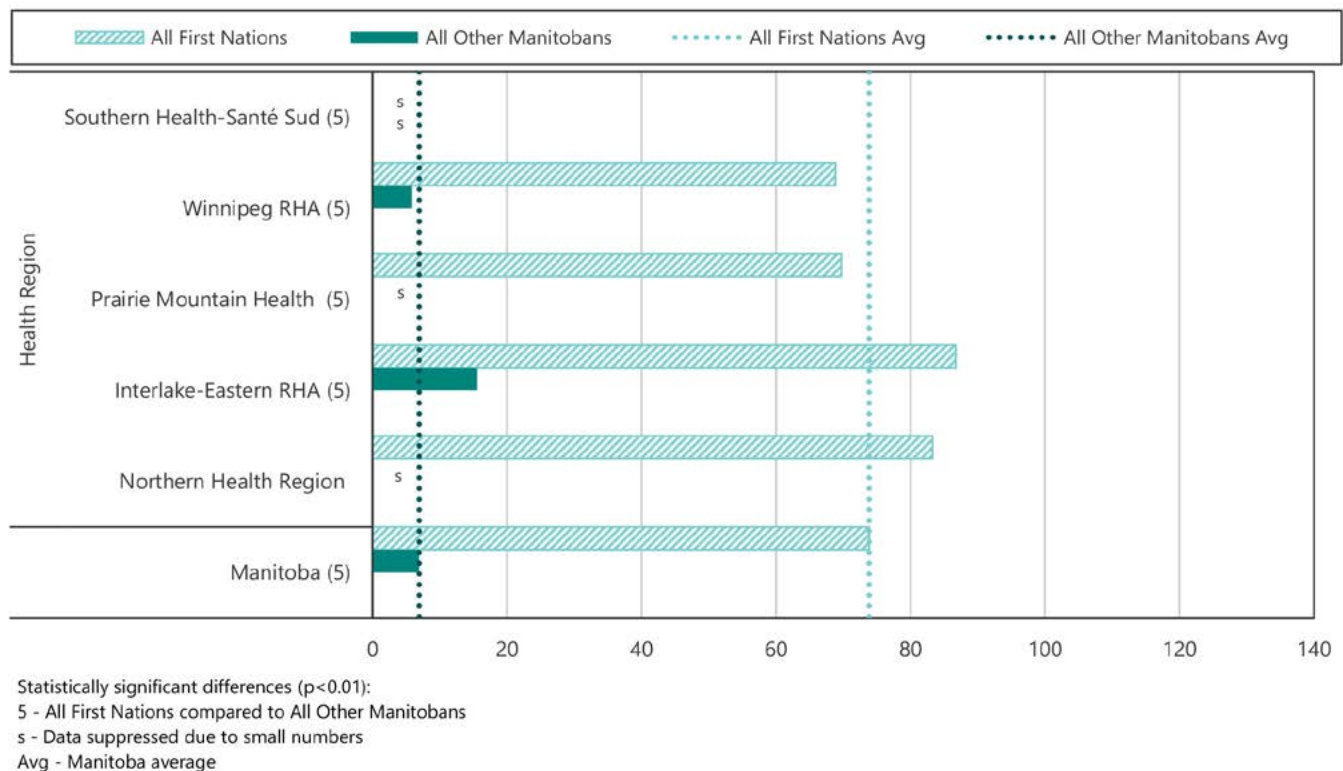
Suicide

Suicide is the act of intentionally killing oneself. In this study, we defined suicide among adolescents (age 13-19) in a five-year period using death records from the Vital Statistics dataset that reported self-inflicted injury or

poisoning as the primary cause of death. Suicide rates were calculated as the rate per 100,000 adolescents (rather than percentages) because of the small numbers of individuals in this cohort. More details describing how we created this indicator are found in Appendix 2.

Figure 6.16: Rate of Suicide by Health Region

Crude rate, per 100,000 adolescents, age 13-19, 2012/13-2016/17



- Across Manitoba overall, the rate of suicide was higher among First Nations adolescents (74 per 100,000) compared to other Manitoba adolescents (7 per 100,000). This was also true in all health regions (with the exception of Northern RHA) when comparing First Nation adolescents to all other adolescents.

How do these Results Compare with Previous Studies on Suicide Attempts and Deaths?

Our report found that First Nations adolescents had higher rates of suicidal deaths and attempted suicides than other Manitoba adolescents. These results are incongruent with the relatively low percentage of mood and anxiety

disorders diagnosed among First Nations youth and points to the importance of providing culturally and contextually appropriate mental health services for these youth and providing them sooner. However, our results are consistent with previous studies. An Ottawa study found that Indigenous youth suicide rates were seven times higher than rates among non-Indigenous youth [72]. Lemestra et al. reported that Indigenous peoples in Saskatchewan were 75% more likely to have lifetime suicidal ideation and Indigenous youths in particular were at a higher risk of suicidal ideation, even after controlling for a number of factors [65]. In another study, Indigenous students in Saskatchewan were reported to be at higher risk for suicide ideation than their non-Indigenous counterparts [73].

Chapter 7:

Health Care and Prevention Services

In this chapter, we selected three health care and prevention services to examine the health and health care of First Nations children. Hospitalizations only occur when children who are very ill and provide a population-based measure of health. Vaccinations are an important public health service that prevent serious infectious diseases. Prescription medications provide an indication of the presence of health problems. A definition of each of these indicators is provided prior to presentation of the results.

- Hospitalizations
- Causes of hospitalizations
- Number of prescriptions
- Complete vaccinations (two-year-olds)

Cautions regarding the data on which the results are based: Children living on-reserve may be hospitalized to treat relatively minor medical conditions that would normally require only an outpatient visit – this is because medical services may not be available in the community. The number of prescriptions we report may be undercounted as medications provided by nursing stations are not available in our databases.

Notes about Statistical Significance:

- Only statistically significant results are described in the text. In general, we do not comment if there is no statistically significant result.
- In graphs of tribal council areas, we compared rates of each TCA to the TCA with the lowest rates for indicators with a negative outcome (e.g., hospitalizations) or to the TCA with the highest rate for a positive outcome (e.g., vaccination) to evaluate differences between TCAs within a relevant context.
- In graphs of health regions, we did not describe results of All Other Manitoba Children as they are not the focus of this report.
- Differences between groups were tested at $p < 0.01$ level of significance.

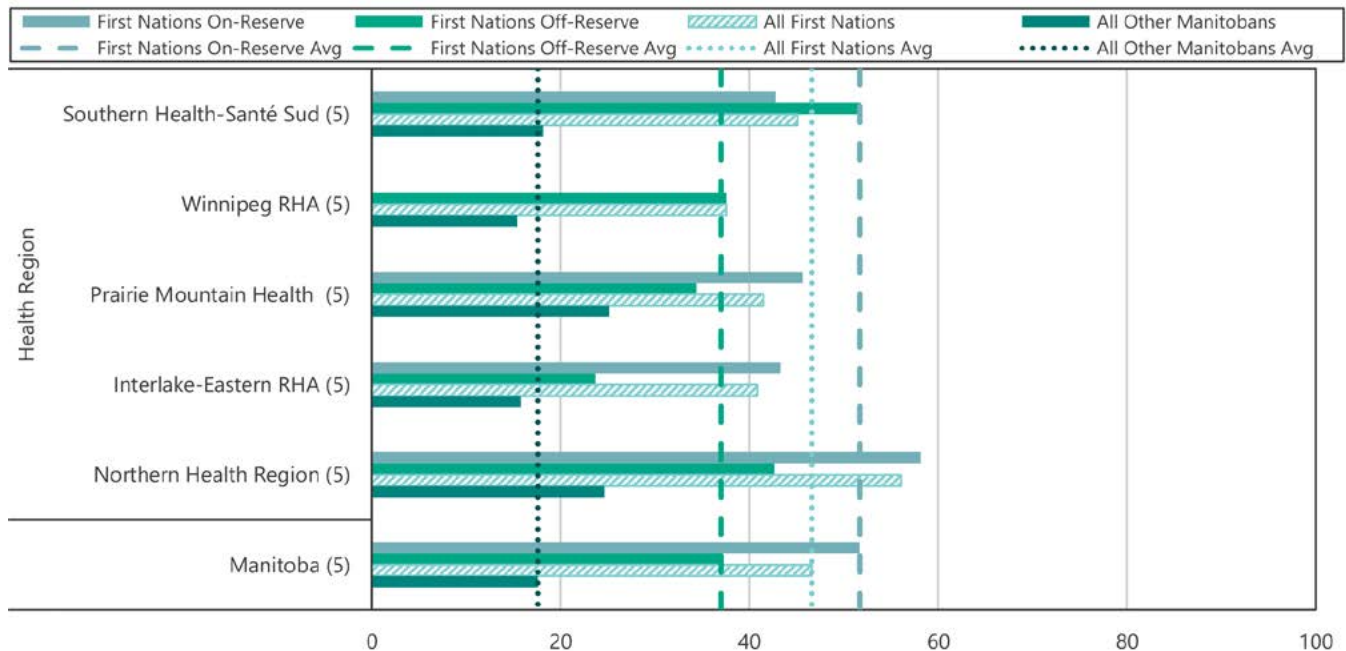
Hospitalizations

Hospitalization rates were calculated by dividing the total number of hospital episodes for children (age 0-19) by the total number of Manitoba children (age 0-19) in the fiscal year 2016/17. In this report, we provide the rate of hospitalizations per 1,000 children. A hospital episode is a

single continuous stay in the hospital system, irrespective of transfers between hospitals. A hospitalization can be for any reason requiring an inpatient stay, such as injuries (including self-inflicted), mental health or surgical procedures – with the exception of giving birth or being born. Details describing how we created this indicator are found in Appendix 2.

Figure 7.1: Hospitalizations by Health Region

Age- and sex-adjusted rate, per 1,000 children, age 0-19, 2016/17



Statistically significant differences ($p < 0.01$):

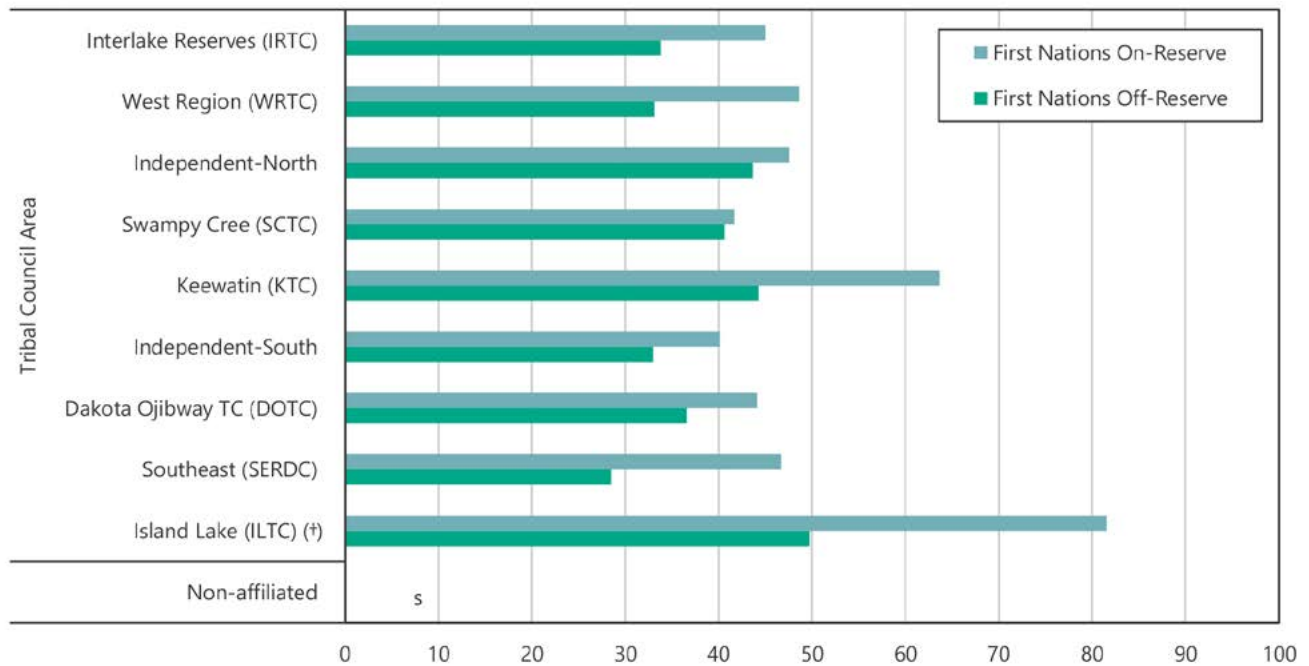
5 - All First Nations compared to All Other Manitobans

Avg - Manitoba average

- The hospitalization rate among all (on- and off-reserve) First Nations children (47 per 1,000) was higher than among all other children (18 per 1,000) living in Manitoba overall. This was also true across all health regions when comparing First Nations children to all other children.
- No other statistically significant differences were found between on-reserve and off-reserve rates and across health regions.

Figure 7.2: Hospitalizations by Tribal Council Area

Age- and sex-adjusted rate, per 1,000 children, age 0-19, 2016/17

Statistically significant differences ($p < 0.01$):

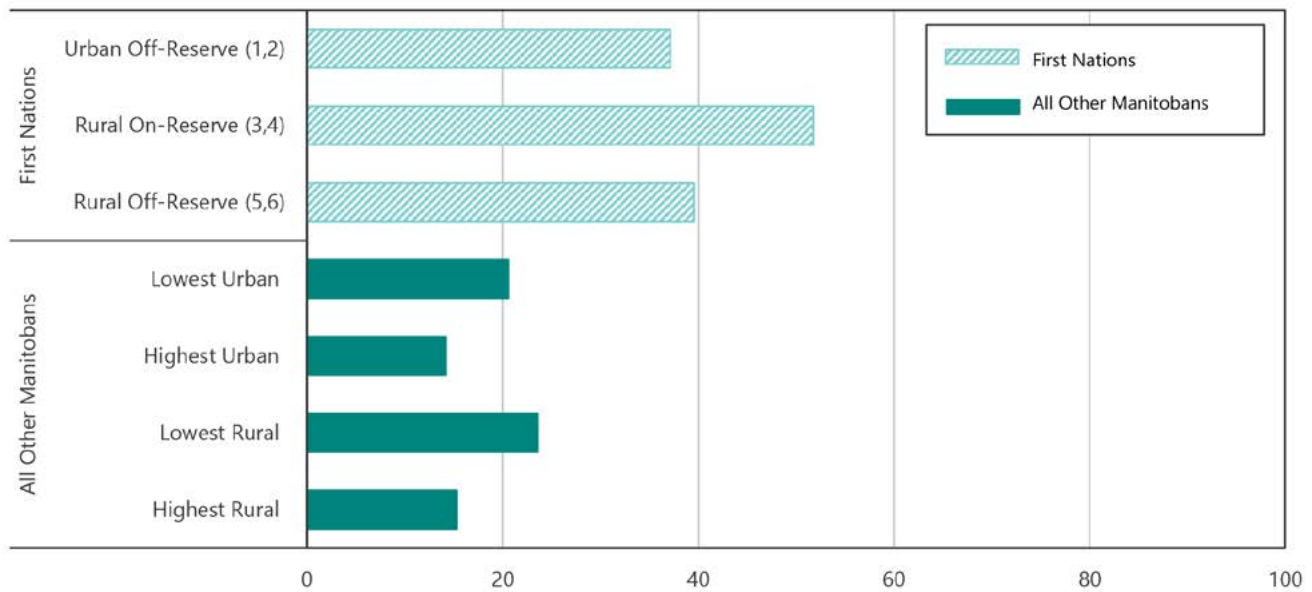
† - First Nations on-reserve: TCA compared to the lowest rate (Independent-South)

s - Data suppressed due to small numbers

- Among First Nations children living on-reserve, Island Lake (82 per 1,000) had a higher rate compared to Independent South (40 per 1,000), the tribal council with lowest rate.
- No other statistically significant differences were found in hospitalization rates of First Nations children across TCAs.

Figure 7.3: Hospitalizations for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 1,000 children, age 0-19, 2016/1



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

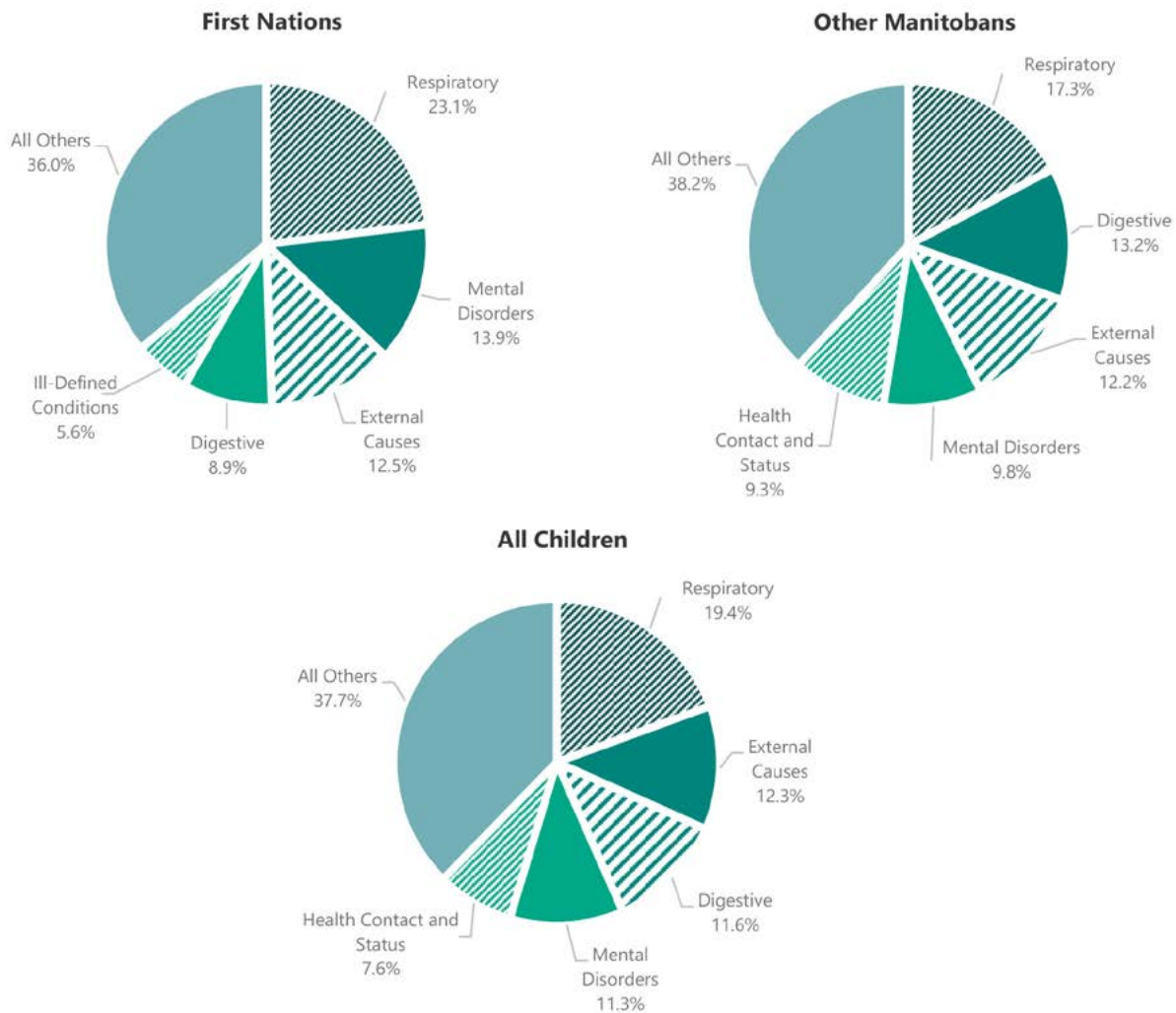
Figure 7.3 compares the rates of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, hospitalization rates were higher among First Nations children (37 per 1,000; living off-reserve) compared to all other Manitoba children living in the lowest (21 per 1,000) income areas and the highest (14 per 1,000) income areas.
- Similarly, *in rural areas*, hospitalization rates were higher among First Nations children living on-reserve (52 per 1,000) and those living off-reserve (40 per 1,000) compared to other Manitoba children living in the lowest (24 per 1,000) and highest (15 per 1,000) income areas.

Causes of Hospitalizations

Figure 7.4: Most Frequent Causes of Hospitalization by Group

Crude percent, age 0-19, 2015/16

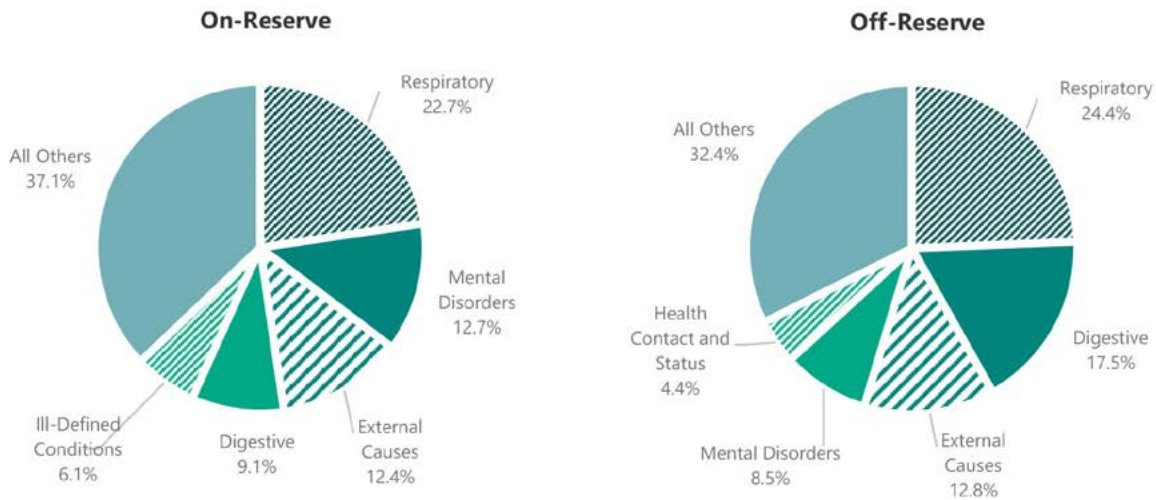


The causes of hospitalization follow a similar pattern for First Nations children and all other Manitoba children, although the proportions of the causes differ slightly. Generally speaking, the top causes of hospitalization are respiratory, mental disorders and external causes, which include injury, poisoning and other consequences of external factors. The “All Others” group is the largest group of causes

and includes many types of diseases, such as infections, cancers, diseases of the blood and blood forming organs, and diseases of the nervous system. The complete list of these diseases is found in Appendix 1. Across TCAs, the causes of hospitalization follow a similar pattern as was found among all First Nations children, although the proportions again differ slightly (see Appendix 1).

Figure 7.5: Most Frequent Causes of Hospitalization of First Nations Children by Area

Crude percent, age 0-19, 2015/16



The causes of hospitalization show a slightly different pattern between children living on-reserve and off-reserve. Mental disorders are a more frequent cause of hospitalization for children living on-reserve, and hospitalizations for digestive problems are more common for children living off-reserve.

How do these Results Compare with Previous Studies on Hospitalization Rates?

The current study found that hospitalization rates among First Nations children were close to three times higher than among all other Manitoba children. Other Canadian studies, using different study designs and analyses, found that First Nations children (0-19 years) had between 1.3 to 3.8 times higher hospitalization rates than non-Indigenous children [74–76] and that this disparity was greater among adolescents than younger children [75]. The present study found that the most common causes of hospitalization for First Nations children were respiratory diseases (23.1%),

followed by mental disorders (13.9%) and injuries and poisoning (12.5%). Similarly, He et al. (2017) found that respiratory diseases were the most common cause of hospitalization in First Nations infants [76]. This same study also reported that a number of factors, including maternal age, education, marital status, parity, rural and Northern residence, maternal chronic disease and gestational complications, partially accounted for the differences between First Nations and non-Indigenous infants [76].

Hospitalizations often occur for unavoidable reasons. However, some hospitalizations can happen because of inaccessible or ineffective primary health care. Lavoie et al (2019) wrote that rates of hospitalizations for conditions that could have been prevented with primary health care are higher among First Nations people [77]. They recommend improving access to primary health care using localized solutions and building partnerships between First Nations communities and provincial health regions.

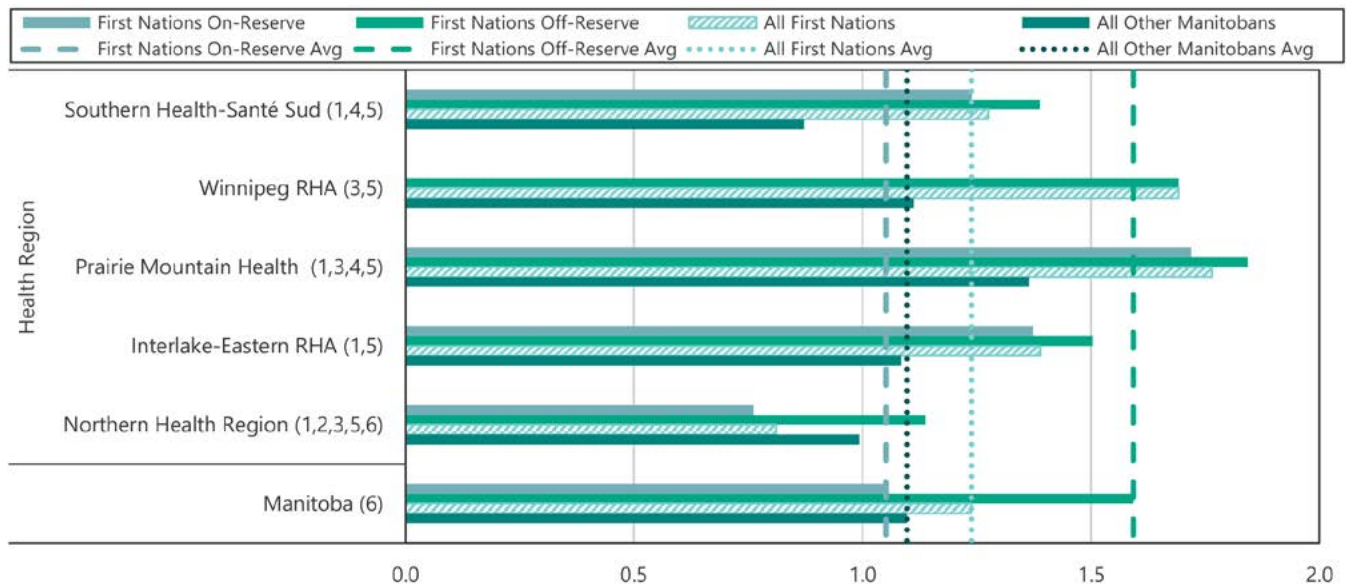
Number of Different Prescription Drugs

This indicator is the average number of different types of medications dispensed per child who had a least one dispensation during a given year. A child who had

prescriptions for different medications that were used for the same health problem (e.g., multiple medications for asthma) was counted as having only one medication. This indicator provides a measure of health problems experienced by children and their intensity of health care use. Details describing how we created this indicator are found in Appendix 2.

Figure 7.6: Prescription Drugs by Health Region

Age- and sex-adjusted rate, per child, age 0-19, 2016/17



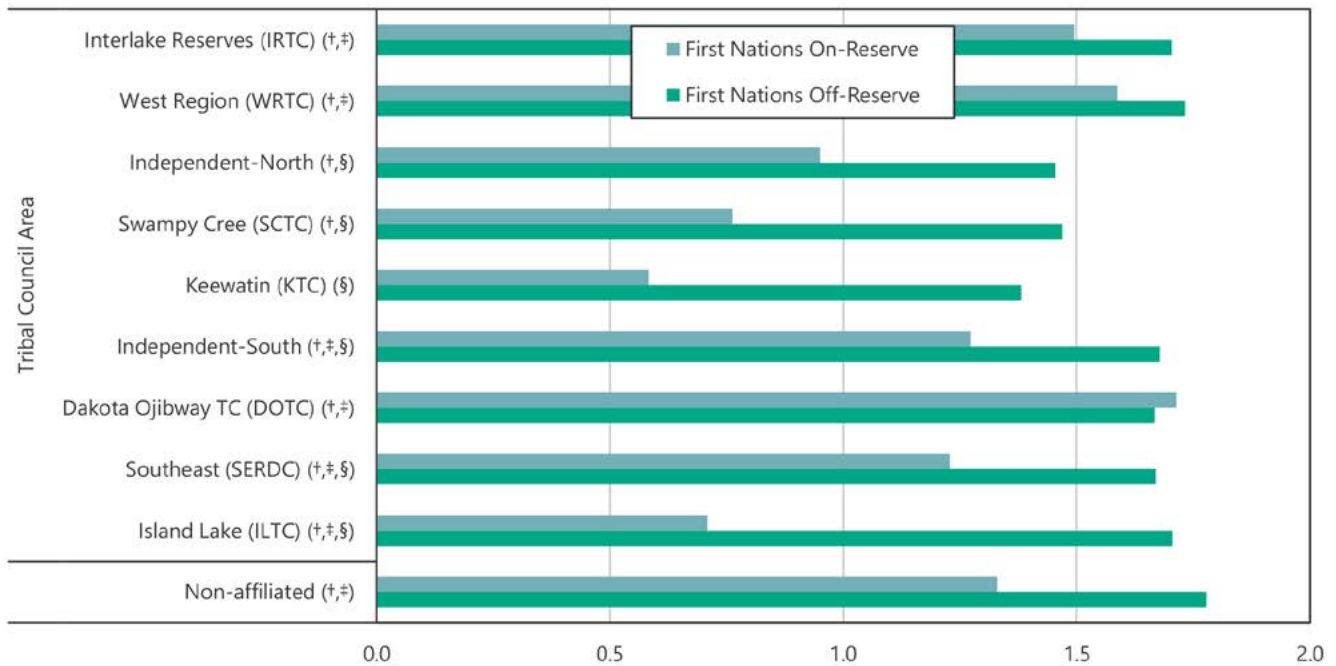
Statistically significant differences ($p < 0.01$):

- 1 - First Nations on-reserve: RHA compared to the Manitoba average
 - 2 - First Nations off-reserve: RHA compared to the Manitoba average
 - 3 - All First Nations: RHA compared to the Manitoba average
 - 4 - All Other Manitobans: RHA compared to the Manitoba average
 - 5 - All First Nations compared to All Other Manitobans
 - 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- The average number of different types of drugs among all (on- and off-reserve) First Nations children (1.23 per child) was not statistically significantly higher than among all other children (1.10 per child) living in Manitoba overall. However, this number was higher for First Nations children in every health region compared to all other children, with the exception of Northern RHA, where it was lower.
- The number of different drugs prescribed was higher for First Nations children living in Winnipeg RHA and Prairie Mountain RHA compared to First Nations children in Manitoba overall; however, it was lower in Northern RHA.
- The average number of different types of drugs was lower for First Nations children living on-reserve compared to off-reserve in Manitoba overall and in Northern RHA.
- Among First Nations children living on-reserve, those living in Northern RHA had a lower average number of different types of drugs and those living in Southern RHA, Prairie Mountain RHA and Interlake-Eastern RHA had a higher number compared to the Manitoba number.
- Among First Nations children living off-reserve, those living in Northern RHA had a lower average number of different types of drugs compared to the Manitoba number.

Figure 7.7: Prescription Drugs by Tribal Council Area

Age- and sex-adjusted rate, per child, age 0-19, 2016/17



Statistically significant differences ($p < 0.01$):

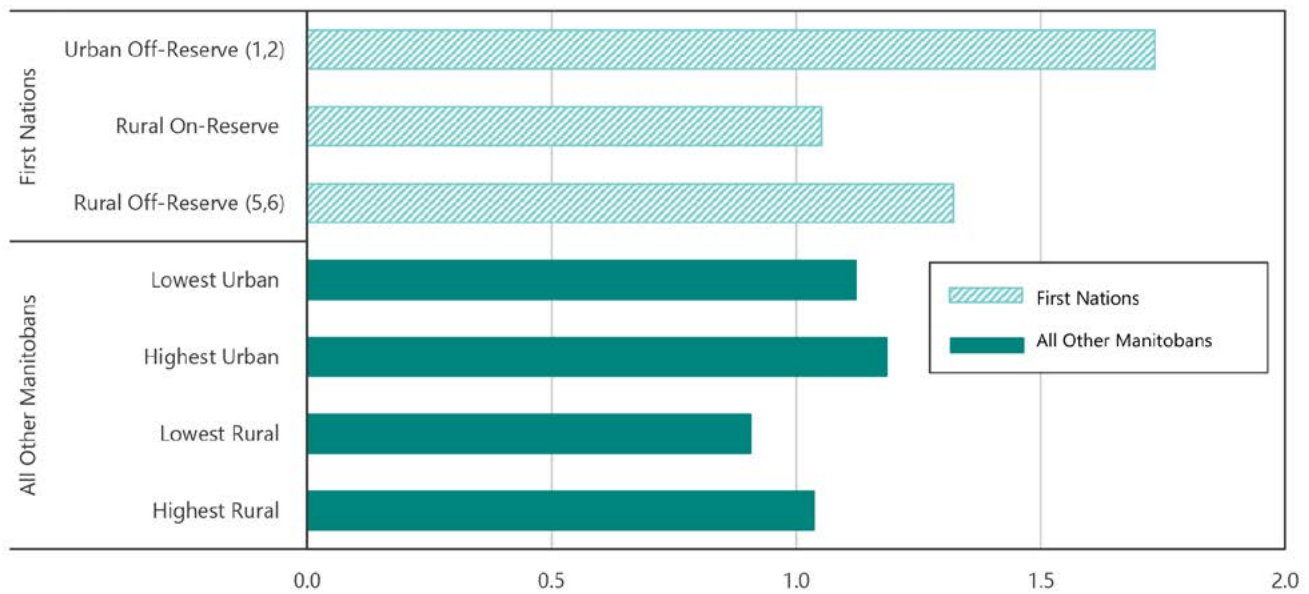
† - First Nations on-reserve: TCA compared to the lowest rate (KTC)

‡ - First Nations off-reserve: TCA compared to the lowest rate (KTC)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Interlake Reserves (1.5 per child), West Region (1.6 per child), Independent North (1.0 per child), Swampy Cree (0.8 per child), Independent South (1.3 per child), Dakota Ojibway (1.7 per child), Southeast (1.2 per child) and Island Lake (0.7 per child) had a higher average number of different types of drugs compared to Keewatin (0.6 per child), the tribal council with lowest number.
- Among First Nations children living off-reserve, Interlake Reserves, Independent South, West Region, Island Lake, Southeast, and Dakota Ojibway had a higher average number of different types of drugs compared to Keewatin, the tribal council with lowest number.
- In six TCAs, the number of prescription drugs was lower among First Nations children living on-reserve compared to off-reserve, including in Swampy Cree, Independent North, Keewatin, Independent South, Island Lake and Southeast.

Figure 7.8: Prescription Drugs for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile
Age- and sex-adjusted rate, per child, age 0-19, 2016/1



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 7.8 compares the rates of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the average number of prescription medications was higher among First Nations children (1.7 per child; living off-reserve) compared to all other Manitoba children living in the lowest (1.1 per child) income areas and the highest (1.2 per child) income areas.
- Similarly, *in rural areas*, the average number of prescription medications was higher among First Nations children living off-reserve (1.3 per child) compared to other Manitoba children living in the lowest (0.9 per child) and highest (1.0 per child) income areas. However, no differences were found between First Nations children living on-reserve and other Manitoba children.

How do these Results Compare with Previous Studies on Rates of Prescription Medications?

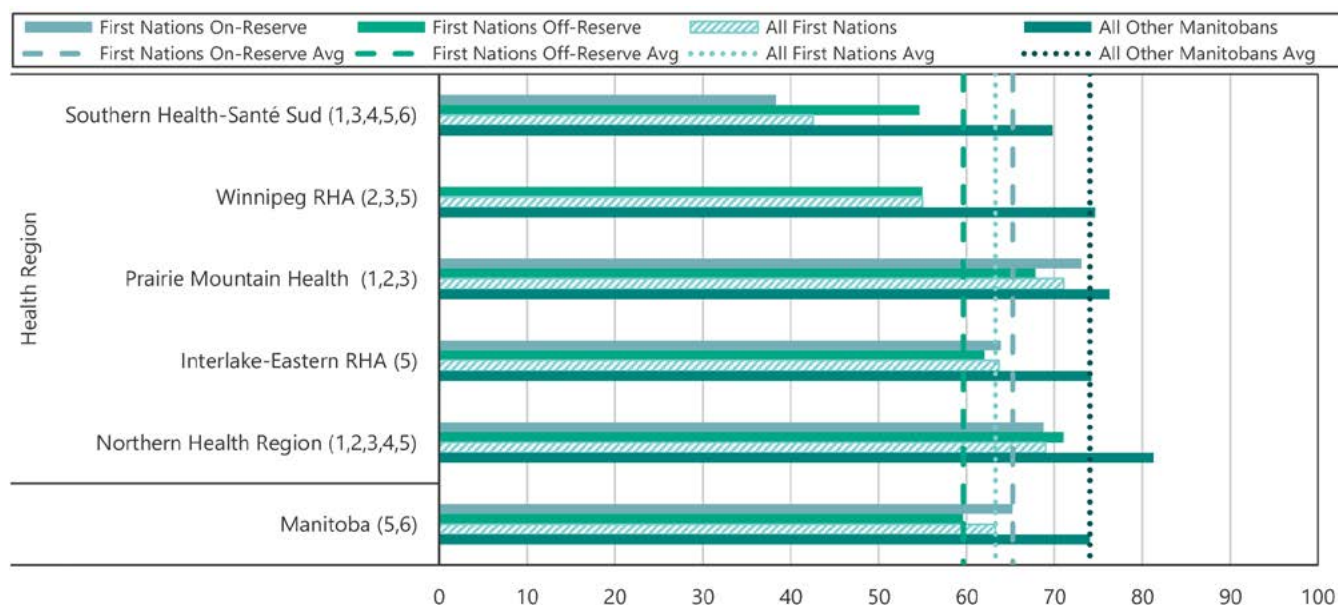
Unfortunately, no previous studies focusing on First Nations children could be found to compare rates of prescription medications.

Complete Vaccination (Two-Year-Olds)

Childhood vaccination is a public health intervention to initiate or increase resistance against infectious diseases, including haemophilus influenzae type b (Hib), measles, mumps, diphtheria, pertussis, tetanus and rubella.

The recommended vaccination schedule for children changes over time. This report used the schedule recommended at the time the child was born. We followed children born from 2009-2013 until the end of 2015. This indicator provides the percentage of two-year-old children who had received all the recommended vaccinations for their age. Details describing how we created this indicator are found in Appendix 2.

Figure 7.9: Percentage of Infant Vaccination by Health Region
Crude rate, per 100 children, age 2, 2009-2013



Statistically significant differences ($p < 0.01$):

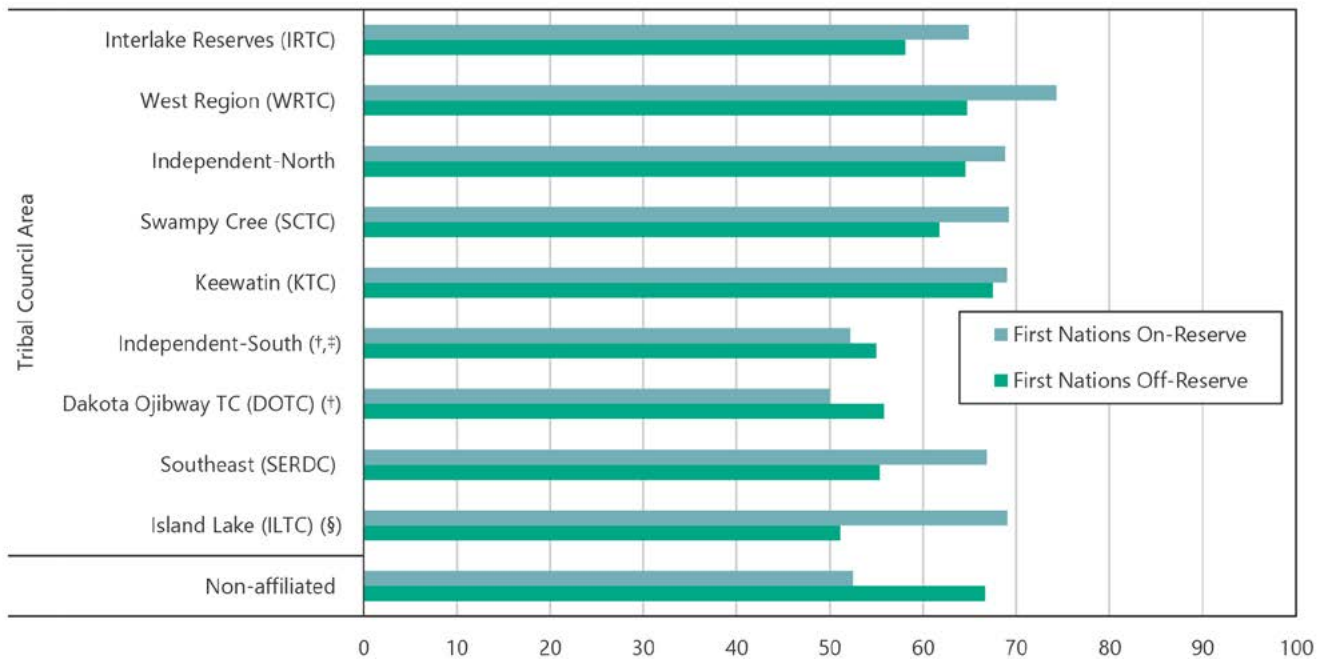
- 1 - First Nations on-reserve: RHA compared to the Manitoba average
- 2 - First Nations off-reserve: RHA compared to the Manitoba average
- 3 - All First Nations: RHA compared to the Manitoba average
- 4 - All Other Manitobans: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- 6 - First Nations on-reserve compared to First Nations off-reserve

Avg - Manitoba average

- The percentage of all (on- and off-reserve) First Nations two-year-old children with complete vaccinations (63%) was lower than the percentage of all other vaccinated two-year-old children (74%) living in Manitoba overall. This was also true in all health regions when comparing First Nations children to all other children.
- Among First Nations children living on-reserve, a higher percentage of those living in Prairie Mountain RHA had complete vaccinations compared to the Manitoba percentage; however, the percentage was lower among those living in Southern RHA.
- Among First Nations children living off-reserve, a higher percentage of those living in Prairie Mountain RHA and Northern RHA had complete vaccinations compared to the Manitoba percentage; however, the percentage was lower among those living in Winnipeg RHA.
- The percentage of vaccinated two-year-olds was lower among all First Nations children (on-reserve and off-reserve) living in Southern RHA and Winnipeg RHA compared to First Nations children in Manitoba overall; however, it was higher in Prairie Mountain RHA and in Northern RHA.
- The percentage of First Nations two-year-old children with complete vaccinations living on-reserve was higher compared to off-reserve in Manitoba overall. In Southern RHA, the percentage was lower among children living on-reserve than off-reserve.

Figure 7.10: Percentage of Infant Vaccination by Tribal Council Area

Crude rate, per 100 children, age 2, 2009-2013

Statistically significant differences ($p < 0.01$):

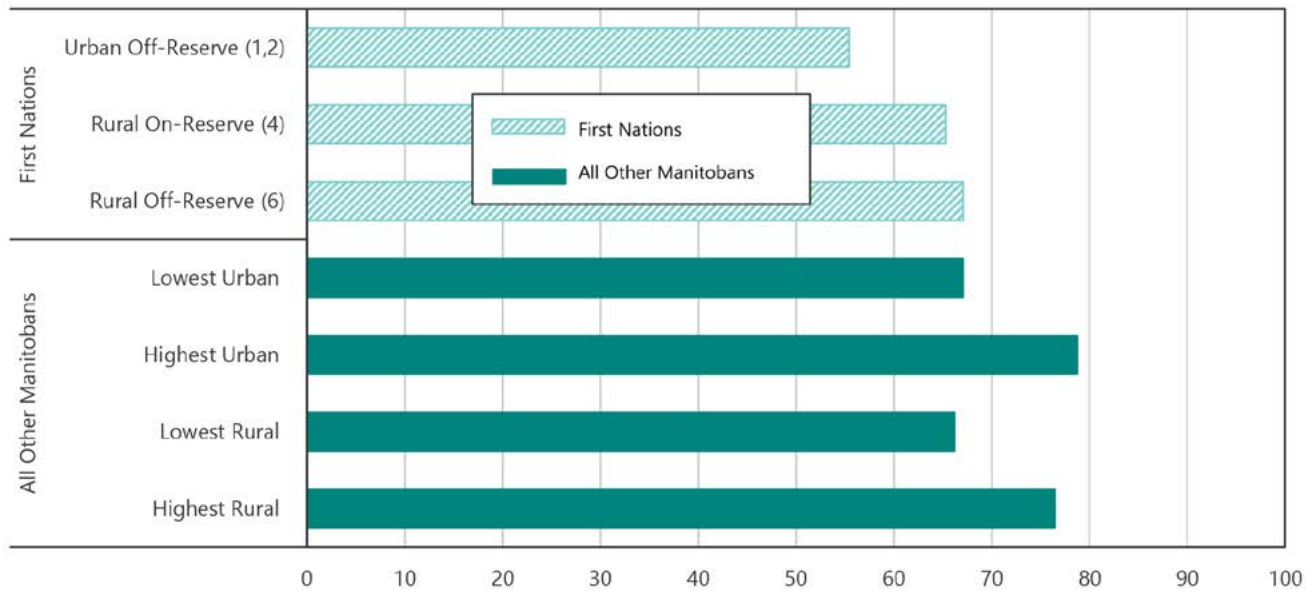
† - First Nations on-reserve: TCA compared to the highest rate (WRTC)

‡ - First Nations off-reserve: TCA compared to the highest rate (KTC)

§ - First Nations on-reserve compared to First Nations off-reserve

- Only a few statistically significant differences were found between the percentages of First Nations two-year-old children with complete vaccinations across the TCAs.
- Among First Nations children living on-reserve, a lower percentage in Independent South (52.2%) and Dakota Ojibway (50.0%) had complete vaccinations compared to West Region (74.3%), the tribal council with the highest percentage.
- Among First Nations children living off-reserve, a lower percentage had complete vaccinations in Independent South compared to Keewatin, the tribal council with the highest percentage.

Figure 7.11: Percentage of Infant Vaccination for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile
Crude rate, per 100 children, age 2, 2009-2013



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 7.11 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of two-year-old children with complete vaccinations was lower among First Nations children (55.4%; living off-reserve) compared to all other Manitoba children living in the lowest (67.1%) income areas and the highest (78.8%) income areas.
- Similarly, *in rural areas*, the percentage of two-year-old children with complete vaccinations was lower among First Nations children living on-reserve (65.3%) and those living off-reserve (67.1%) compared to other Manitoba children living in the highest (76.4%) income areas. However, no differences were found between First Nations children living on-reserve and off-reserve and other Manitoba children living in the lowest income areas.

How do these Results Compare with Previous Studies on Vaccination Rates?

Indigenous populations in North America, Australia and New Zealand experience vaccine preventable diseases at a disproportionately high rate [78]. Preventable illness and vaccination data for the First Nations population of Canada are not available at the national level. As such, it is difficult to make comparisons between Manitoba and other provinces [79]. However, comparisons within Manitoba are possible. In 2008, 51.4% of First Nations children had up-to-date vaccinations by the age of two [80]. In the same time period, 60.8% of all other Manitoban children were up-to-date by age two. Our analysis showed that 63% of two-year-old First Nations children had received all the recommended vaccines compared to 74% of all other Manitoban children. While vaccination rates appear to have increased in both groups, the gap between them has not yet been closed.

Chapter 8:

Educational Outcomes

Chapter 8 is devoted to understanding how well children are doing in school. The indicators in this chapter are framed differently than in previous chapters. A high percentage indicates a good outcome (as we have noted earlier for vaccination and breastfeeding). The indicators are listed below. A definition of each of the following indicators is provided prior to presentation of the results.

- Grade 3 Reading
- Grade 3 Numeracy
- Grade 7 Mathematics
- Grade 7 Student Engagement
- Grade 8 Reading and Writing
- Grade 12 Language Arts Test
- Grade 12 Mathematics Test
- High School Graduation

Perspectives from the Knowledge Keepers: The disparities in educational outcomes were of no surprise to the Knowledge Keepers. Education for First Nations children is still influenced by historical factors such as oppressive policies, residential schools and years of underfunded First Nations schools. In addition, the schools continued to teach the provincial curriculum, which is not culturally responsive to First Nations students. While many positive strides have recently been made in First Nations education, there are still many issues to resolve. The assessment tools used to measure academic achievement may not be culturally relevant. Many First Nations children still have to leave home to attend high school or attend neighbouring provincial schools, resulting in cultural shock and inability to function without the sense of community that they leave behind at home. High schools should be built in more First Nations communities so that children can stay at home and experience an education that values their identity and recognizes their culture, language and traditions. First Nations children in Manitoba are very capable of succeeding, and with best practices and innovative programs being implemented, their success will only increase.

The Knowledge Keepers stressed the importance of land-based education being implemented in schools where the natural environment and the land are used as a classroom and a context for teaching and learning. Land-based education is an opportunity for a more *wholistic* and culturally appropriate approach to teaching and learning. For example, programs that incorporate language, cultural teachings and traditional occupations such as hunting, fishing, trapping and map-reading for navigating the land would help to engage students more in schools. The Knowledge Keepers tell us that more high schools with high quality teachers are needed in First Nations communities, and immersion programs for the First Nations languages in Manitoba should be established. Research shows that learning two or more languages has many benefits. The language programs should result in fluency and the children would be immersed in their language.

Cautions regarding the data on which the results are based: As discussed in the introduction, schools in First Nations communities are often not sufficiently resourced and this has a profound impact on children's ability to learn. First Nations schools are not obligated to provide their education data to the Department of Education, and therefore we had complete data on only 90% of the students. We chose not to present the Early Development Instrument data for Kindergarten children because of incomplete data. The indicators that assess educational outcomes in Grade 3, Grade 7 and Grade 8 are derived from teachers' assessments of a list of competencies. What these competencies are is determined by the Department of Education. How students are assessed

will vary from teacher to teacher. The Grade 12 Language Arts Test, Grade 12 Mathematics Test and High School Graduation may be more objective measures of academic achievement. The discrepancy in Grade 12 Tests and High School Graduation rates may be partly due to how long we were able to follow the students; for the Grade 12 Test, the follow-up period was one year, and for high school graduation, the follow-up period was two years.

Notes about Statistical Significance:

- Only statistically significant results are described in the text. In general, we do not comment if there is no statistically significant result.
- In graphs of tribal council areas, we compared rates of each TCA to the TCA with the highest rate (e.g., highest rate of high school graduation) to evaluate differences between TCAs within a relevant context.
- In graphs of health regions, we did not describe results of All Other Manitoba Children as they are not the focus of this report.
- Differences between groups were tested at $p < 0.01$ level of significance.

Comparing our results with previous studies: It is difficult to compare the findings in this chapter with other studies, because most of the educational outcomes examined in this report have no direct comparisons in the broader literature. Please see the general discussion of the findings at the end of the chapter.

Grade 3 Reading Assessment

Grade 3 reading assessments are conducted for students of publicly funded schools in Manitoba. These assessments are done by the teacher early in the school year using criteria provided by the Department of Education to identify strengths and needs in reading and to guide the class curriculum for the school year. In our report, students were assessed using the following reading competencies:

1) reflects on and sets reading goals; 2) uses strategies during reading to make sense of texts; and 3) demonstrates comprehension.

We calculated the age- and sex-adjusted percentages of students who were either meeting or approaching expectations in all three competencies in the Grade 3 reading assessment. These students were in Grade 3 in school years 2012/13 to 2016/17.

Figure 8.1: Percentage of Students Meeting or Approaching Expectations in Grade 3 Reading by Health Region

Age- and sex-adjusted rate, per 100 students, school years 2012/13-2016/17



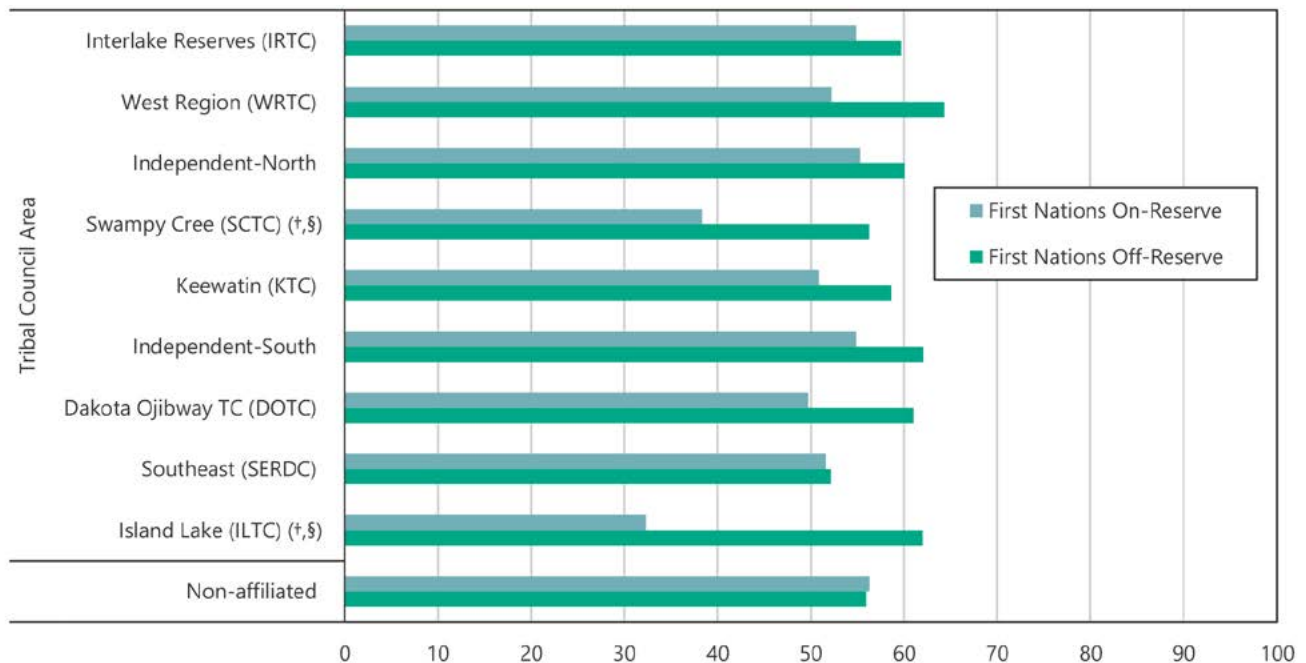
Statistically significant differences ($p < 0.01$):

- 3 - All First Nations: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- Overall in Manitoba, the percentage of children who were “meeting or approaching expectations” in all three of the competencies in the Grade 3 reading assessment was lower among First Nations children (55.6%) compared to other Manitoba children (83.6%). This was also true in all health regions when comparing First Nations children to all other Manitoba children.
- A lower percentage of First Nations children living in Northern RHA were “meeting or approaching expectations” in all three of the competencies in the Grade 3 reading assessment compared to First Nations children in Manitoba overall.
- The “meeting or approaching expectations” percentage was lower among First Nations children living on-reserve compared to off-reserve in Manitoba overall and also in Southern RHA, Prairie Mountain RHA and Northern RHA specifically.

Figure 8.2: Percentage of Students Meeting or Approaching Expectations in Grade 3 Reading by Tribal Council Area

Age- and sex-adjusted rate, per 100 First Nations students, school years 2012/13-2016/17



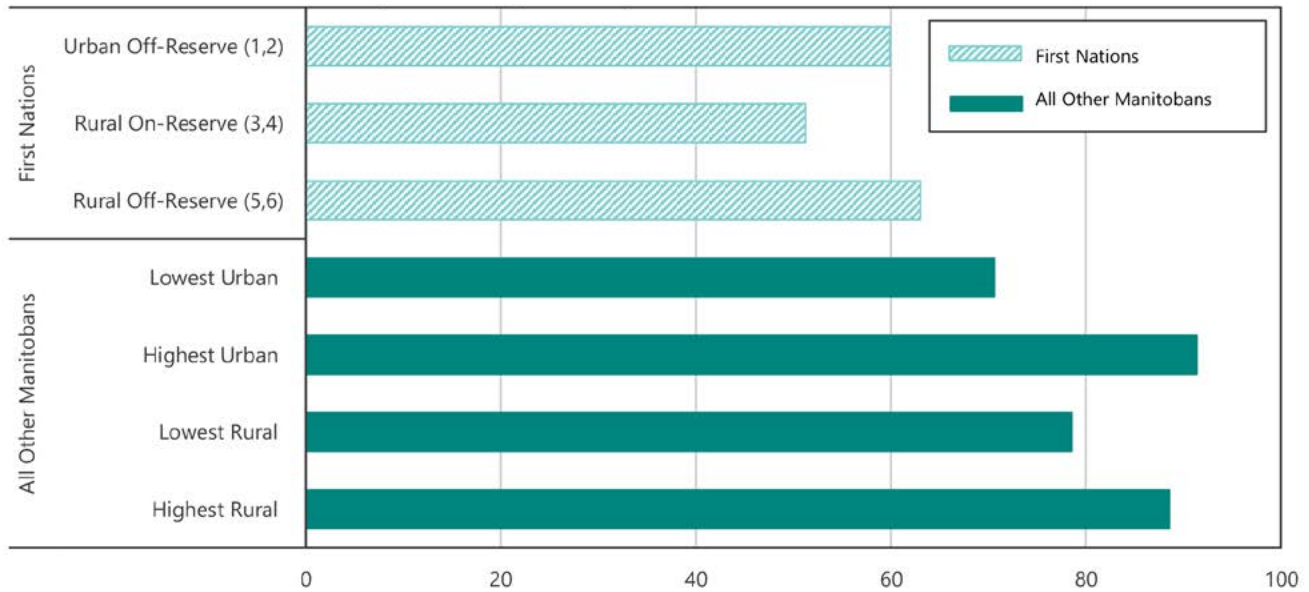
Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the highest rate (Independent-North)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Swampy Cree (38.4%) and Island Lake Tribal Council (32.3%) had a lower percentage of children who were “meeting or approaching expectations” in all three competencies in the Grade 3 reading assessment compared to Independent North (55.3%), the tribal council with the highest percentage.
- In Swampy Cree and Island Lake Tribal Councils, the percentage was lower among First Nations children living on-reserve compared to off-reserve.

Figure 8.3: Percentage of Students Meeting or Approaching Expectations in Grade 3 Reading for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile
Age- and sex-adjusted rate, per 100 students, school years 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 8.3 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of children who were “meeting or approaching expectations” in all three competencies in the Grade 3 reading assessment was lower among First Nations children (59.9%;
- living off-reserve) compared to all other Manitoba children living in the lowest (70.6%) income areas and the highest (91.4%) income areas.
- Similarly, *in rural areas*, the percentages were lower among First Nations children living on-reserve (51.2%) and those living off-reserve (63.0%) compared to other Manitoba children living in the lowest (78.5%) and highest (88.6%) income areas.

Grade 3 Numeracy Assessment

Grade 3 numeracy assessments are conducted for students of publicly funded schools in Manitoba. These assessments are done by the teacher early in the school year using criteria provided by the Department of Education to identify strengths and needs in numeracy and to guide the class curriculum for the school year. In our report, students were

assessed using the following numeracy competencies: 1) repeating patterns; 2) equal symbol; 3) whole numbers; and 4) additions and subtractions.

We calculated the age- and sex-adjusted percentages of students who were either meeting or approaching expectations in all four competencies in the Grade 3 numeracy assessment. These students were in Grade 3 in school years 2012/13 to 2016/17.

Figure 8.4: Percentage of Students Meeting or Approaching Expectations in Grade 3 Numeracy by Health Region

Age- and sex-adjusted rate, per 100 students, school years 2012/13-2016/17



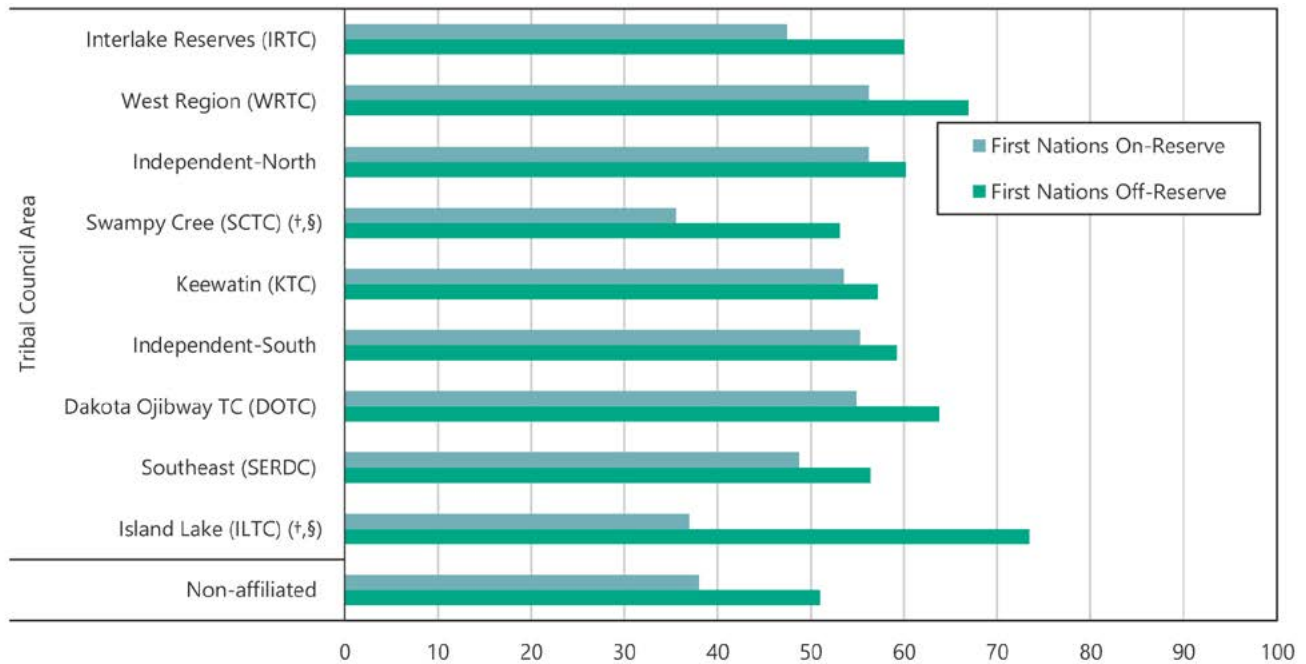
Statistically significant differences ($p < 0.01$):

- 3 - All First Nations: RHA compared to the Manitoba average
- 4 - All Other Manitobans: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- Overall in Manitoba, the percentage of children who were “meeting or approaching expectations” in all four competencies in the Grade 3 numeracy assessment was lower among First Nations children (55.6%) compared to other Manitoba children (81.0%). This was also true in all health regions when comparing First Nations children to all other Manitoba children.
- A higher percentage of First Nations children living in Winnipeg RHA were “meeting or approaching expectations” in all four competencies in the Grade 3 numeracy assessment as compared to First Nations children in Manitoba overall.
- The percentage was lower among First Nations children living on-reserve compared to off-reserve in Manitoba overall, and in Northern RHA specifically.

Figure 8.5: Percentage of Students Meeting or Approaching Expectations in Grade 3 Numeracy by Tribal Council Area

Age- and sex-adjusted rate, per 100 First Nations students, school years 2012/13-2016/17

Statistically significant differences ($p < 0.01$):

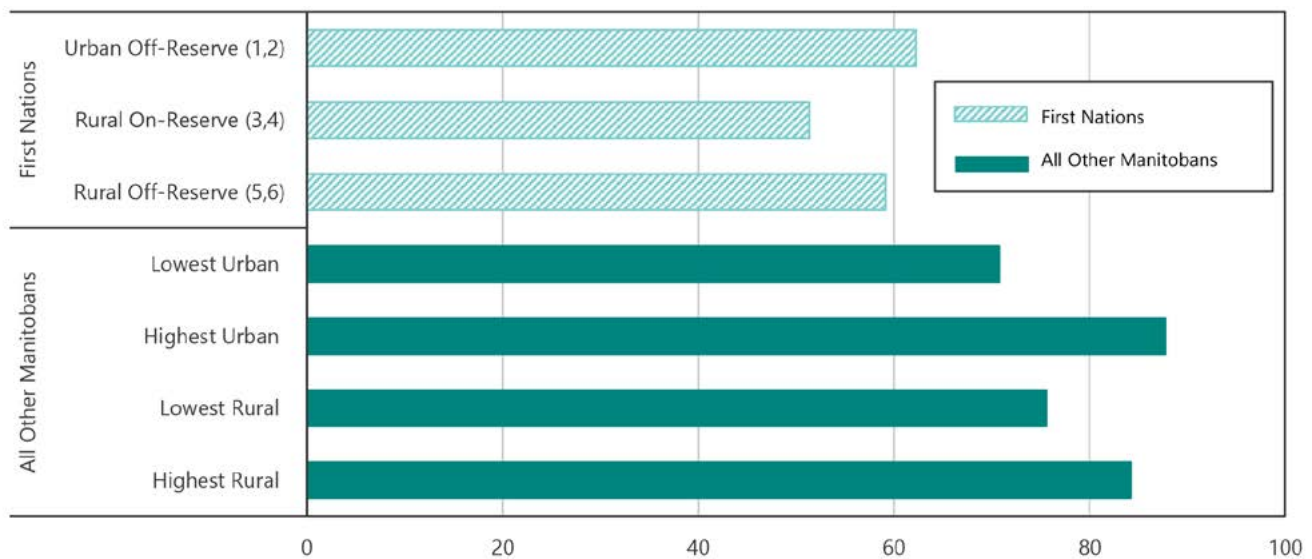
+ - First Nations on-reserve: TCA compared to the highest rate (WRTC)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Swampy Cree (35.6%) and Island Lake Tribal Council (37.0%) had a lower percentage of children who were “meeting or approaching expectations” in all four competencies in the Grade 3 numeracy assessment as compared to West Region (56.3%), the tribal council with the highest percentage.
- In Swampy Cree and Island Lake Tribal Councils, the percentage was lower among First Nations children living on-reserve compared to off-reserve.

Figure 8.6: Percentage of Students Meeting or Approaching Expectations in Grade 3 Numeracy for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 100 students, school years 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 8.6 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of children who were “meeting or approaching expectations” in all four competencies in the Grade 3 numeracy assessment was lower among First Nations children (62.3%;
- living off-reserve) compared to all other Manitoba children living in the lowest (70.8%) income areas and the highest (87.7%) income areas.
- Similarly, *in rural areas*, the percentages were lower among First Nations children living on-reserve (51.3%) and those living off-reserve (59.2%) compared to other Manitoba children living in the lowest (75.6%) and highest (84.2%) income areas.

Grade 7 Mathematics Assessment

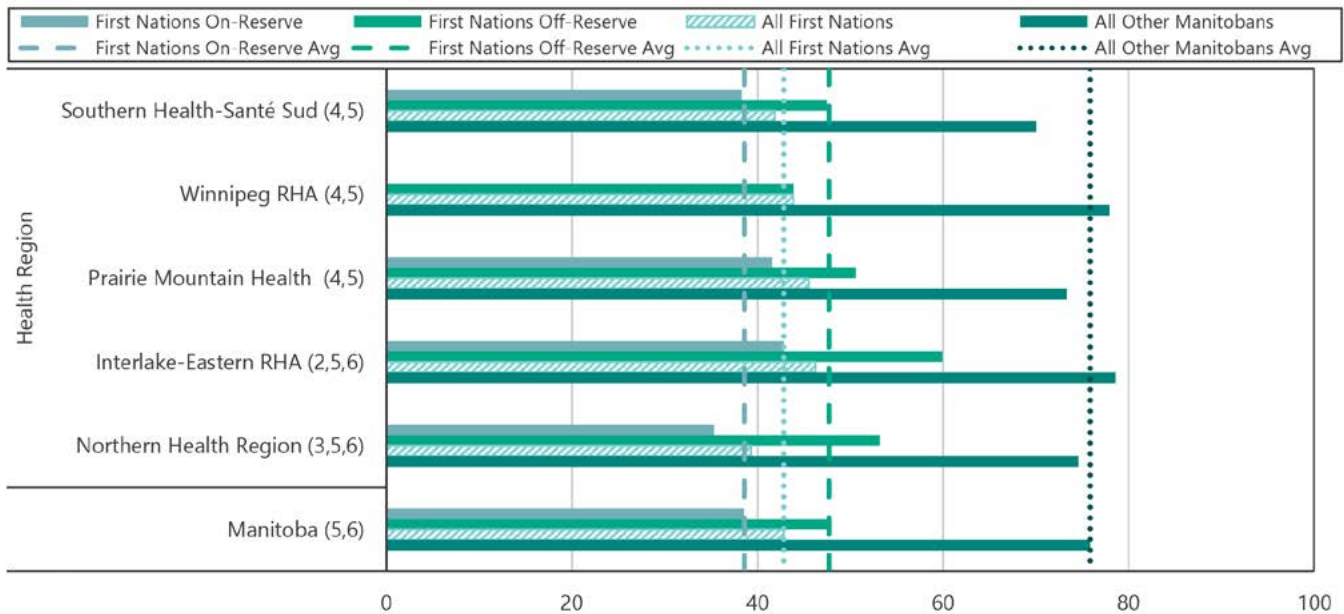
The mathematics assessment is an evaluation of math skills for Grade 7 students of publicly funded schools in Manitoba. This assessment is conducted by the teacher and students throughout the academic year in order to review the students' skills in math and to develop the best learning process to reach their competency goals. In our report, the following competencies were assessed: 1) orders fractions;

2) orders decimal numbers; 3) understands that a given number may be represented in a variety of ways; 4) uses number patterns to solve mathematical problems; and 5) uses a variety of strategies to calculate and explain a mental math problem.

We calculated the age- and sex-adjusted percentages of students who were meeting or approaching expectations in all five competencies in the Grade 7 mathematics assessment. These students were in Grade 7 in school years 2012/13 to 2016/17.

Figure 8.7: Percentage of Grade 7 Students Meeting or Approaching Expectations in Mathematics by Health Region

Age- and sex-adjusted rate, per 100 students, school years 2012/13-2016/17



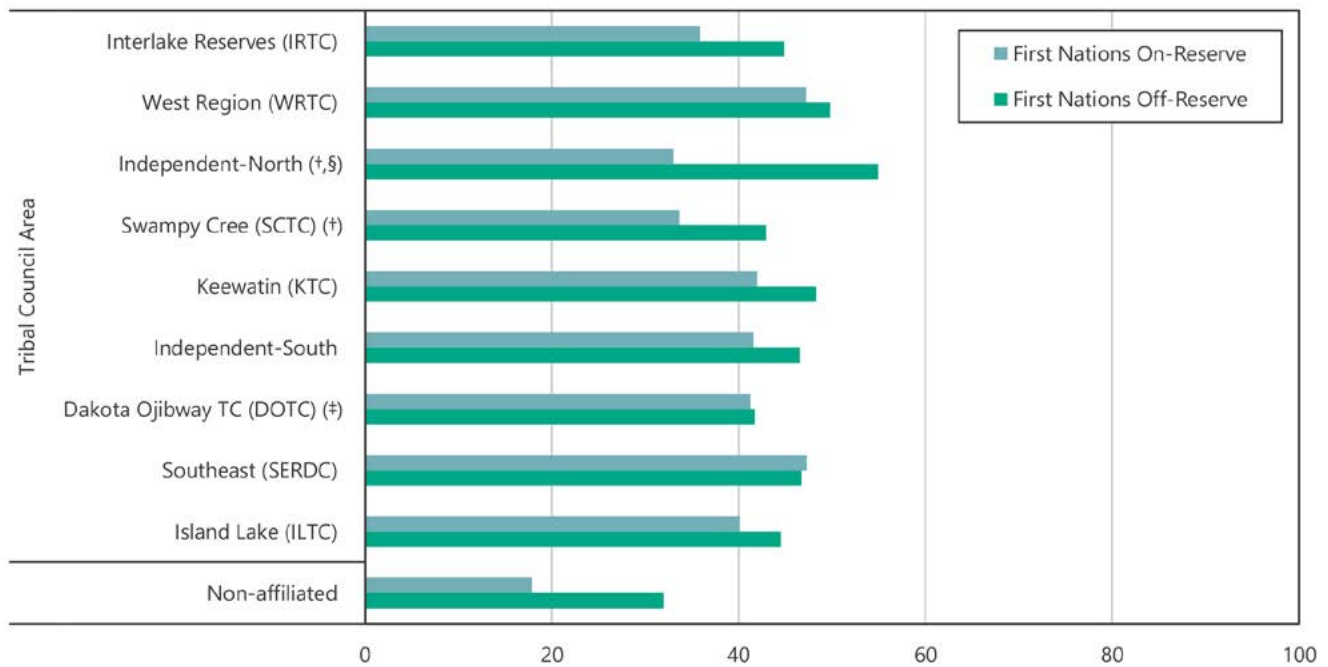
Statistically significant differences ($p < 0.01$):

- 2 - First Nations off-reserve: RHA compared to the Manitoba average
- 3 - All First Nations: RHA compared to the Manitoba average
- 4 - All Other Manitobans: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- Overall in Manitoba, the percentage of children who were “meeting or approaching expectations” in all five competencies in the Grade 7 mathematics assessment was lower among First Nations children (42.8%) compared to other Manitoba children (75.9%). This was also true in all health regions when comparing First Nations children to all other Manitoba children.
- Among First Nations children living off-reserve, those living in Interlake-Eastern RHA had a higher percentage of “meeting or approaching expectations” in all five competencies in the Grade 7 mathematics assessment as compared to those in Manitoba overall.
- A lower percentage of First Nations children living in Northern RHA were “meeting or approaching expectations” in all five competencies in the Grade 7 mathematics assessment as compared to First Nations children in Manitoba overall.
- The percentage appeared to be lower among First Nations children living on-reserve compared to off-reserve; however, this difference was only statistically significant in Manitoba overall, and in Interlake-Eastern RHA and Northern RHA specifically.

Figure 8.8: Percentage of Grade 7 Students Meeting or Approaching Expectations in Mathematics by Tribal Council Area

Age- and sex-adjusted rates per 100 First Nations students assessed in math, school years 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

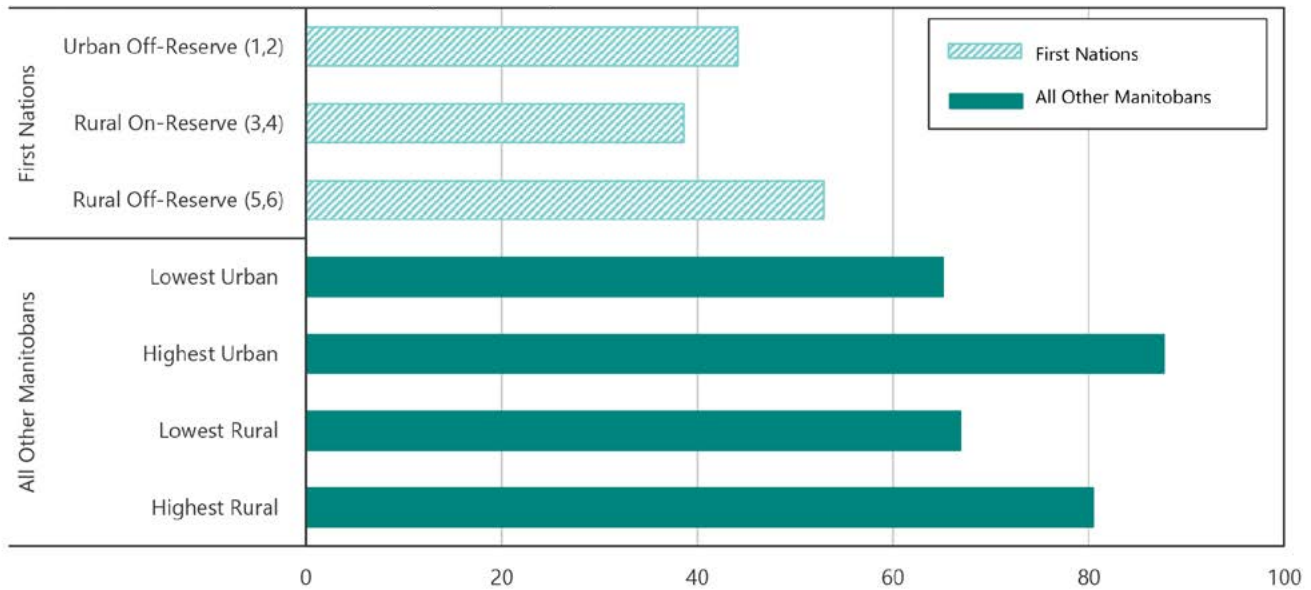
† - First Nations on-reserve: TCA compared to the highest rate (SERDC)

‡ - First Nations off-reserve: TCA compared to the highest rate (Independent-North)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Independent North (33.0%) and Swampy Cree Tribal Council (33.6%) had a lower percentage of children who were “meeting or approaching expectations” in all five competencies in the Grade 7 mathematics assessment compared to Southeast (47.3%), the tribal council with the highest percentage.
- Among First Nations children living off-reserve, Dakota Ojibway Tribal Council had a lower percentage of children who were “meeting or approaching expectations” in all five competencies in the Grade 7 mathematics assessment compared to Independent North, the tribal council with the highest percentage.
- In Independent North, the percentage was lower in First Nations children living on-reserve compared to off-reserve.

Figure 8.9: Percentage of Grade 7 Students Meeting or Approaching Expectations in Mathematics for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile
Age- and sex-adjusted rates per 100 students assessed in math, school years 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 8.9 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of children who were “meeting or approaching expectations” in all five competencies in the Grade 7 mathematics assessment was lower among First Nations children (44.2%; living off-reserve) compared to all other Manitoba children living in the lowest (65.1%) income areas and the highest (87.7%) income areas.
- Similarly, *in rural areas*, the percentages were lower among First Nations children living on-reserve (38.6%) and those living off-reserve (52.9%) compared to other Manitoba children living in the lowest (66.9%) and highest (80.5%) income areas.

Grade 7 Student Engagement Assessment

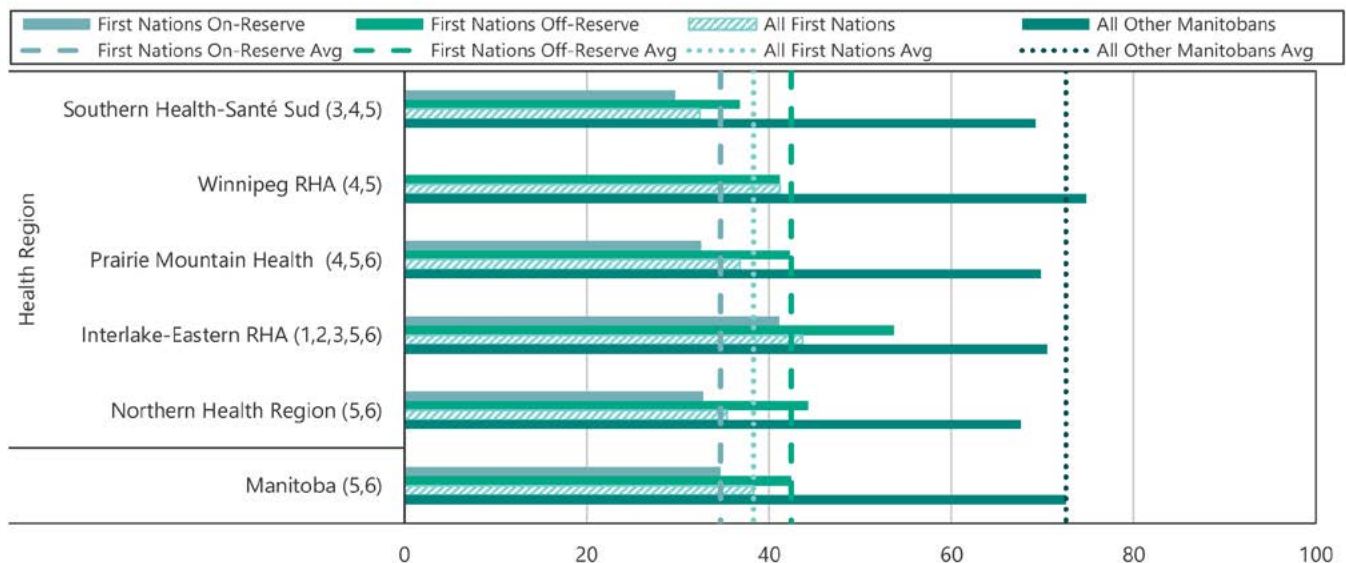
An assessment of students' engagement in their education is conducted in Grade 7 in publicly funded schools in Manitoba. Students and teachers use the assessment to set goals and observe and communicate successes. The assessment is based on the teacher's observations and conversations with the student. In our report, the following student engagement competencies were used

to assess each student: 1) demonstrates an interest in his or her learning; 2) engages in self-assessment; 3) is aware of learning goals of a unit of study and/or personal learning goals; 4) participates in lessons; and 5) accepts responsibility of assignments.

We calculated the age- and sex-adjusted percentages of students who had either established or were developing competence in all five competencies in the Grade 7 student engagement assessment. These students were in Grade 7 in school years 2012/13 to 2016/17.

Figure 8.10: Percentage of Grade 7 Students who had Established or were Developing Competence in Student Engagement by Health Region

Age- and sex-adjusted rate, per 100 students assessed, school years 2012/13-2016/17



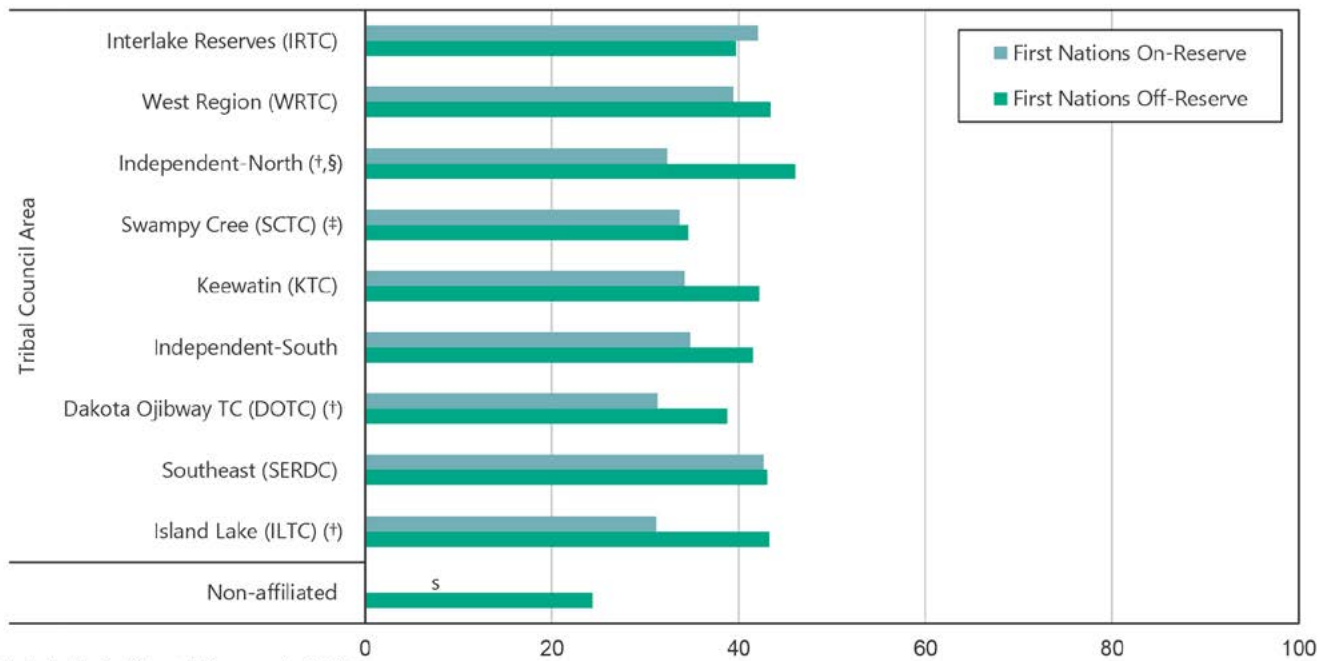
Statistically significant differences ($p < 0.01$):

- 1 - First Nations on-reserve: RHA compared to the Manitoba average
 - 2 - First Nations off-reserve: RHA compared to the Manitoba average
 - 3 - All First Nations: RHA compared to the Manitoba average
 - 4 - All Other Manitobans: RHA compared to the Manitoba average
 - 5 - All First Nations compared to All Other Manitobans
 - 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- Overall in Manitoba, the percentage of children who “had established or were developing competence” in all five competencies in the Grade 7 student engagement assessment was lower among First Nations children (38.3%) compared to other Manitoba children (72.6%). This was also true in all health regions when comparing First Nations children to all other Manitoba children.
- Among First Nations children living on-reserve, those living in Interlake-Eastern RHA had a higher percentage of “had established or were developing competence” in all five competencies in the Grade 7 student engagement assessment compared to those in Manitoba overall.
- This was also true for First Nations children living off-reserve in Interlake-Eastern RHA when comparing First Nations children to all other Manitoba children.
- A higher percentage of First Nations children living in Interlake-Eastern RHA “had established or were developing competence” in all five competencies in the Grade 7 student engagement assessment compared to First Nations children in Manitoba overall; however, the percentage was lower among those living in Southern RHA.
- The percentage was lower among First Nations children living on-reserve compared to off-reserve in Manitoba overall, and in Prairie Mountain RHA, Interlake-Eastern RHA and Northern RHA specifically.

Figure 8.11: Percentage of Grade 7 Students who had Established or were Developing Competence in Student Engagement by Tribal Council Area

Age- and sex-adjusted rate, per 100 First Nations students assessed, school years 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the highest rate (SERDC)

§ - First Nations off-reserve: TCA compared to the highest rate (Independent-North)

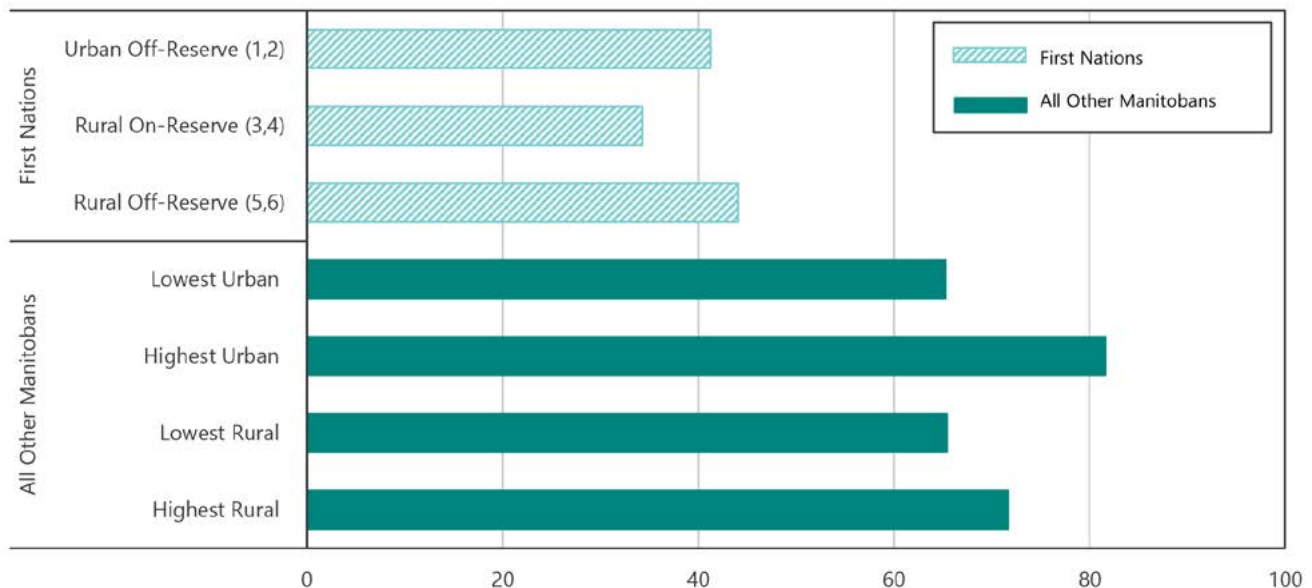
§ - First Nations on-reserve compared to First Nations off-reserve

s - Data suppressed due to small numbers

- Among First Nations children living on-reserve, Independent North (32.4%), Dakota Ojibway (31.3%) and Island Lake Tribal Council (31.2%) had a lower percentage of children who “had established or were developing competence” in all five competencies in the Grade 7 student engagement assessment compared to Southeast (42.7%), the tribal council with the highest percentage.
- Among First Nations children living off-reserve, Swampy Cree Tribal Council had a lower percentage of children who “had established or were developing competence” in all five competencies in the Grade 7 student engagement assessment as compared to Independent North, the tribal council with the highest percentage.
- In Independent North, the percentage was lower in First Nations children living on-reserve compared to off-reserve.

Figure 8.12: Percentage of Grade 7 Students who had Established or were Developing Competence in Student Engagement for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 100 students, school years 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 8.12 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of children who “had established or were developing competence” in all five competencies in the Grade 7 student engagement assessment was lower among First Nations children (41.3%; living off-reserve) compared to all other Manitoba children living in the lowest (65.3%) income areas and the highest (81.7%) income areas.
- Similarly, *in rural areas*, the percentages were lower among First Nations children living on-reserve (34.3%) and those living off-reserve (44.1%) compared to other Manitoba children living in the lowest (65.5%) and highest (71.7%) income areas.

Grade 8 Reading and Writing Assessment

Grade 8 students are assessed for reading comprehension and writing of informal texts in publicly funded schools in Manitoba. During the first term of the school year, this assessment is completed by teachers and students to review the students' reading and writing skills and to develop the best learning process to reach their competency goals. In our report, students were assessed using the following reading and writing competencies: 1) understands key ideas

and messages in a variety of texts; 2) interprets a variety of texts; 3) responds critically to a variety of texts; 4) generates, selects, and organizes ideas to support the reader's understanding; 5) chooses language to make an impact on the reader; and 6) uses conventions and resources to edit and proofread to make the meaning clear.

We calculated the age- and sex-adjusted percentages of students who were "meeting or approaching expectations" in all six competencies in the Grade 8 student reading and writing assessment. These students were in Grade 8 in school years 2012/13 to 2016/17.

Figure 8.13: Percentage of Grade 8 Students Meeting or Approaching Expectations in Reading and Writing by Health Region

Age- and sex-adjusted, per 100 students assessed, school years 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

4 - All Other Manitobans: RHA compared to the Manitoba average

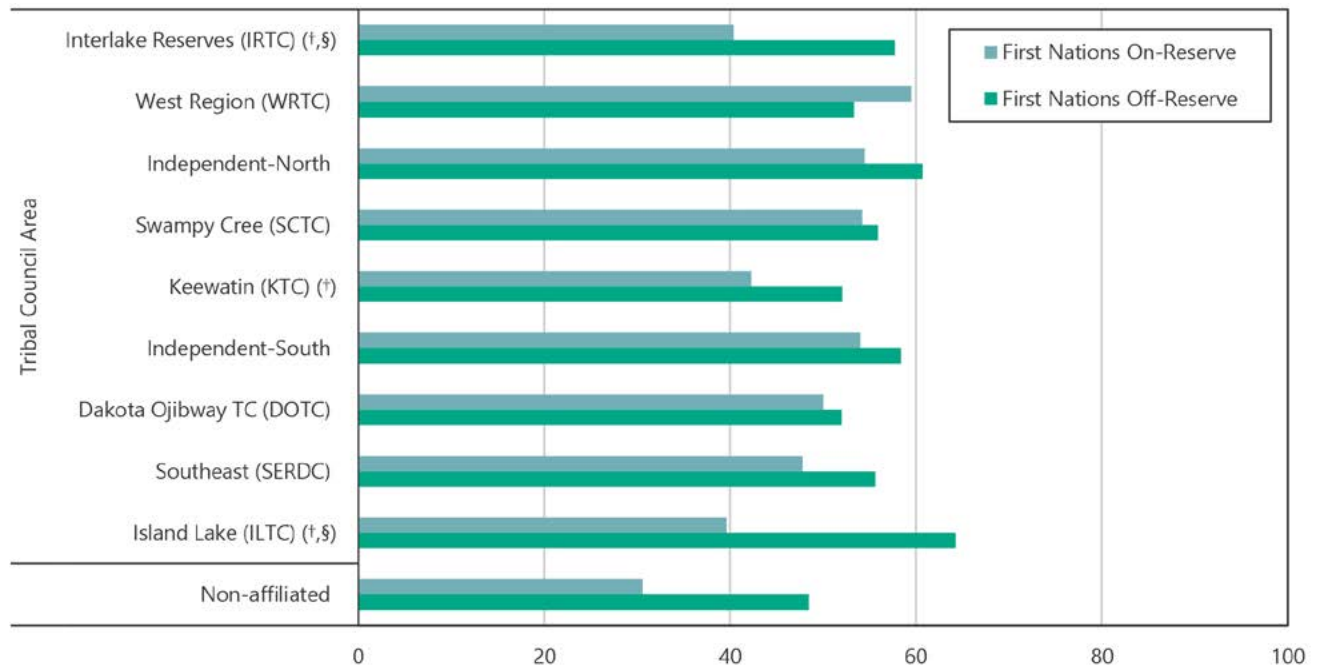
5 - All First Nations compared to All Other Manitobans

6 - First Nations on-reserve compared to First Nations off-reserve

Avg - Manitoba average

- Overall in Manitoba, the percentage of children who were "meeting or approaching expectations" in all six competencies in the Grade 8 school reading and writing assessment was lower among First Nations children (53.2%) compared to other Manitoba children (82.0%). This was also true in all health regions when comparing First Nations children to all other Manitoba children.
- The percentage was lower among First Nations children living on-reserve compared to off-reserve in Manitoba overall, and in Interlake-Eastern RHA and Northern RHA specifically.

Figure 8.14: Percentage of Grade 8 Students Meeting or Approaching Expectations in Reading and Writing by Tribal Council Area
Age- and sex-adjusted rate, per 100 students assessed, school years 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

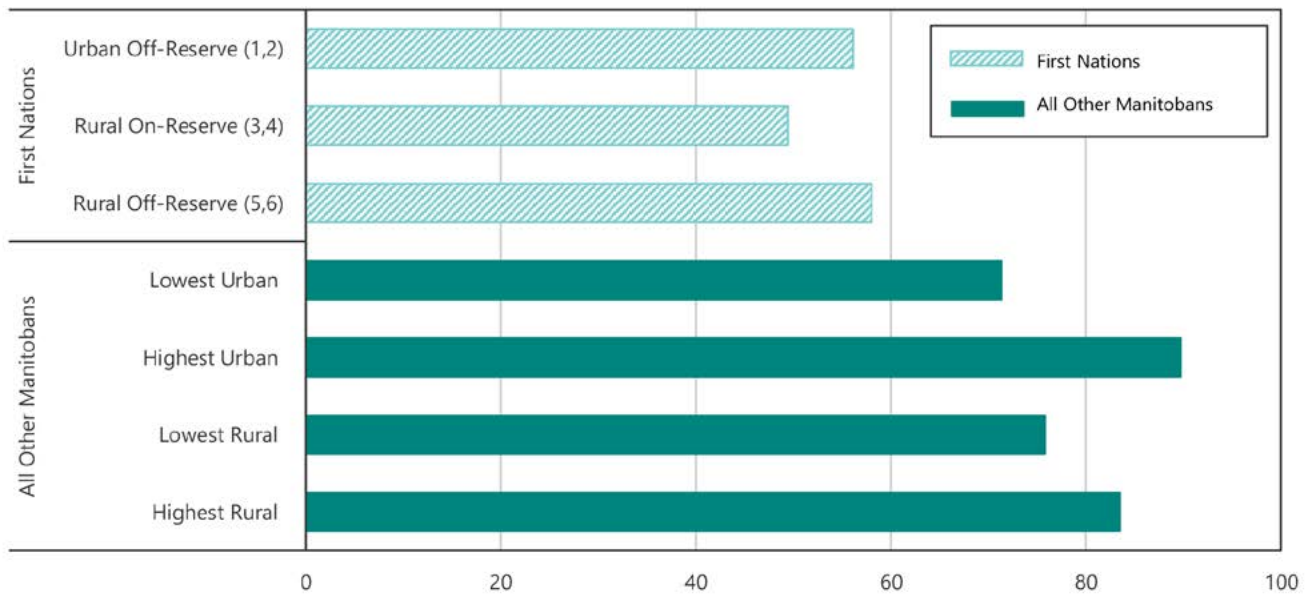
† - First Nations on-reserve: TCA compared to the highest rate (WRTC)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Interlake Reserves (40.4%), Keewatin (42.3%), and Island Lake Tribal Council (39.6%) had a lower percentage of children who were “meeting or approaching expectations” in all six competencies in the Grade 8 reading and writing assessment
- compared to West Region (59.5%), the tribal council with the highest percentage.
- In Interlake Reserves and Island Lake Tribal Councils, the percentage was lower among First Nations children living on-reserve compared to off-reserve.

Figure 8.15: Percentage of Grade 8 Students Meeting or Approaching Expectations in Reading and Writing for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 100 students assessed, school years 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 8.15 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- In urban areas*, the percentage of children who were “meeting or approaching expectations” in all six competencies in the Grade 8 reading and writing assessment was lower among First Nations children (56.1%; living off-reserve) compared to all other Manitoba children living in the lowest (71.3%) income areas and the highest (89.7%) income areas.
- Similarly, *in rural areas*, the percentages were lower among First Nations children living on-reserve (49.4%) and those living off-reserve (58.0%) compared to other Manitoba children living in the lowest (75.8%) and highest (83.5%) income areas.

Grade 12 Language Arts Test

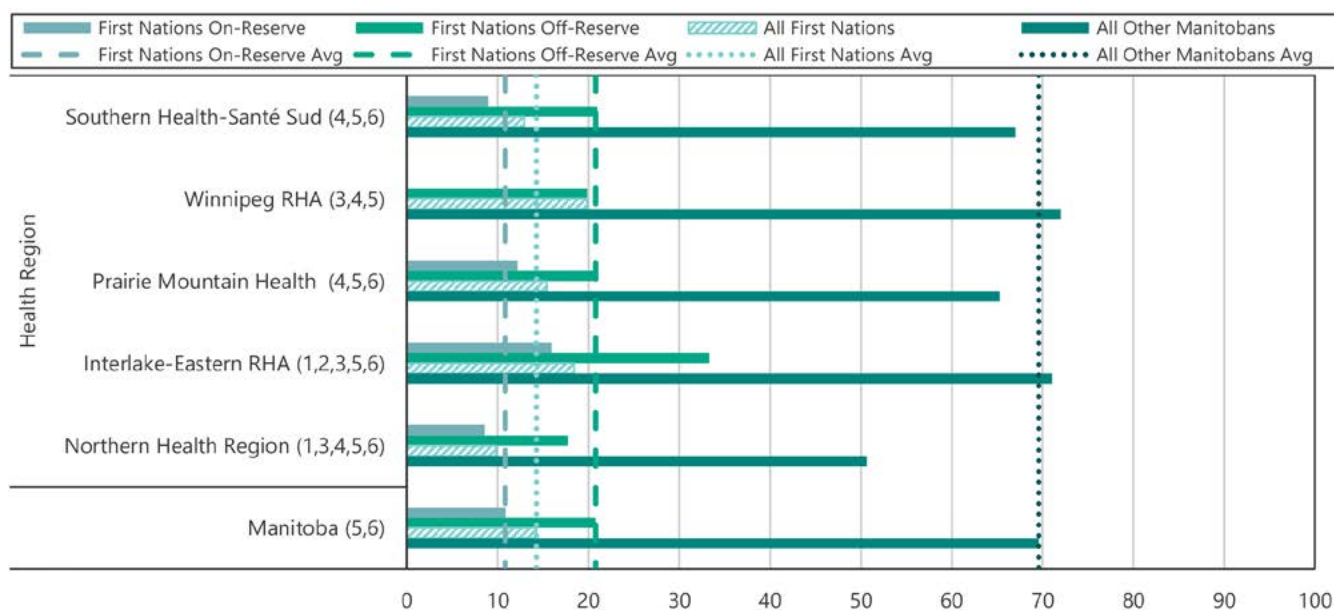
Grade 12 Language Arts Tests are provincial exams for Grade 12 students administered toward the end of the academic year or semester. They are curriculum-based and account for 30% of the students' final course mark [81].

In this report, we followed Grade 9 students for up to five years to determine whether they passed their Grade 12 Language Arts Test within their expected graduation year or within the next one year following that. This takes into consideration students who take more time to write the test.

To measure this indicator, we selected five Grade 9 cohorts of students who were living in Manitoba and remained living in Manitoba up until their expected year of graduation. The first cohort included all students who enrolled in Grade 9 in school year 2008/09 and graduated in school year 2011/12 (or one year after). The last cohort included all students enrolled in Grade 9 in school year 2012/13 and graduated in school year 2015/16 (or one year after). We calculated the crude percentage of students who passed the Grade 12 Language Arts Tests by school years 2011/12 to 2015/16 (or one year following each of these years).

Figure 8.16: Percentage of Students Passing Grade 12 Language Arts Test by Health Region

Crude rate, per 100 students, school years 2011-2015



Statistically significant differences ($p < 0.01$):

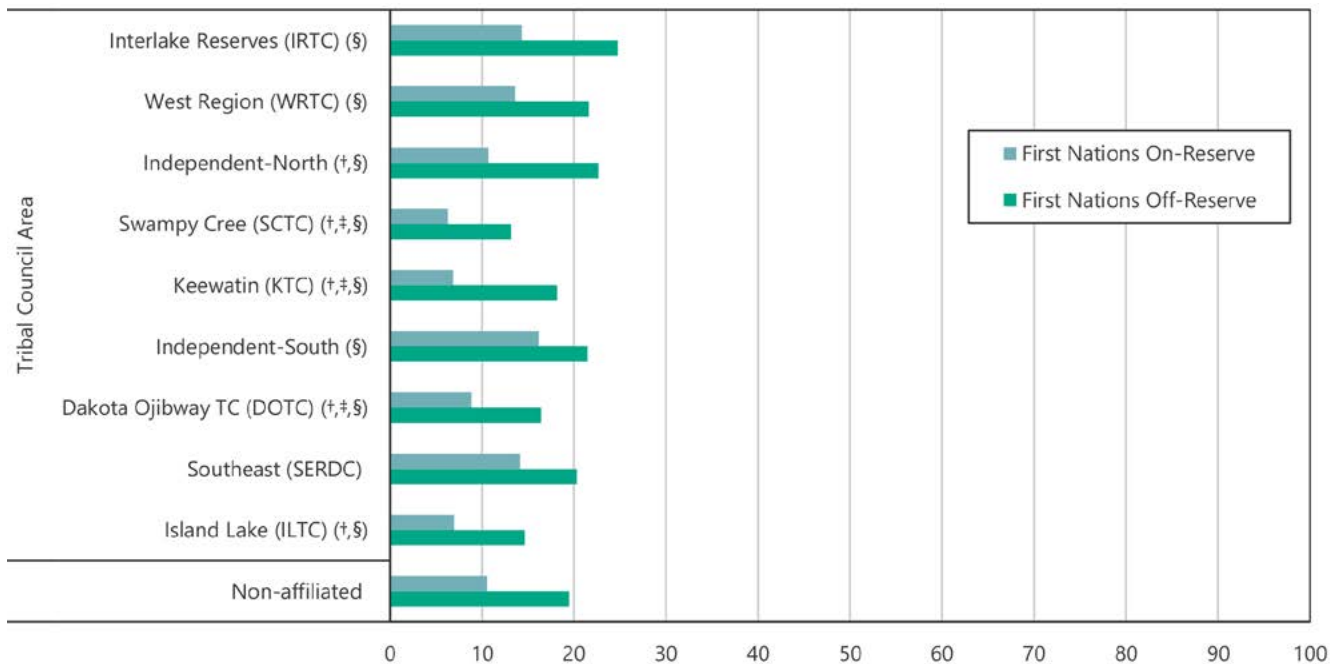
- 1 - First Nations on-reserve: RHA compared to the Manitoba average
 - 2 - First Nations off-reserve: RHA compared to the Manitoba average
 - 3 - All First Nations: RHA compared to the Manitoba average
 - 4 - All Other Manitobans: RHA compared to the Manitoba average
 - 5 - All First Nations compared to All Other Manitobans
 - 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

Overall in Manitoba, the percentage of students who passed the Grade 12 Language Arts Test was lower among First Nations (14.2%) compared to other Manitobans (69.6%). This was also true in all health regions when comparing First Nations students to all other Manitoba students.

- Among First Nations students living on-reserve, Interlake-Eastern RHA had a higher percentage who passed the Grade 12 Language Arts Test compared to Manitoba overall; however, Northern RHA had a lower percentage of students who passed.
- Among First Nations students living off-reserve, Interlake-Eastern RHA had a higher percentage who passed the Grade 12 Language Arts Test compared to Manitoba overall.
- A higher percentage of all First Nations students (on-reserve or off-reserve) living in Winnipeg RHA and Interlake-Eastern RHA passed the Grade 12 Language Arts Test compared to First Nations students in Manitoba overall; however, Northern RHA had a lower percentage students who passed.
- The percentage was lower among First Nations students living on-reserve compared to off-reserve across all rural health regions and in Manitoba overall.

Figure 8.17: Percentage of Students Passing Grade 12 Language Arts Test by Tribal Council Area

Crude rate, per 100 First Nations students, school years 2011-2015

Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the highest rate (Independent-South)

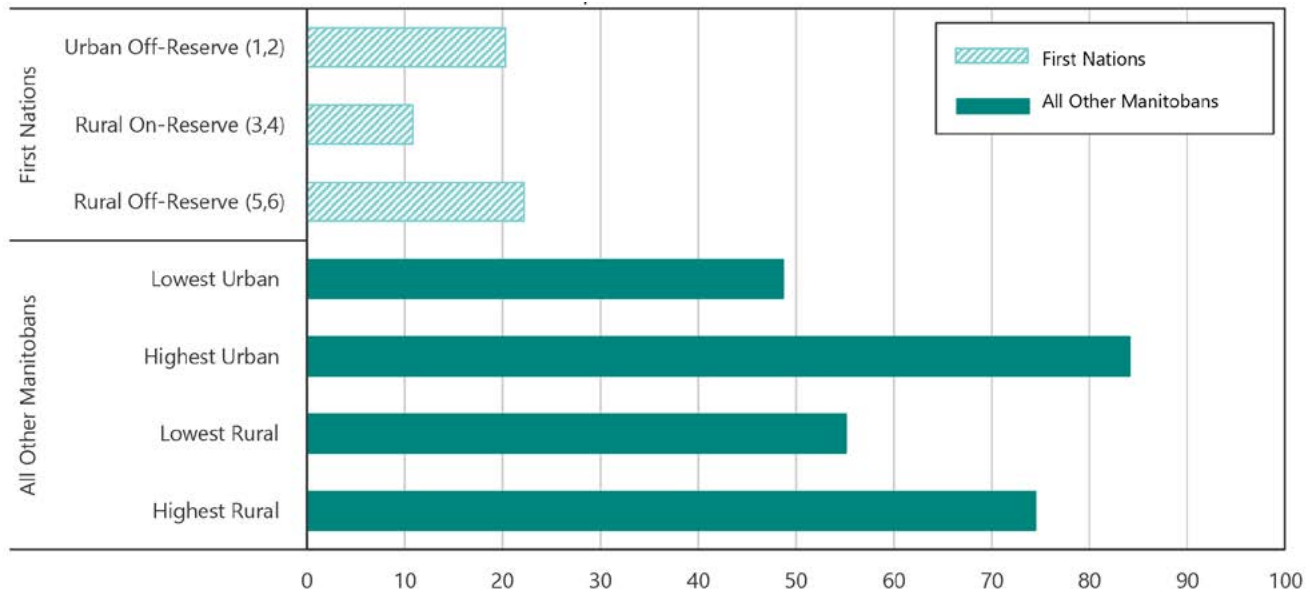
‡ - First Nations off-reserve: TCA compared to the highest rate (IRTC)

\$ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations students living on-reserve, Independent North (10.7%), Swampy Cree (6.3%), Keewatin (6.9%), Dakota Ojibway (8.8%) and Island Lake Tribal Council (6.9%) had a lower percentage who passed the Grade 12 Language Arts Test compared to Independent South (16.2%), the tribal council with the highest percentage.
- Among First Nations students living off-reserve, Swampy Cree, Keewatin and Dakota Ojibway Tribal Councils had a lower percentage who passed the Grade 12 Language Arts Test compared to Interlake Reserve, the tribal council with the highest percentage.
- The percentage was lower among First Nations students living on-reserve compared to off-reserve in Interlake Reserves, Swampy Cree, Keewatin, Independent North, Independent South, West Region, Dakota Ojibway and Island Lake Tribal Councils.

Figure 8.18: Percentage of Students Passing Grade 12 Language Arts Test for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate, per 100 students, school years 2011-2015



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 8.18 compares the percentages of First Nations students to all other Manitoban students who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of students who passed the Grade 12 Language Arts Test was lower among First Nations (20.3%; living off-reserve) compared to all other Manitobans living in the lowest (48.7%) income areas and the highest (84.1%) income areas.
- Similarly, *in rural areas*, the percentages were lower among First Nations living on-reserve (10.8%) and off-reserve (22.2%) compared to other Manitobans living in the lowest (55.1%) and highest (74.5%) income areas.

Grade 12 Mathematics Test

Grade 12 Mathematics Tests are provincial exams for Grade 12 students administered toward the end of the academic year or semester. They are curriculum-based and account for 30% of the students' final course mark [81].

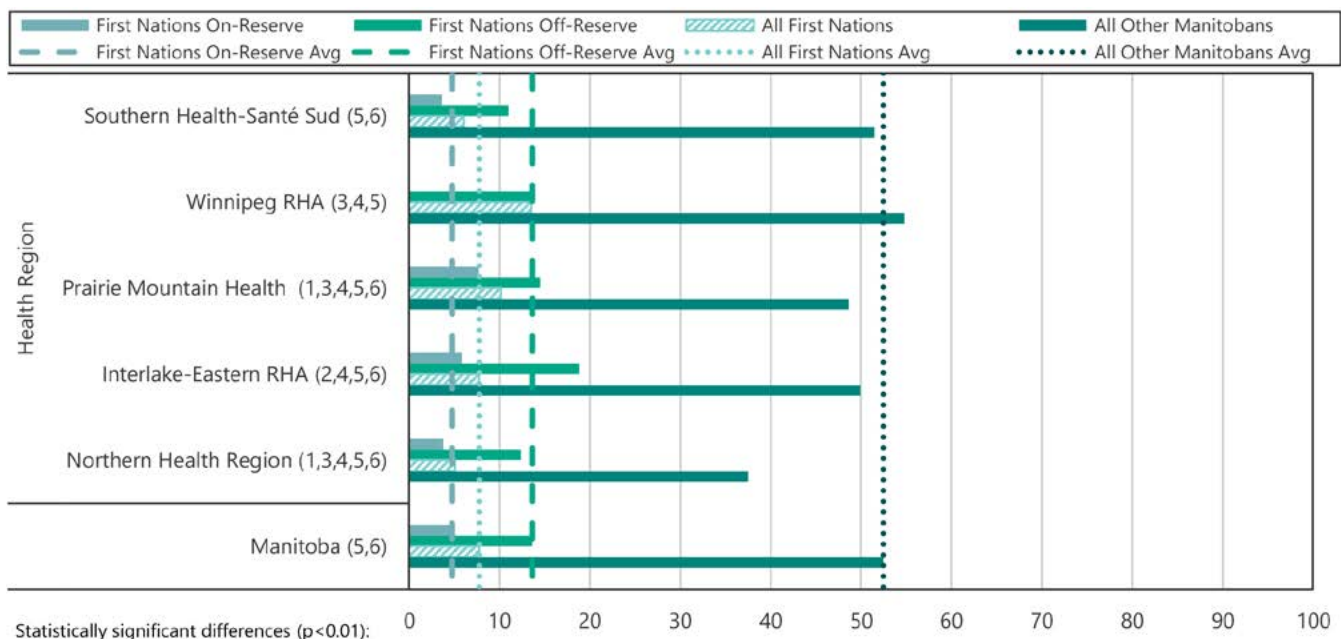
In this report, we followed Grade 9 students for up to five years to determine whether they passed their Grade 12 Mathematics Test within their expected graduation year or within the next one year following that. This takes into consideration students who take more time to write the test

To measure this indicator, we selected five Grade 9 cohorts of students who were living in Manitoba and remained living in Manitoba up until their expected year of graduation. The first cohort included all students who enrolled in Grade 9 in school year 2008/09 and graduated in school year 2011/12 (or one year after). The last cohort included all students enrolled in Grade 9 in school year 2012/13 and graduated in school year 2015/16 (or one year after).

We calculated the crude percentage of students who passed the Grade 12 Mathematics Tests by school years 2011/12 to 2015/16 (or one year following each of these years).

Figure 8.19: Percentage of Students Passing Grade 12 Mathematics Test by Health Region

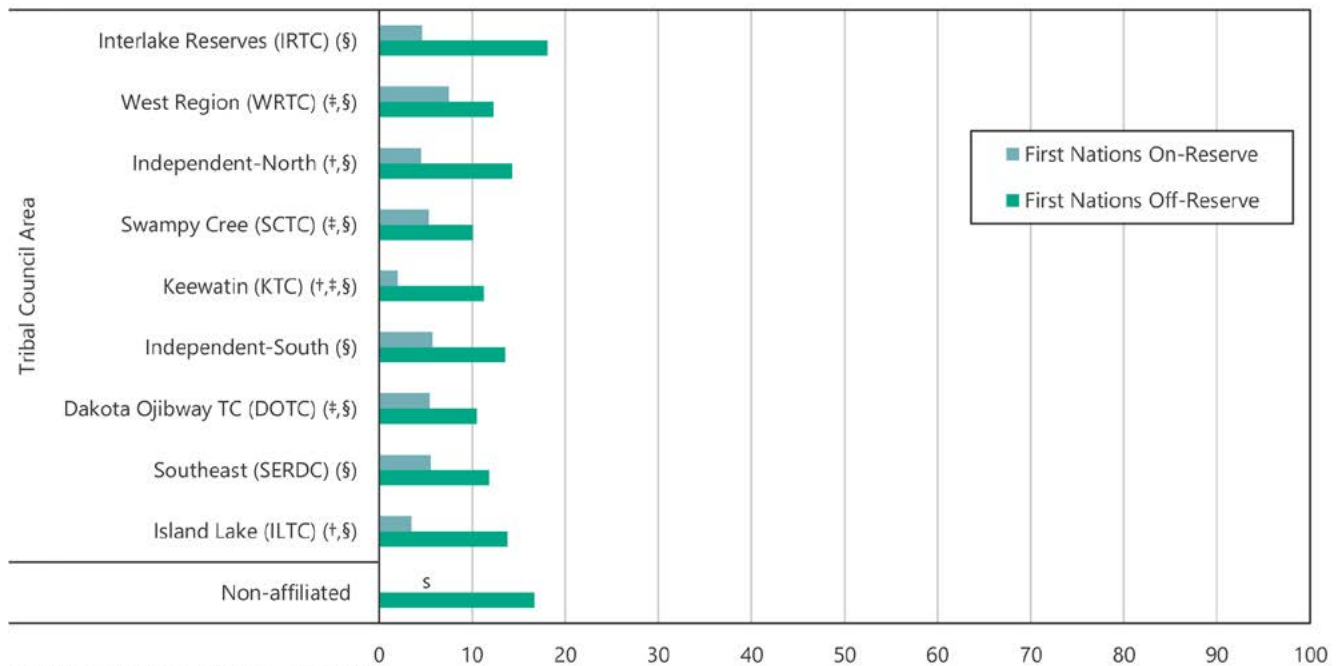
Crude rate, per 100 students, school years 2011-2015



- Overall in Manitoba, the percentage of students who passed the Grade 12 Mathematics Test was lower among First Nations (7.8%) compared to other Manitobans (52.5%). This was also true in all health regions when comparing First Nations students to all other Manitoba students.
- Among First Nations students living on-reserve, Prairie Mountain RHA had a higher percentage who passed the Grade 12 Mathematics Test compared to Manitoba overall; however, Northern RHA had a lower percentage of students who passed.
- Among First Nations students living off-reserve, Interlake-Eastern RHA had a higher percentage who passed the Grade 12 Mathematics Test compared to those in Manitoba overall.
- A higher percentage of all First Nations students (on-reserve and off-reserve) living in Winnipeg RHA and Prairie Mountain RHA passed the Grade 12 Mathematics Test compared to First Nations students in Manitoba overall; however, Northern RHA had a lower percentage of students who passed.
- The percentage was lower among First Nations students living on-reserve compared to off-reserve across all rural health regions and in Manitoba overall.

Figure 8.20: Percentage of Students Passing Grade 12 Mathematics Test by Tribal Council Area

Crude rate, per 100 First Nations students, school years 2011-2015



Statistically significant differences ($p < 0.01$):

+ - First Nations on-reserve: TCA compared to the highest rate (WRTC)

- First Nations off-reserve: TCA compared to the highest rate (IRTC)

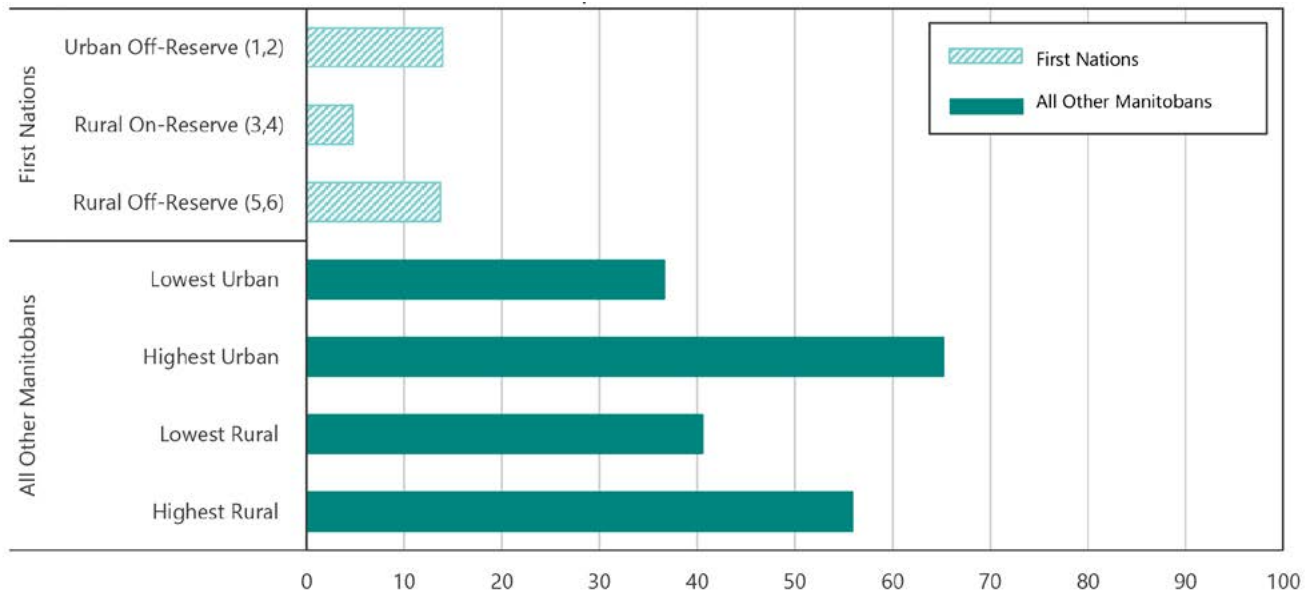
\$ - First Nations on-reserve compared to First Nations off-reserve

s - Data suppressed due to small numbers

- Among First Nations students living on-reserve, Independent North (4.5%), Keewatin (2.0%), and Island Lake Tribal Council (3.5%) had a lower percentage who passed the Grade 12 Mathematics Test compared to West Region (7.5%), the tribal council with the highest percentage.
- Among First Nations students living off-reserve, Swampy Cree, Keewatin, Independent South and Dakota Ojibway Tribal Councils had a lower percentage who passed the Grade 12 Mathematics Test compared to Interlake Reserve, the tribal council with the highest percentage.
- The percentage was lower among First Nations students living on-reserve compared to off-reserve in Interlake Reserves, Swampy Cree, Keewatin, Independent North, Independent South, West Region, Southeast, Dakota Ojibway and Island Lake Tribal Council.

Figure 8.21: Percentage of Students Passing Grade 12 Mathematics Test for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate, per 100 students, school years 2011-2015



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 8.21 compares the percentages of First Nations students to all other Manitoban students who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of students who passed the Grade 12 Mathematics Test was lower among First Nations (13.9%; living off-reserve) compared to all other Manitobans living in the lowest (36.6%) income areas and the highest (65.2%) income areas.
- Similarly, *in rural areas*, the percentages were lower among First Nations living on-reserve (4.8%) and off-reserve (13.7%) compared to other Manitobans living in the lowest (40.6%) and highest (55.9%) income areas.

High School Graduation

High school graduation is a milestone of educational attainment where the individual has completed all Grade 12 requirements. There are different ways to calculate the high school graduation rate and each approach may lead to different results. In this report, we followed Grade 9 students for up to six years to determine whether they completed their Grade 12 requirements within their expected graduation year or within the next two years following that. This takes into consideration students who take more time to complete high school.

In this report, we followed Grade 9 students for up to six years to determine whether they completed their Grade 12

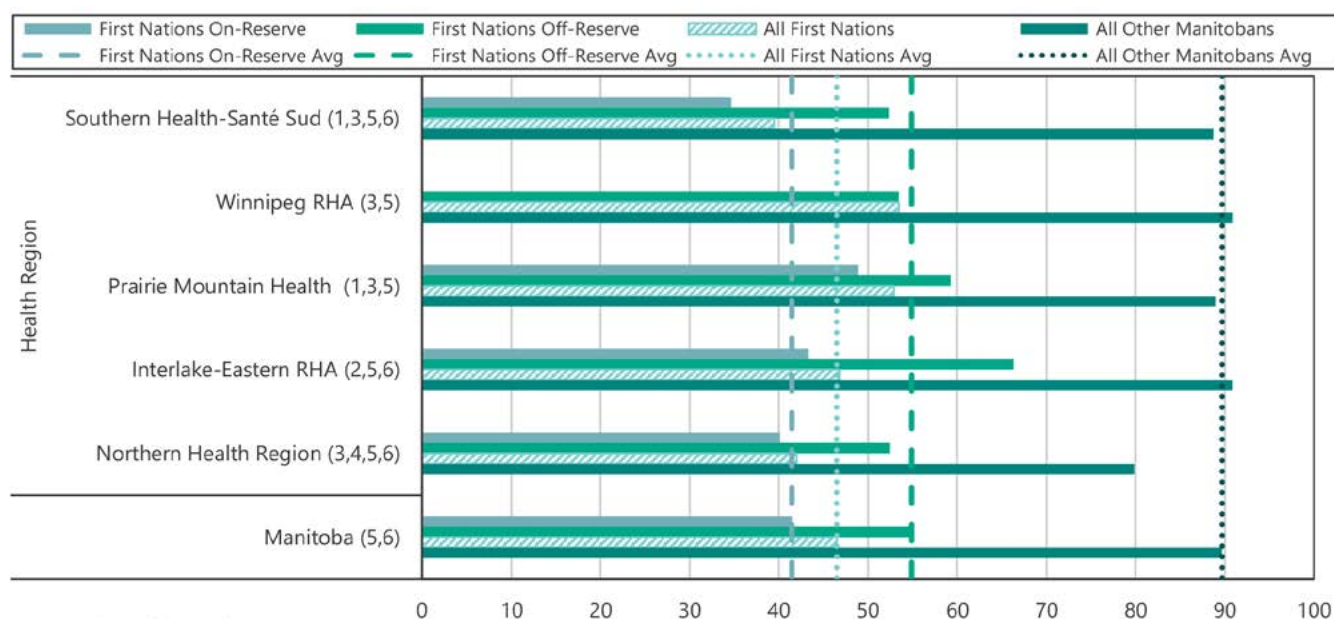
requirements within their expected graduation year or within the next two years following that. This takes into consideration students who take more time to complete high school.

To measure this indicator, we selected five Grade 9 cohorts of students who were living in Manitoba and remained living in Manitoba up until their expected year of graduation. The first cohort included all students who enrolled in Grade 9 in school year 2007/08 and graduated in school year 2010/11 (or up to two years after). The last cohort included all children enrolled in Grade 9 in school year 2011/12 and graduated in school year 2014/15 (or up to two years after).

We calculated the crude percentage of students who completed high school by school years 2010/11 to 2014/15 (or up to two years after each of these years).

Figure 8.22: Percentage of High School Graduation by Health Region

Crude rate, per 100 students, school years 2012/13-2016/17



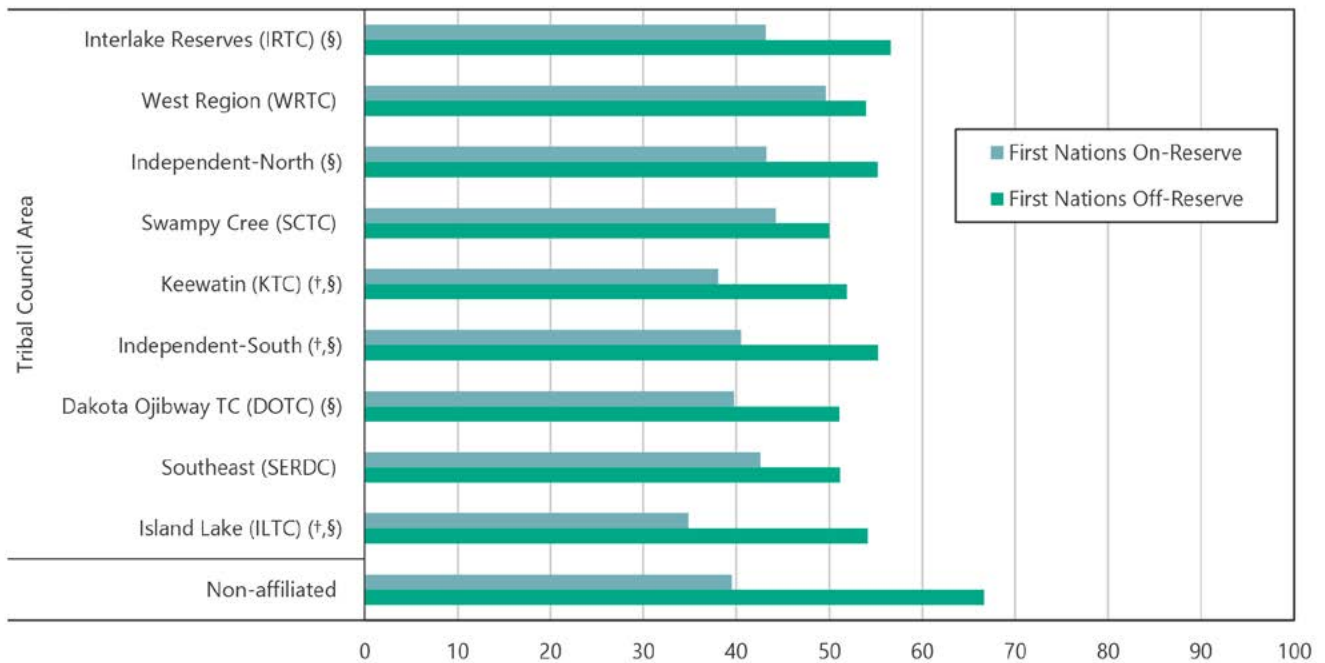
Statistically significant differences ($p < 0.01$):

- 1 - First Nations on-reserve: RHA compared to the Manitoba average
 - 2 - First Nations off-reserve: RHA compared to the Manitoba average
 - 3 - All First Nations: RHA compared to the Manitoba average
 - 4 - All Other Manitobans: RHA compared to the Manitoba average
 - 5 - All First Nations compared to All Other Manitobans
 - 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- Overall in Manitoba, the percentage of students who graduated from high school was lower among First Nations (46.5%) compared to other Manitobans (89.7%). This was also true in all health regions when comparing First Nations to all other Manitobans.
- Among First Nations students living on-reserve, Prairie Mountain RHA had a higher percentage of high school graduates compared to Manitoba overall; however, Southern RHA had a lower percentage of high school graduates.
- Among First Nations students living off-reserve, Interlake-Eastern RHA had a higher percentage of high school graduates compared to Manitoba overall.
- A higher percentage of all First Nations students (both on-reserve and off-reserve) living in Winnipeg RHA and Prairie Mountain RHA graduated from high school compared to Manitoba overall; however, Southern RHA and Northern RHA had a lower percentage of high school graduates.
- The percentage was lower among First Nations students living on-reserve compared to off-reserve in Manitoba overall, and in Southern RHA, Interlake-Eastern RHA and Northern RHA specifically.

Figure 8.23: Percentage of High School Graduation by Tribal Council Area

Crude rate, per 100 First Nations students, school years 2012/13-2016/17

Statistically significant differences ($p < 0.01$):

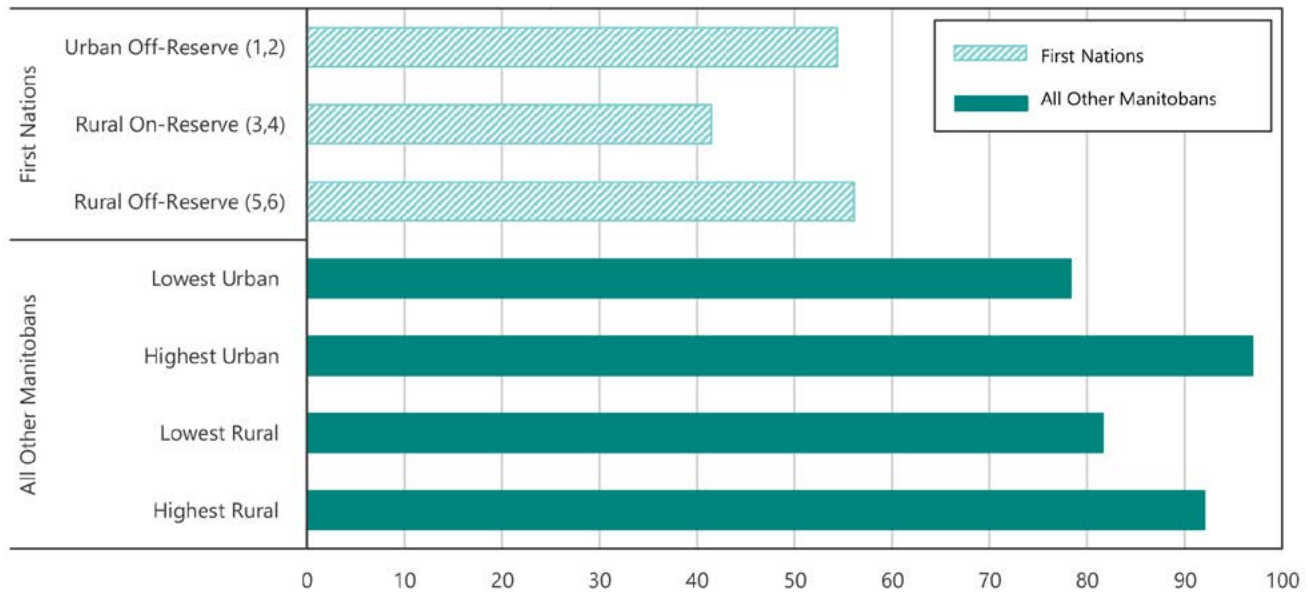
† - First Nations on-reserve: TCA compared to the highest rate (WRTC)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations students living on-reserve, Keewatin (38.1%), Independent South (40.5%) and Island Lake Tribal Council (34.9%) had a lower percentage of high school graduates compared to West Region (49.6%), the tribal council with the highest percentage.
- The percentage was lower among First Nations students living on-reserve compared to off-reserve in Interlake Reserves, Independent North, Keewatin, Independent South, Dakota Ojibway and Island Lake Tribal Councils.

Figure 8.24: Percentage of High School Graduation for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate, per 100 students, school years 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 8.24 compares the percentages of First Nations students to all other Manitoban students who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of students who graduated from high school was lower among First Nations (54.3%; living off-reserve) compared to all other Manitobans living in the lowest (78.3%) income areas and the highest (96.9%) income areas.
- Similarly, *in rural areas*, the percentages were lower among First Nations living on-reserve (41.5%) and those living off-reserve (56.1%) compared to other Manitobans living in the lowest (81.6%) and highest (92.0%) income areas.

How do the Education Results Compare with Previous Studies?

The present study showed that First Nations children are not doing as well in school compared to other Manitoban children. It is difficult to compare these findings with other studies, because most of the educational outcomes examined in this report have no direct comparisons in the broader literature. MCHP used highly detailed education data that authors of previous studies may not have had access to. Although not child measures, we used literacy and numeracy measurements from the International Adult Literacy and Skills Survey (IALSS) and the Programme for the International Assessment of Adult Competencies (PIAAC) as a comparison for our findings. Both the IALSS and the PIAAC were collaborations between Canada and other OECD nations that evaluated the literacy proficiency of Canadians (and others) above the age of 16 [82,83]; the PIAAC (conducted in 2012) is an extension of the IALSS (conducted in 2003). Although both surveys report proficiency in “levels”, it must be noted that the two measurement scales are different and so comparisons between them cannot be made [84]. Both surveys were offered in English or French only. In the IALSS, 26% of First Nations participants living off-reserve reported that they spoke an Aboriginal language as their first language [85]. Individuals who reported a language other than English or French as their first language were evaluated on their proficiency in another language.

The IALSS results from 2003 showed 28% of First Nations Manitobans living off-reserve met or exceeded level 3 prose literacy. Forty-four percent of “non-Aboriginal” Manitobans met or exceeded level 3 [85]. Our analyses found 57.3% of Grade 8 First Nations students living off-reserve were meeting or approaching expectations in both reading and writing, compared to 82.0% of all other Manitoban Grade 8 students.

The PIAAC evaluated both literacy and numeracy in 2012. The scores are reported as levels ranging from 1 to 5, where level 3 is considered as part of the upper range of the skill set. Those whose average score does not exceed level 3 may still be able to accomplish tasks in the higher levels; however, the likelihood is reduced [86]. The results from the PIAAC compared Aboriginal Manitobans (First Nations, Métis, and Inuit) living off-reserve to non-Aboriginal Manitobans. Participants ranged in age from 16-65 [84]. Literacy measurements showed 38.9% of Aboriginal Manitobans met or exceeded level 3, and 53.4% of non-Aboriginal Manitobans met or exceeded level 3 [84]. The results of the numeracy analysis showed the percent of those who met or exceeded level 3 was 31.6% of Aboriginal Manitobans and 47% of non-Aboriginal Manitobans [84]. In our analysis, we found 47.7% of Grade 7 First Nations students living off-reserve and 75.9% of all other Grade 7 Manitoba students were meeting or approaching expectations in mathematics. The PIAAC results showed a smaller gap between groups – an encouraging finding.

Chapter 9:

Social Services

In this chapter, we examine several social services received by children and youth and their families. The indicators are listed below. A definition of each of the following indicators is provided prior to presentation of the results.

- Children in care
- Children involved with Child and Family Services (CFS)
- Living in a family receiving provincial income assistance
- Youth (age 18-19) receiving *provincial* income assistance
- Children living in social housing

Children are taken into foster care (apprehended from their families) when their families fail to properly care for them at home and for reasons of neglect or abuse. First Nations children are often taken into care due to poverty, inadequate housing or addictions, which – as previously described – result from colonialism and residential schools. In 2016, the Canadian Human Rights Tribunal ruled that the Government of Canada had inequitably provided child welfare services to First Nations children and had not properly implemented Jordan's Principle, a principle that ensures equitable services to First Nations children [87]. Blackstock (2016) estimated that only 78 cents on the dollar were received by First Nations children compared to non-Indigenous children for child welfare services [88]. Family resources and services, including early childhood programs, financial supports, parent support groups, counselling, addiction centres, and cultural identity programs, are required so that families can provide a nurturing and safe environment for their families. Without these family resources and supports, there will continue to be high numbers of First Nations children in care.

The Knowledge Keepers were very concerned with the high rates of child apprehensions. They strongly stated the need to bring their children home. The focus should be on renewing their First Nations identity. The Knowledge Keepers noted that there are few social services in First Nations communities. They remarked that the families that could benefit from prevention programs do not always attend – often because people feel blamed. The language used in the programs is often deficit-based rather than strength-based. For example, calling someone an addict discourages them from seeking help. Programs should be less punitive and offer more practical support, like providing transportation.

Cautions regarding the data on which the results are

based: These indicators provide information on the children who received services, or who were living in a family who received services, provided by the Manitoba government. First Nations people are not eligible for provincial income assistance if living on-reserve. Many youth and families move from living on-reserve to off-reserve and back quite frequently. This report used the address of where youth and families were living in 2016 as recorded by the Manitoba First Nations Research File (federal file), although they might actually have been living off-reserve for part of the year. This may be the reason that some appear to be receiving income assistance while living on-reserve. Some northern CFS agencies do not provide data to the provincial database, and therefore we may have undercounted services received by children living in northern communities.

Notes about Statistical Significance:

- Only statistically significant results are described in the text. In general, we do not comment if there is no statistically significant result.
- In graphs of TCAs, we compared rates of each TCA to the TCA with the lowest rates (e.g., children in care) to evaluate differences between TCAs within a relevant context.
- In graphs of health regions, we did not describe results of All Other Manitoba Children as they are not the focus of this report.
- Differences between groups were tested at $p < 0.01$ level of significance.

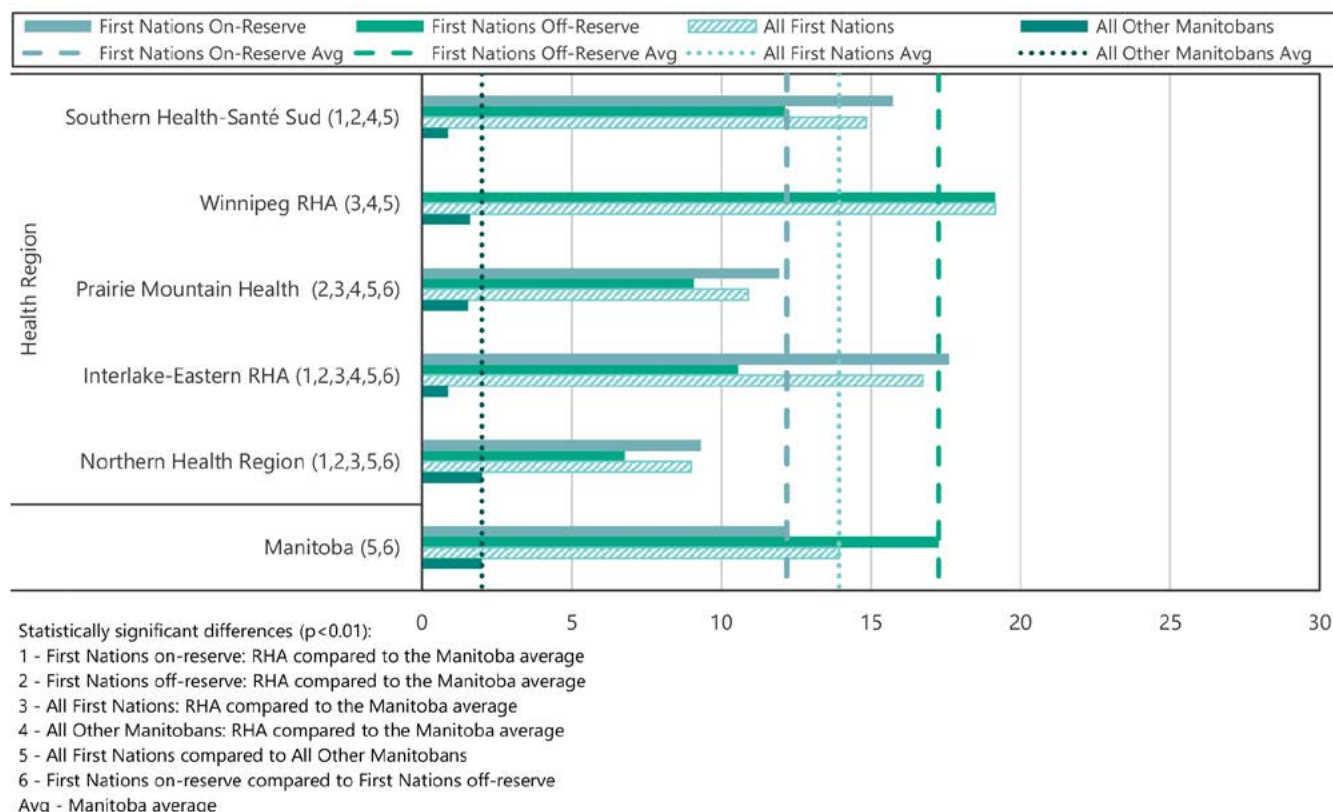
Children in Care

Children in care are children who have been apprehended from their original families because authorities have deemed their family unable or unfit to look after them properly. In some cases, children are voluntarily placed into care by their parents or guardians. In other cases,

infants are removed from their mothers at birth. Children can come into care for a variety of reasons including abuse and neglect, illness, disability, emotional problems, death of a parent, parental addiction or conflict in their family. The length of time in care can vary from one day to many years. For this report, we calculated the age- and sex-adjusted percentages of children between that ages of 0-17 who were in care (for at least one day) in fiscal year 2016/17.

Figure 9.1: Percentage of Children in Care by Health Region

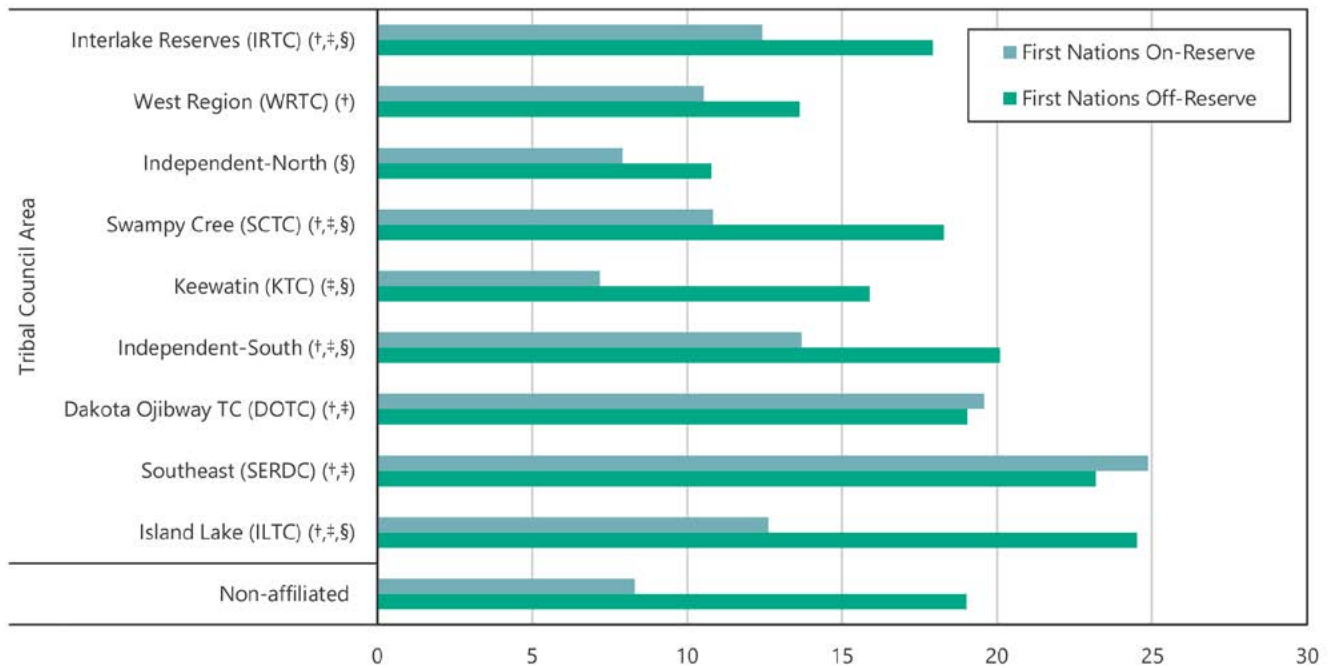
Age- and sex-adjusted rate, per 100 children, age 0-17, 2016/17



- Overall in Manitoba, the percentage of children in care was higher among First Nations children (13.9%) compared to all other Manitoba children (2.0%). This was also true in all health regions when comparing First Nations children to all other Manitoba children.
- Among First Nations children living on-reserve, the percentage of children in care was lower for those living in Northern RHA compared to the average Manitoba on-reserve percentage; however, it was higher for Southern RHA and Interlake-Eastern RHA.
- Among First Nations children living off-reserve, the percentage of children in care was lower for those living in rural health regions (Southern RHA, Prairie Mountain RHA, Interlake-Eastern RHA and Northern RHA) compared to the average Manitoba off-reserve percentage.
- A higher percentage of First Nations children (both on-reserve and off-reserve) living in Winnipeg RHA and Interlake-Eastern RHA were in care compared to First Nations children in Manitoba overall; however, there was a lower percentage of children in care in Prairie Mountain RHA and Northern RHA than the Manitoba First Nations percentage.
- In Manitoba overall, the percentage of children in care was lower among First Nations children living on-reserve compared to off-reserve; conversely, in Prairie Mountain RHA, Interlake-Eastern RHA and Northern RHA, the percentage was higher among First Nations children living on-reserve compared to off-reserve. This last finding may appear counterintuitive to readers; because Winnipeg is a highly populated region and is off-reserve, it accounts for a large percentage of the children in care living off-reserve.

Figure 9.2: Percentage of Children in Care by Tribal Council Area

Age- and sex-adjusted rate, per 100 children, age 0-17, 2016/17

Statistically significant differences ($p < 0.01$):

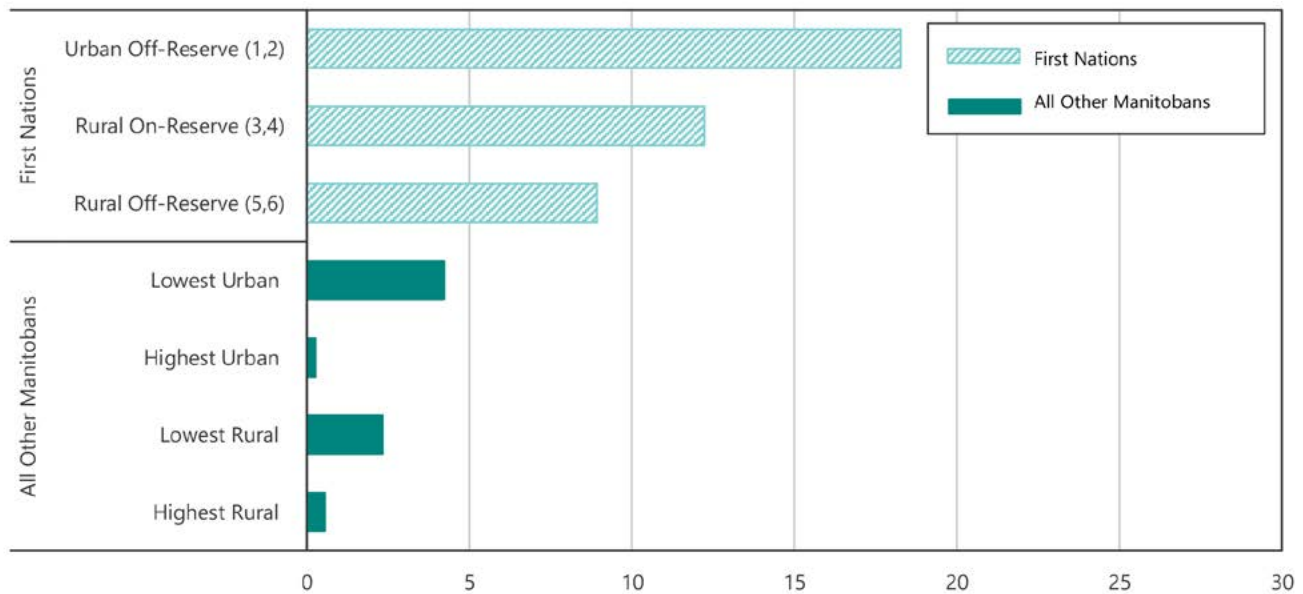
+ - First Nations on-reserve: TCA compared to the lowest rate (KTC)

† - First Nations off-reserve: TCA compared to the lowest rate (Independent-North)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Interlake Reserves (12.4%), West Region (10.5%), Swampy Cree (10.8%), Independent South (13.7%), Dakota Ojibway (19.6%), Southeast (24.9%) and Island Lake Tribal Council (12.6%) had a higher percentage of children in care compared to Keewatin (7.2%), the tribal council with the lowest percentage.
- Among First Nations children living off-reserve, Interlake Reserves, Swampy Cree, Keewatin, Independent South, Dakota Ojibway, Southeast, and Island Lake had a higher percentage of children in care compared to Independent-North, the tribal council with the lowest percentage.
- In many TCAs, the percentage of children in care was lower among First Nations children living on-reserve compared to off-reserve, including in Interlake Reserves, Independent North, Swampy Cree, Keewatin, Independent South and Island Lake Tribal Council.

Figure 9.3: Percentage of Children in Care for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile
Age- and sex-adjusted rate, per 100 children, age 0-17, 2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 9.3 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of children in care was higher among First Nations children (18.3%; living off-reserve) compared to all other Manitoba children living in the lowest (4.2%) income areas and the highest (0.3%) income areas.
- Similarly, *in rural areas*, the percentages were higher among First Nations children living on-reserve (12.2%) and those living off-reserve (8.9%) compared to all other Manitoba children living in the lowest (2.3%) and highest (0.6%) income areas.

How do these Results Compare with Previous Studies on Rates of Children in Care?

In an analysis conducted by Thoburn, Canada had the highest rate of children in care when compared to other countries, including Australia, Germany, Japan, New Zealand, Spain, the UK and the US [89]. Within Canada, Manitoba has one of the highest rates of children in care [90]. According to the Canadian Child Welfare Research Portal, Manitoba's rate of children in care was 35.2 per 1,000 children in 2018. This was nearly double the rate in Nunavut, triple the rate in Newfoundland, and more than four times the rate in Alberta, British Columbia, and Prince Edward Island in that year. Further complicating Manitoba's high rate of children in care is the overrepresentation of First Nations children. In 2006, First Nations children represented 16% of all children in Manitoba, yet accounted for 70% of children in care [91,92]. A decade later, the disproportion had grown; First Nations children accounted for 19% of all Manitoban children and 78% of children in care [93,94].

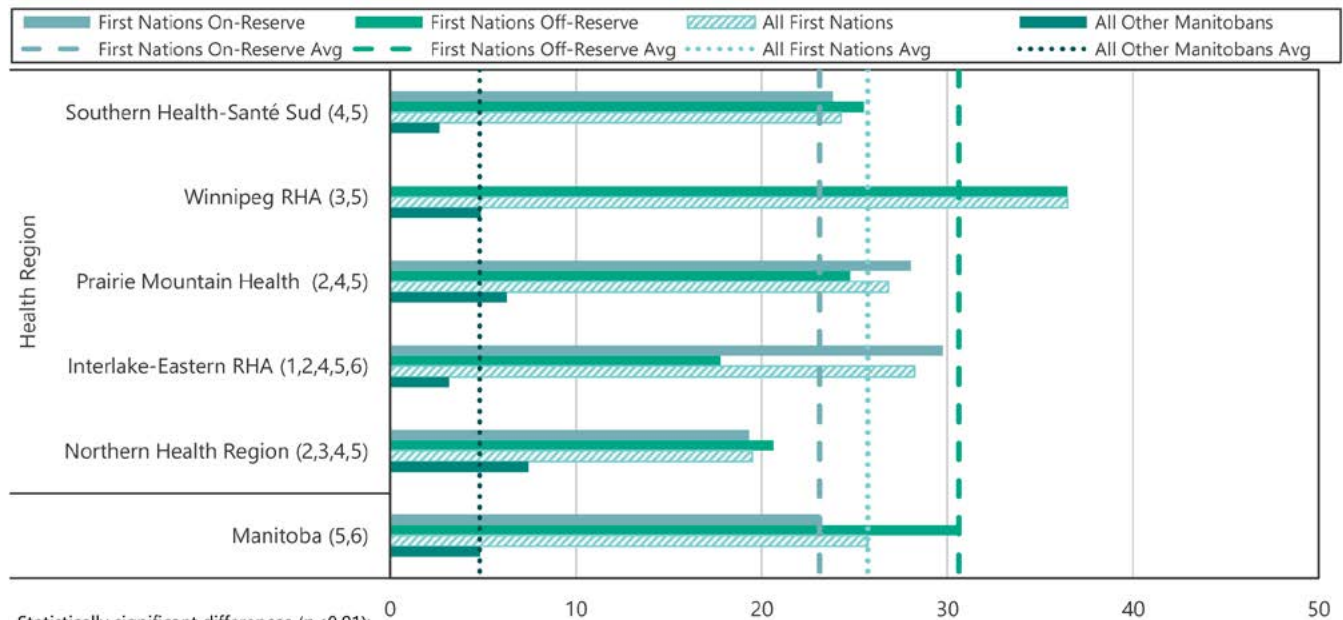
Receiving Services from Child and Family Services (CFS)

This indicator includes children (age 0-17) in families who are receiving protective and support services from the Child and Family Services (CFS) within the Department of

Families [95]. Unlike the previous indicator of children in care, children who receive protective and support services remain with their family. For this report, we calculated the age- and sex-adjusted percentages of children age 0-17 who received services from CFS for at least one day in fiscal year 2016/17.

Figure 9.4: Percentage of Children Receiving Services from CFS by Health Region

Age- and sex-adjusted rate, per 100 children, age 0-17, 2016/17



Statistically significant differences ($p < 0.01$):

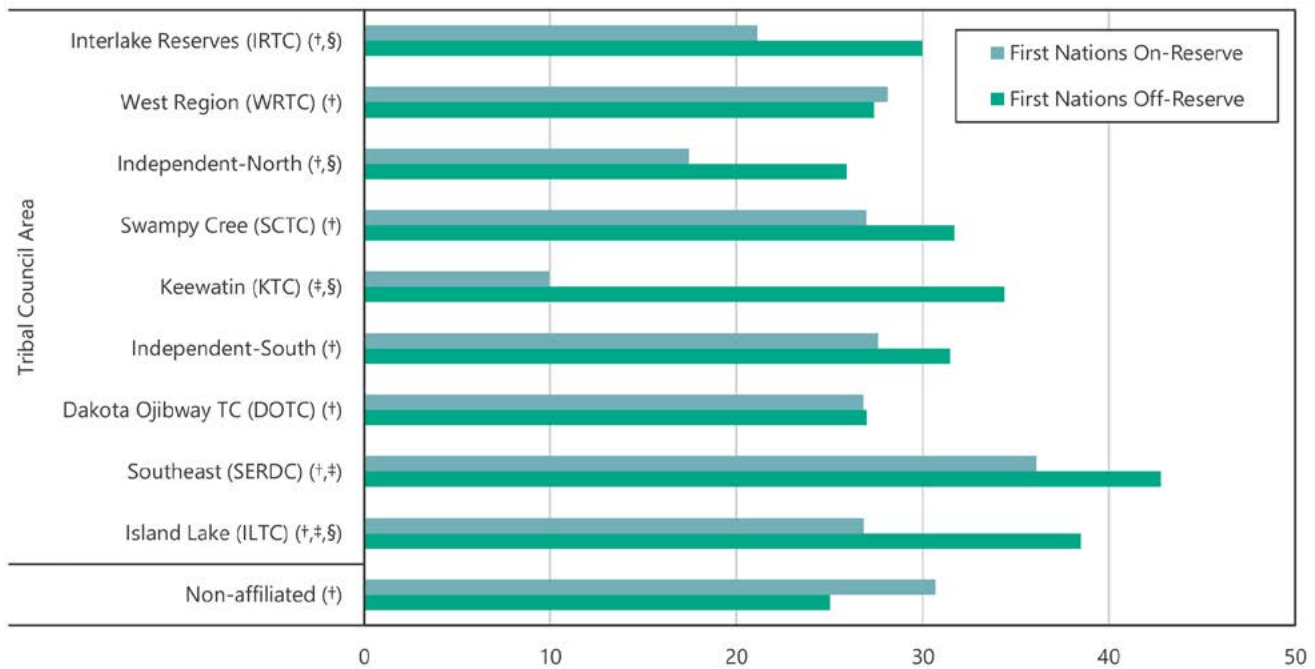
- 1 - First Nations on-reserve: RHA compared to the Manitoba average
- 2 - First Nations off-reserve: RHA compared to the Manitoba average
- 3 - All First Nations: RHA compared to the Manitoba average
- 4 - All Other Manitobans: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- 6 - First Nations on-reserve compared to First Nations off-reserve

Avg - Manitoba average

- Overall in Manitoba, the percentage of children receiving services from Child and Family services (CFS) was higher among First Nations children (25.7%) compared to other Manitoba children (4.8%). This was also true in all health regions when comparing First Nations children to all other Manitoba children.
- Among First Nations children living on-reserve, the percentage of children receiving services from CFS was higher for those living in Interlake-Eastern RHA compared to those in Manitoba overall.
- Among First Nations children living off-reserve, the percentage was lower for those living in many rural health regions (Prairie Mountain RHA, Interlake-Eastern RHA and Northern RHA) compared to those in Manitoba overall.
- A higher percentage of First Nations children (both on-reserve and off-reserve) living in Winnipeg RHA received services from CFS compared to First Nations children in Manitoba overall; however, the percentage in Northern RHA was lower than the Manitoba First Nations percentage.
- In Manitoba overall, the percentage was lower among First Nations children living on-reserve compared to off-reserve; conversely, in Interlake-Eastern RHA, the percentage was higher among First Nations children living on-reserve compared to off-reserve.

Figure 9.5: Percentage of Children Receiving Services from CFS by Tribal Council Area

Age- and sex-adjusted rate, per 100 children, age 0-17, 2016/17

Statistically significant differences ($p < 0.01$):

+ - First Nations on-reserve: TCA compared to the lowest rate (KTC)

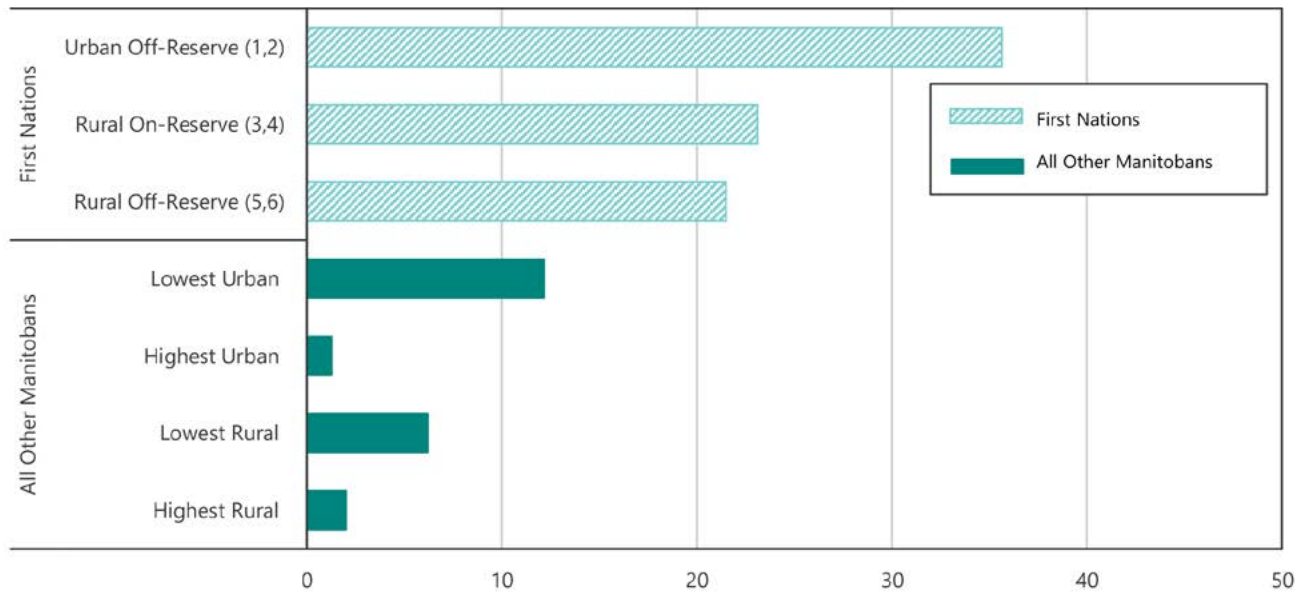
‡ - First Nations off-reserve: TCA compared to the lowest rate (Non-affiliated)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Interlake Reserves (21.1%), West Region (28.1%), Independent North (17.4%), Swampy Cree (27.0%), Independent South (27.6%), Dakota Ojibway (26.8%), Southeast (36.1%), Island Lake (26.8%) and Non-affiliated (30.7%) tribals councils had a higher percentage of children receiving services from CFS compared to Keewatin (10.0%), the tribal council with the lowest percentage.
- Among First Nations children living off-reserve, Keewatin, Southeast, and Island Lake Tribal Councils had a higher percentage of children receiving services from CFS compared to Non-affiliated, the tribal council with the lowest percentage.
- In some TCAs, namely Interlake Reserves, Independent North, Keewatin, and Island Lake Tribal Council, the percentage of children receiving services from CFS was lower among First Nations children living on-reserve compared to off-reserve.

Figure 9.6: Percentage of Children Received Services from CFS for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 100 children, age 0-17, 2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 9.6 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of children receiving CFS was higher among First Nations children (35.6%; living off-reserve) compared to all other Manitoba children living in the lowest (12.1%) income areas and the highest (1.3%) income areas.
- Similarly, *in rural areas*, the percentages were higher among First Nations children living on-reserve (23.1%) and those living off-reserve (21.5%) compared to other Manitoba children living in the lowest (6.2%) and highest (2.0%) income areas.

How do these Results Compare with Previous Studies on Rates of Children Receiving Child & Family Services (CFS)?

A report by Brownell et al. (2020) recently found that 27.4% of First Nations children and youth in a cohort born in 1994 had received protective and support services from CFS. All other Manitoban children and youth received services from CFS at nearly half the rate (15.1%) [96]. Our analyses (2016/17) found a similar rate of 25.7% of First Nations children living in a family receiving services from CFS compared to 4.8% of all other Manitoban children. The 2020 report found that the overall proportion of children who have received services from CFS declined when compared across four birth cohorts, from 19.4% in 1991 to 15.3% in 1998 [96]. However, this decline was only observed among other Manitoban children (15.1% to 4.8%) and not among First Nations children (27.4% to 25.7%).

Living in a Family Receiving Income Assistance

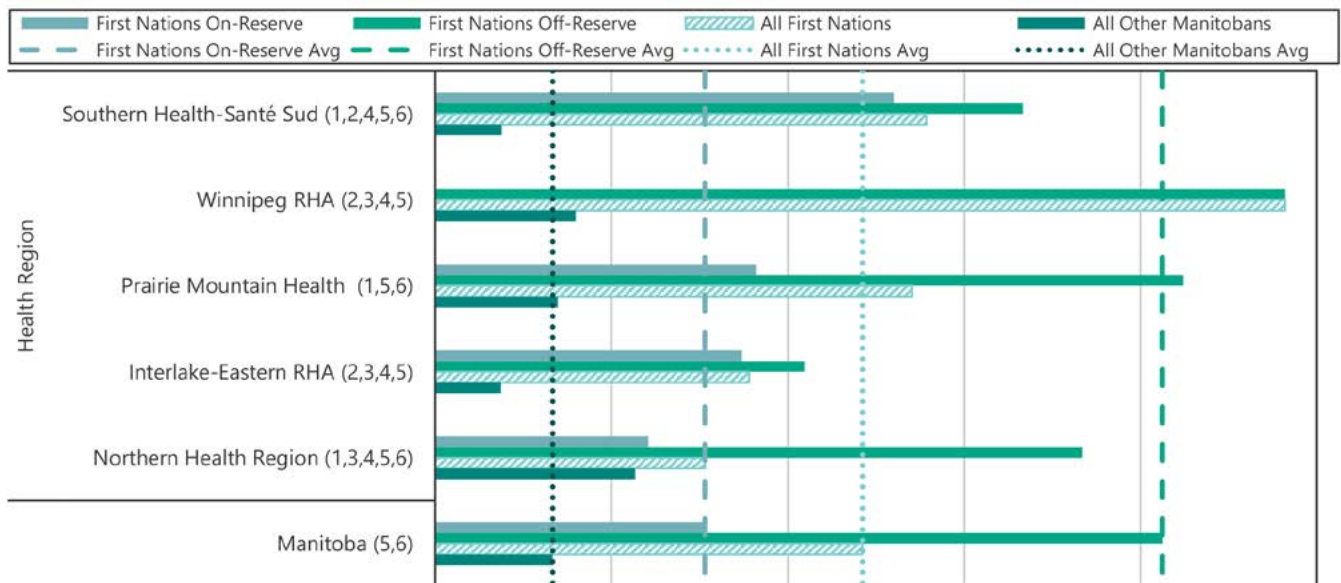
Income assistance is a program of financial assistance for individuals or families who require it to meet basic personal and family needs. This indicator can be seen as a measure of poverty or economic instability. This monetary support is allocated by the provincial government to individuals and/or their dependents who meet a standard financial need test that qualifies them for benefits. It is administered by the Employment and Income Assistance program. We defined

this indicator as the percentage of children (age 0-17) living in a family receiving income assistance for at least one day during the fiscal year 2016/17.

First Nations people are not eligible for provincial income assistance if they are living on-reserve. There is a lot of movement of youth and families from on-reserve to off-reserve and back. This report used the address of where youth and families were living in 2016 as recorded by the Manitoba First Nations Research File (federal file), although they might actually have been living off-reserve for part of the year. This may be the reason that some appear to be receiving income assistance while living on-reserve.

Figure 9.7: Percentage of Children Living in Families Receiving Income Assistance by Health Region

Age- and sex-adjusted rate, per 100 children, age 0-17, 2016/17



Statistically significant differences ($p < 0.01$):

- 1 - First Nations on-reserve: RHA compared to the Manitoba average
 - 2 - First Nations off-reserve: RHA compared to the Manitoba average
 - 3 - All First Nations: RHA compared to the Manitoba average
 - 4 - All Other Manitobans: RHA compared to the Manitoba average
 - 5 - All First Nations compared to All Other Manitobans
 - 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

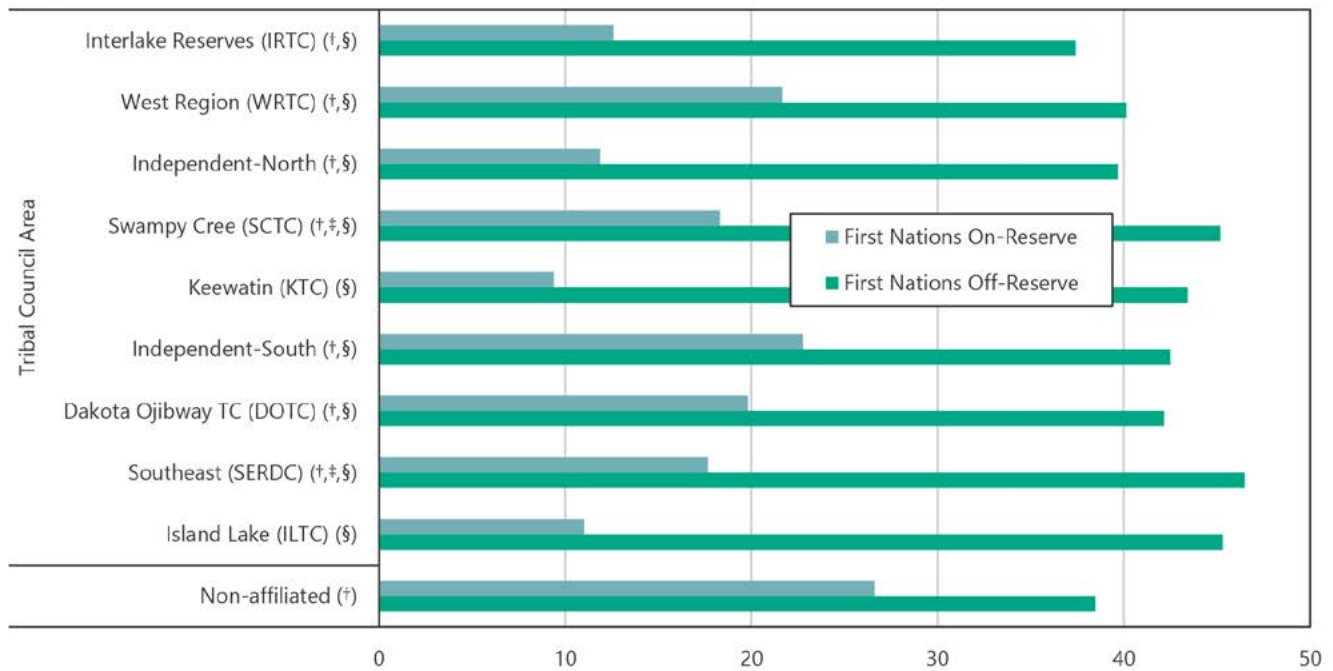
- Overall in Manitoba, the percentage of children living in a family receiving income assistance was higher among First Nations children (24.2%) compared to other Manitoba children (6.7%). This was also true in all health regions when comparing First Nations children to all other Manitoba children.
- Among First Nations children living on-reserve, the percentage of children living in families receiving income assistance was lower for those living in Northern RHA compared to those in Manitoba overall; however, the percentage was higher for those living in Southern RHA and Prairie Mountain RHA.
- Among First Nations children living off-reserve, the percentage of children living in families receiving income assistance was lower for those living in rural health regions (Southern RHA and Interlake-Eastern

RHA) compared to those in Manitoba overall; however, the percentage was higher in Winnipeg RHA compared to those in Manitoba overall.

- The percentage of First Nations children (both on-reserve and off-reserve) living in a family receiving income assistance in Winnipeg RHA was higher compared to First Nations children in Manitoba overall; however, Interlake-Eastern RHA and Northern RHA had a lower percentage than the Manitoba First Nations percentage.
- In Manitoba overall and in Southern RHA, Prairie Mountain RHA and Northern RHA, the percentage of children living in families receiving income assistance was lower among First Nations children living on-reserve compared to off-reserve.

Figure 9.8: Percentage of Children Living in Families Receiving Income Assistance by Tribal Council Area

Age- and sex-adjusted rate, per 100 children, age 0-17, 2016/17



Statistically significant differences ($p < 0.01$):

† - First Nations on-reserve: TCA compared to the lowest rate (KTC)

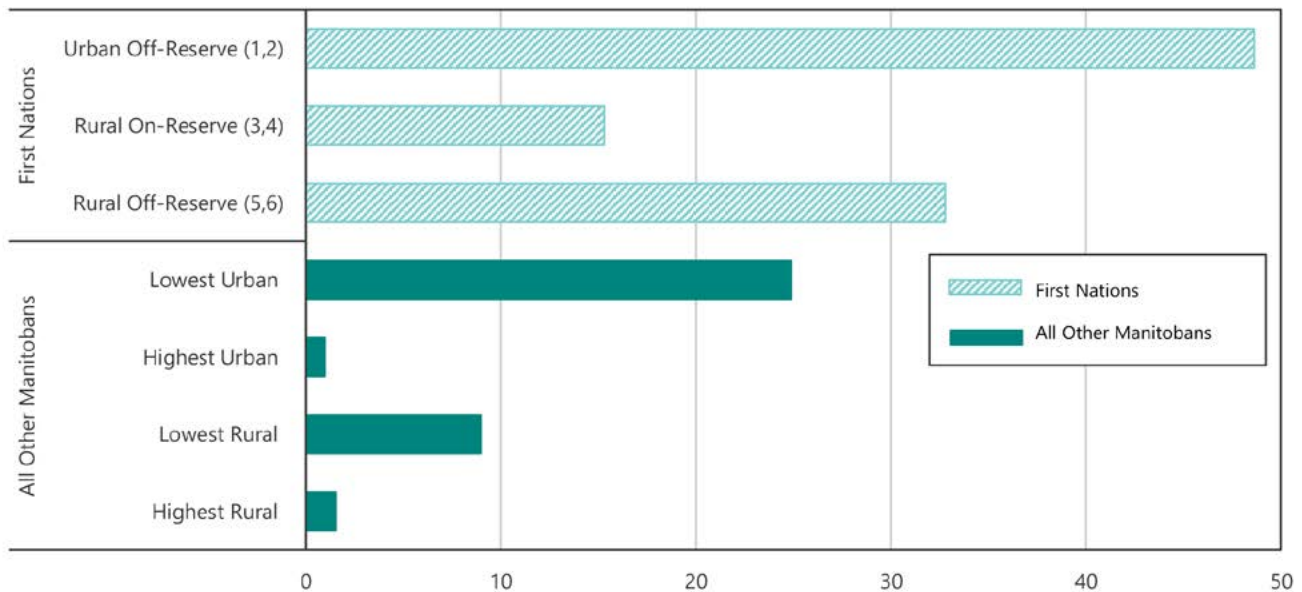
‡ - First Nations off-reserve: TCA compared to the lowest rate (IRTC)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve, Interlake Reserves (12.6%), West Region (21.7%), Independent North (11.9%), Swampy Cree (18.3%), Independent South (22.8%), Dakota Ojibway (19.8%), Southeast (17.7%) and Non-affiliated (26.7%) tribal councils had a higher percentage of children living in families receiving income assistance compared to Keewatin (9.4%), the tribal council with the lowest percentage.
- Among First Nations children living off-reserve, Swampy Cree and Southeast had a higher percentage compared to Interlake Reserves, the tribal council with the lowest percentage.
- In all TCAs, except the Non-affiliated TCA, the percentage was lower in First Nations children living on-reserve compared to off-reserve.

Figure 9.9: Percentage of Children Living in Families Receiving Income Assistance for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 100 children, age 0-17, 2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 9.9 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of children living in a family receiving income assistance was higher among First Nations children (48.6%; living off-reserve) compared to all other Manitoba children living in the lowest (24.9%) income areas and the highest (1.0%) income areas.
- Similarly, *in rural areas*, the percentages were higher among First Nations children living on-reserve (15.3%) and those living off-reserve (32.8%) compared to other Manitoba children living in the lowest (9.0%) and highest (1.5%) income areas.

How do these Results Compare with Previous Studies on Rates of Children Living in a Family Receiving Income Assistance?

We found that 24.2% of First Nations children lived in families receiving income assistance compared to 6.7% of all other Manitoban children. While there is no direct comparison to children living in families receiving income assistance, First Nations Canadians do receive income assistance at higher rates than the non-First Nations population. At a national level, 17.5% of First Nations adults (age 18-64) received income assistance in 2012 [97]. First Nations men and women living off-reserve are 2.3 and 2.8 times more likely to receive income assistance compared to non-Indigenous men and women, respectively. These disparities persist after controlling for key factors, including age, Indigenous group, education, marital status, region, and employment [97].

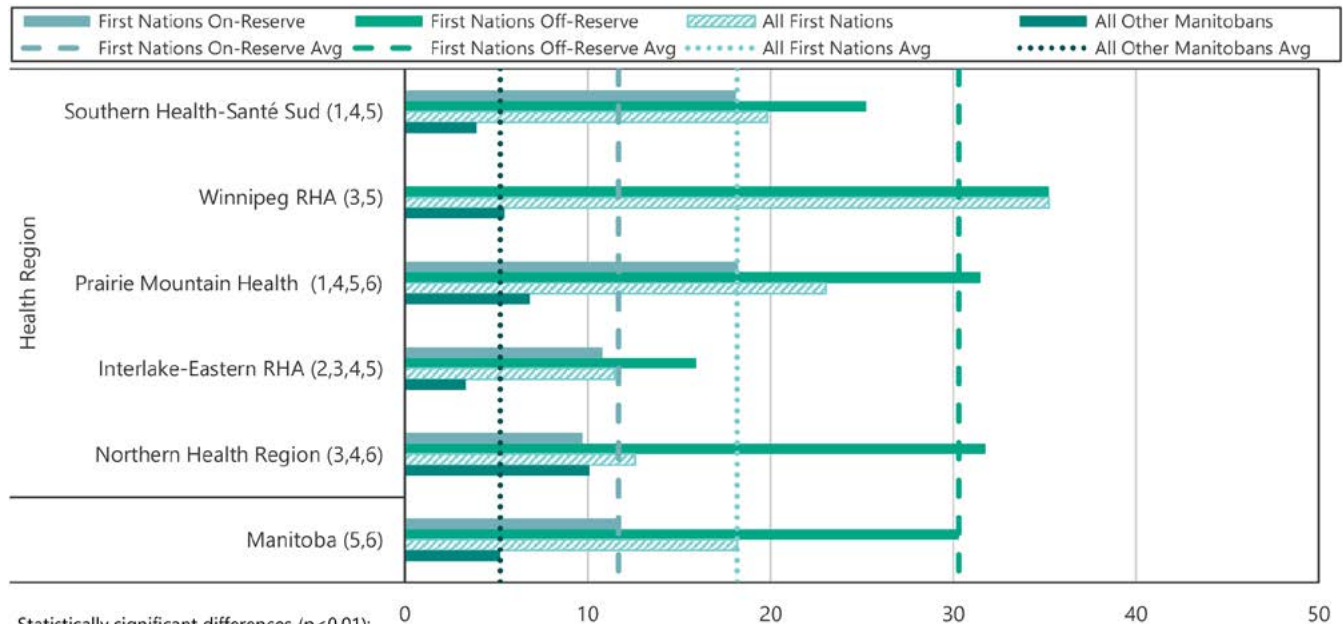
Youth (age 18-19) Receiving Income Assistance

Income assistance is a program of financial assistance for individuals who require it to meet basic personal and family needs. This indicator can be seen as a measure of poverty or economic instability. This monetary support is

allocated by the provincial government to individuals and/or their dependents who meet a standard financial need test that qualifies them for benefits. It is administered by the Employment and Income Assistance program. This indicator is defined as the percentage of youth age 18-19 who are receiving income assistance for at least one day in the fiscal year 2016/17.

Figure 9.10: Percentage of Youth Receiving Income Assistance by Health Region

Crude Rate, per 100 youth, age 18-19, 2016/17



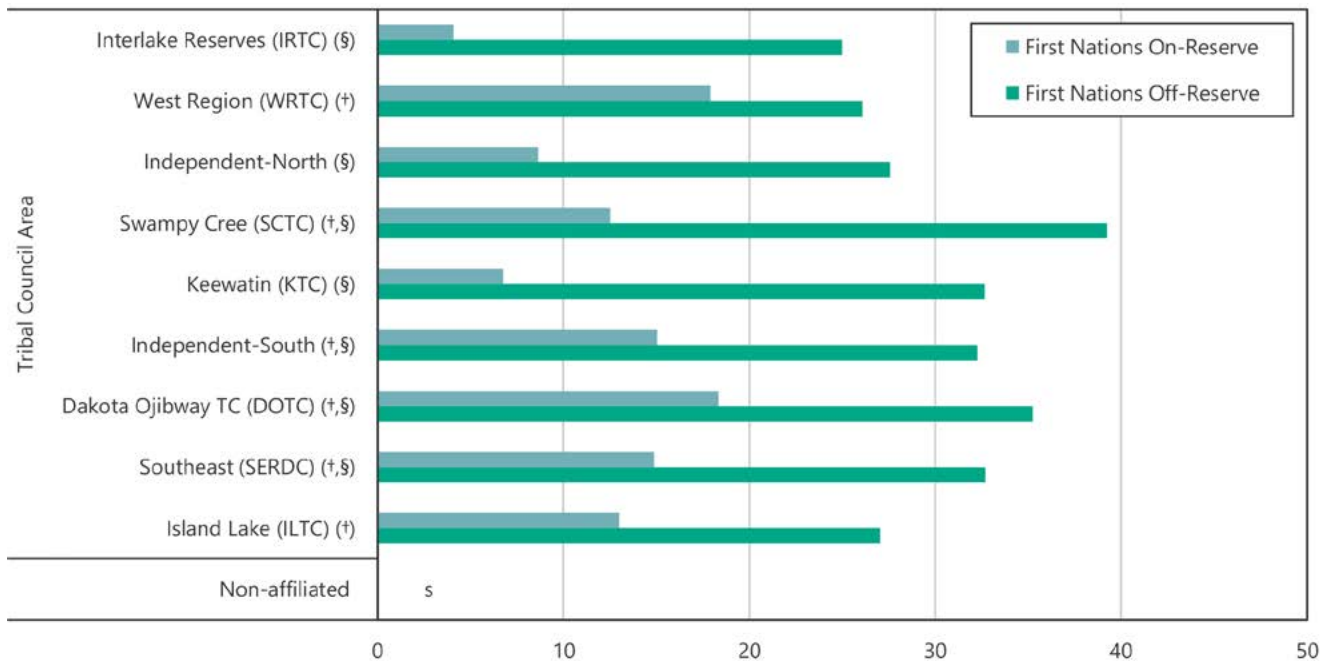
- Overall in Manitoba, the percentage of youth age 18-19 receiving income assistance was higher among First Nations (18.2%) compared to other Manitobans (5.2%). This was also true in all health regions when comparing First Nations youth to all other Manitoba youth.
- Among First Nations youth living on-reserve, the percentage receiving income assistance was lower for those living in Northern RHA compared to First Nations youth in Manitoba overall; however, the percentage was higher for Southern RHA and Prairie Mountain RHA.
- Among First Nations youth living off-reserve, the percentage was lower for those living in Southern

RHA and Interlake-Eastern RHA compared to First Nations youth in Manitoba overall; however, it was higher for Winnipeg RHA.

- The percentage of First Nations youth (both on-reserve and off-reserve) receiving income assistance was higher in Winnipeg RHA compared to First Nations youth in Manitoba overall; however, the percentage in Interlake-Eastern RHA and Northern RHA was lower than the Manitoba First Nations percentage.
- In Manitoba overall, the percentage was lower among First Nations youth living on-reserve compared to off-reserve. This was also true in Southern RHA, Prairie Mountain RHA and Northern RHA.

Figure 9.11: Percentage of Youth Receiving Income Assistance by Tribal Council Area

Crude Rate, per 100 youth, age 18-19, 2016/17

Statistically significant differences ($p < 0.01$):

+ - First Nations on-reserve: TCA compared to the lowest rate (IRTC)

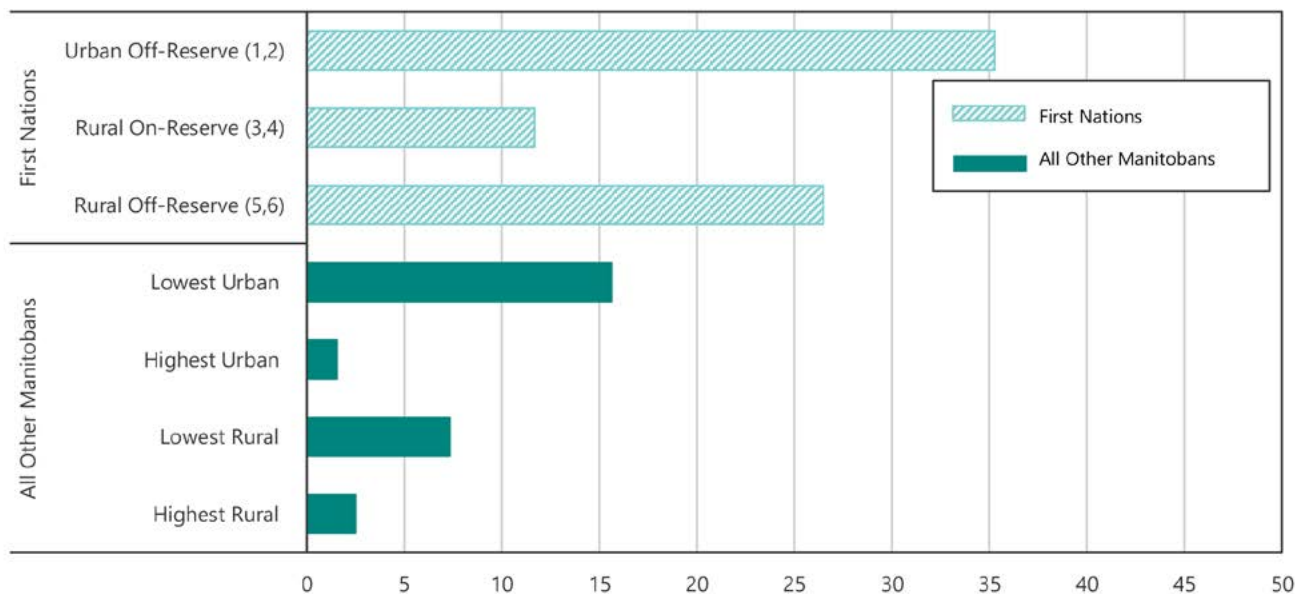
\$ - First Nations on-reserve compared to First Nations off-reserve

s - Data suppressed due to small numbers

- Among First Nations children living on-reserve, West Region (17.9%), Swampy Cree (12.5%), Independent South (15.0%), Dakota Ojibway (18.3%), Southeast (14.9%) and Island Lake (13.0%) had a higher percentage of youth receiving income assistance compared to Interlake Reserves (4.1%), the tribal council with the lowest percentage.
- In many TCAs, including Interlake Reserves, Swampy Cree, Keewatin, Independent North, Independent South, Southeast and Dakota Ojibway, the percentage of youth receiving income assistance was lower among First Nations children living on-reserve compared to off-reserve.

Figure 9.12: Percentage of Youth Receiving Income Assistance for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude Rate, per 100 youth, age 18-19, 2016/17



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 9.12 compares the percentages of First Nations youth to all other Manitoban youth who are living in areas where people have very low income and also in areas where people have very high income.

- *In urban areas*, the percentage of youth age 18-19 receiving income assistance was higher among First Nations (35.3%; living off-reserve) compared to all other Manitobans living in the lowest (15.6%) income areas and the highest (1.5%) income areas.
- Similarly, *in rural areas*, the percentages were higher among First Nations living on-reserve (11.7%) and those living off-reserve (26.5%) compared to other Manitobans living in the lowest (7.3%) and highest (2.5%) income areas.

How do these Results Compare with Previous Studies on Rates of Youth Receiving Income Assistance?

Unfortunately, no previous studies focusing specifically on First Nations youth could be found to compare rates of youth receiving income assistance. See previous section on Children Living in Families Receiving Income Assistance for some related comparisons.

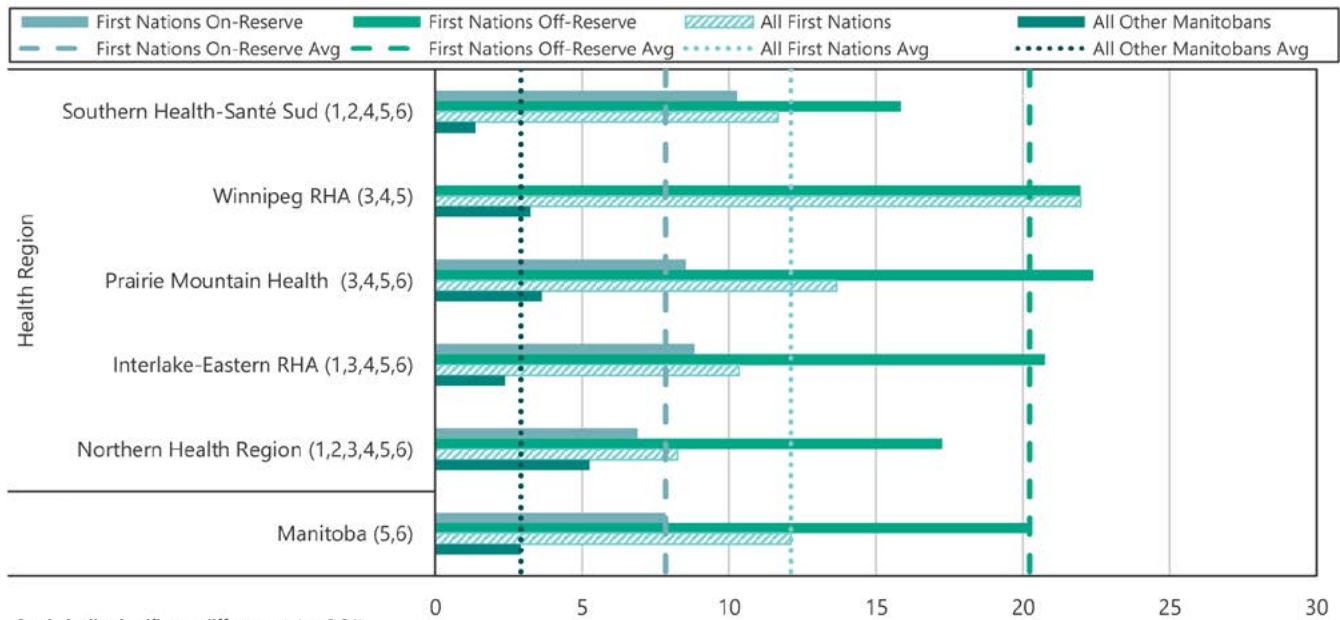
Social Housing

Social housing provides subsidized rental housing for individuals, seniors, and families. These properties are owned and operated by Manitoba Housing. This indicator represents the percentage of children living in social housing directly owned and managed by the provincial government under the Manitoba Housing [98] This type of

social housing is not found in First Nations communities (on-reserve). The provincial government manages about one third of all social housing in Manitoba, while non-profit groups or cooperatives manage the remaining two-thirds [99]. Social housing is defined as the percentage of children and youths age 0-19 who lived in social housing for at least one day in 2016/17.

Figure 9.13: Percentage of Children Living in Social Housing by Health Region

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/2017



Statistically significant differences ($p < 0.01$):

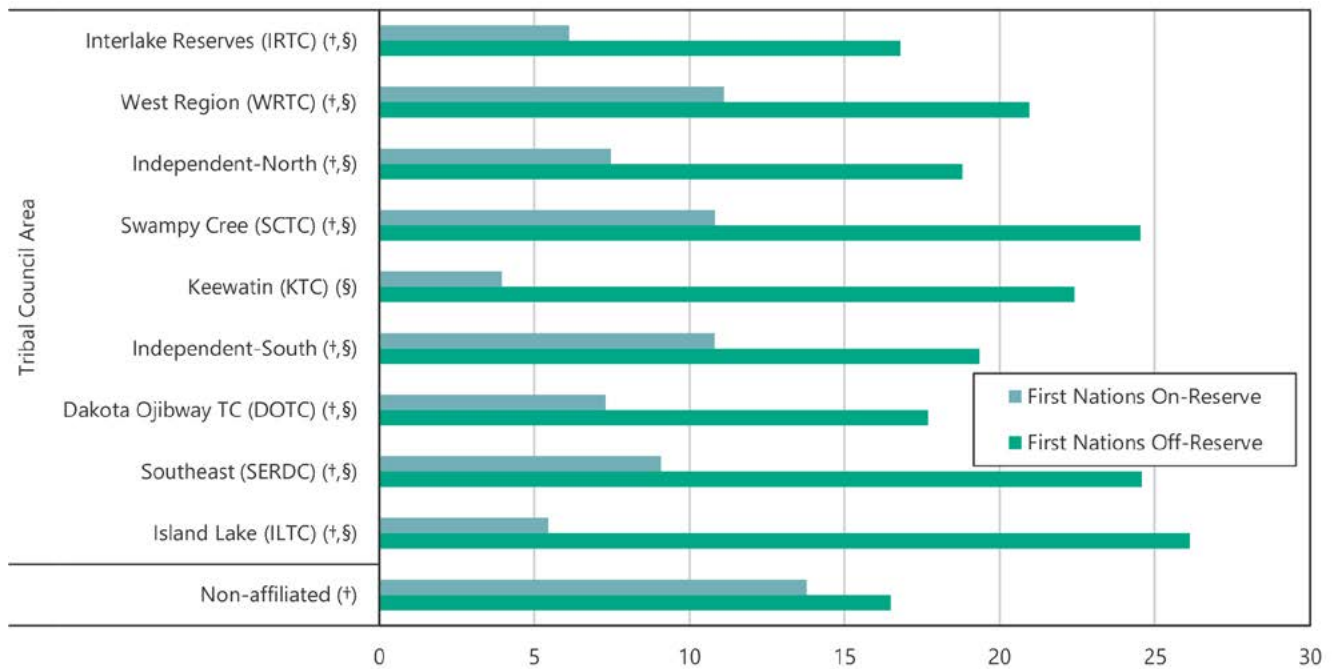
- 1 - First Nations on-reserve: RHA compared to the Manitoba average
 - 2 - First Nations off-reserve: RHA compared to the Manitoba average
 - 3 - All First Nations: RHA compared to the Manitoba average
 - 4 - All Other Manitobans: RHA compared to the Manitoba average
 - 5 - All First Nations compared to All Other Manitobans
 - 6 - First Nations on-reserve compared to First Nations off-reserve
- Avg - Manitoba average

- Overall in Manitoba, the percentage of children living in social housing was higher among First Nations children (12.1%) compared to other Manitoba children (2.9%). This was also true in all health regions when comparing First Nations children to all other Manitoba children.
- Among First Nations children living on-reserve, the percentage of children living in social housing was lower for those living in Northern RHA compared to the average Manitoba on-reserve percentage; however, it was higher in Southern RHA and Interlake-Eastern RHA.
- Among First Nations children living off-reserve, the percentage of children living in social housing was lower for those living in Southern RHA and Northern RHA compared to the average Manitoba off-reserve percentage.
- The percentage of First Nations children (both on-reserve and off-reserve) living in Winnipeg RHA and Prairie Mountain RHA living in social housing was higher compared to First Nations children in Manitoba overall; however, the percentage in Interlake-Eastern RHA and Northern RHA was lower than the Manitoba First Nations percentage.
- In Manitoba overall and in all health regions, the percentage of children living in social housing was lower among First Nations children living on-reserve compared to off-reserve.¹¹

¹¹ Provincial social housing is not built in First Nations communities (on-reserve). There is a lot of movement of youth and families from on-reserve to off-reserve. This report used the address of where youth and families were living in 2016 as recorded by the Manitoba First Nations Research File (federal file), although they might actually have been living off-reserve for part of the year. This may be the reason that some appear to be living in social housing while living on-reserve.

Figure 9.14: Percentage of Children Living in Social Housing by Tribal Council Area

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/2017

Statistically significant differences ($p < 0.01$):

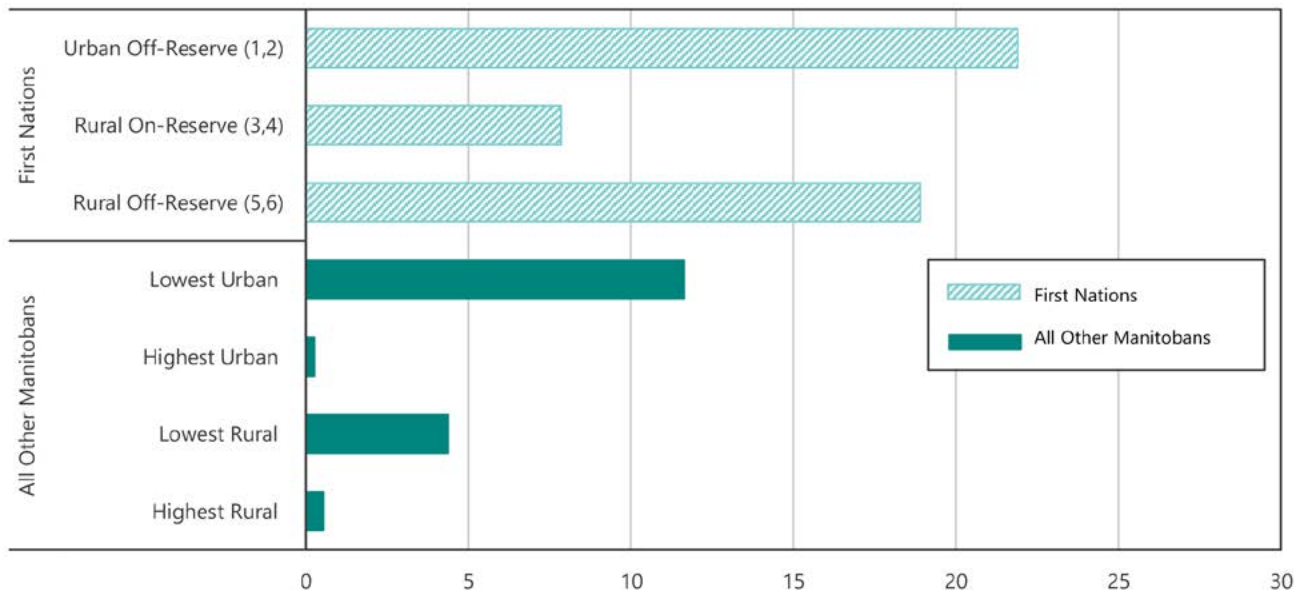
† - First Nations on-reserve: TCA compared to the lowest rate (KTC)

§ - First Nations on-reserve compared to First Nations off-reserve

- Among First Nations children living on-reserve (see footnote 11), Interlake Reserves (6.1%), West Region (11.1%), Independent North (7.5%), Swampy Cree (10.8%), Independent South (10.8%), Dakota Ojibway (7.3%), Southeast (9.1%), Island Lake (5.5%) and Non-affiliated (13.8%) TCAs had a higher percentage of children living in social housing compared to Keewatin (4.0%), the tribal council with the lowest percentage.
- In all TCAs, the percentage of children living in social housing was lower among First Nations children living on-reserve compared to off-reserve.
- There were no statistically significant differences in the percentage of children living in social housing among First Nations children living off-reserve.

Figure 9.15: Percentage of Children Living in Social Housing for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Age- and sex-adjusted rate, per 100 children, age 0-19, 2016/2017



Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 9.15 compares the percentages of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of children living in social housing was higher among First Nations children (21.9%; living off-reserve) compared to all other Manitoba children living in the lowest (11.6%) income areas and the highest (0.3%) income areas.
- Similarly, *in rural areas*, the percentages were higher among First Nations children living on-reserve (7.8%) and those living off-reserve (18.9%) compared to other Manitoba children living in the lowest (4.4%) and highest (0.5%) income areas.

How do these Results Compare with Previous Studies on Rates of Children Living in Social Housing?

Comparison data for social housing were not available. While there have been investigations into many aspects of First Nations social housing, including quality of housing [100], access to clean water in First Nations communities [101], and housing as a social determinant of health [102], there have not been any publications that compare the rates of First Nations families living in social housing to other Manitoban families.

Chapter 10:

Justice System Involvement

In this chapter, we examine indicators related to justice system involvement. The experience of colonialism has played a considerable role in the overrepresentation of Indigenous youth in the justice system [103]. Factors such as forced removal, dependence, racism and substance use have put First Nations youth at risk for justice system involvement [104]. As recently reported by Brownell et al. (2020), involvement with the child welfare system (particularly being in care) is also a strong risk factor for being accused of a crime as a youth (age 12-17) [96]. Their recent study found that **close to one-third** of all children who spent any time in care were charged with at least one criminal offense by the time they turned 17 years old.

The Knowledge Keepers affirmed that it goes back to the spirit of the child. The justice system traditionally used by First Nations people was not based on punishment but on sacred teaching and traditions. For example, traditions with umbilical cords help children to know where they came from. The Knowledge Keepers spoke of the value of language camps, and land-based and cultural activities. They feel they have a role to play in teaching their youth. The Knowledge Keepers called for changes to the justice system. Western laws are foreign to many First Nations people. They plead guilty because they do not have the money to defend themselves. First Nations people are looking for alternative ways to ensure that they live in a good way.

All indicators in the chapter are from the Prosecution Information and Scheduling Management (PRISM) database from the Manitoba Department of Justice (listed below). A definition of each indicator is provided prior to presentation of the results.

- Accused of a crime
- Victim of a crime
- Witness to a crime

Cautions regarding the data on which the results are

based: The database which the indicators are from tracks the people involved in a crime for which charges were laid. Although these indicators provide important information, it is important to be aware that these are only charges – not a guilty sentence. Therefore, adolescents accused of a crime may be acquitted in the future, or their charges may even be dropped. Also, many children who have been victimized are not reported to the police, and therefore the percentage of children who we report were victimized or witnessed a crime are likely to be undercounted. Like other services, there are many biases involved in the justice system – for example, police may be more likely to stop or arrest Indigenous youth than other Canadian youth and may be more likely to lay charges.

Notes about Statistical Significance:

Only statistically significant results are described in the text. In general, we do not comment if there is no statistically significant result.

- In graphs of tribal council areas, we compared rates of each TCA to the TCA with the lowest rates (e.g., accused of a crime) to evaluate differences between TCAs within a relevant context.
- In graphs of health regions, we did not describe results of all other Manitoba children as they are not the focus of this report.
- Differences between groups were tested at $p < 0.01$ level of significance.

Being Accused of a Crime

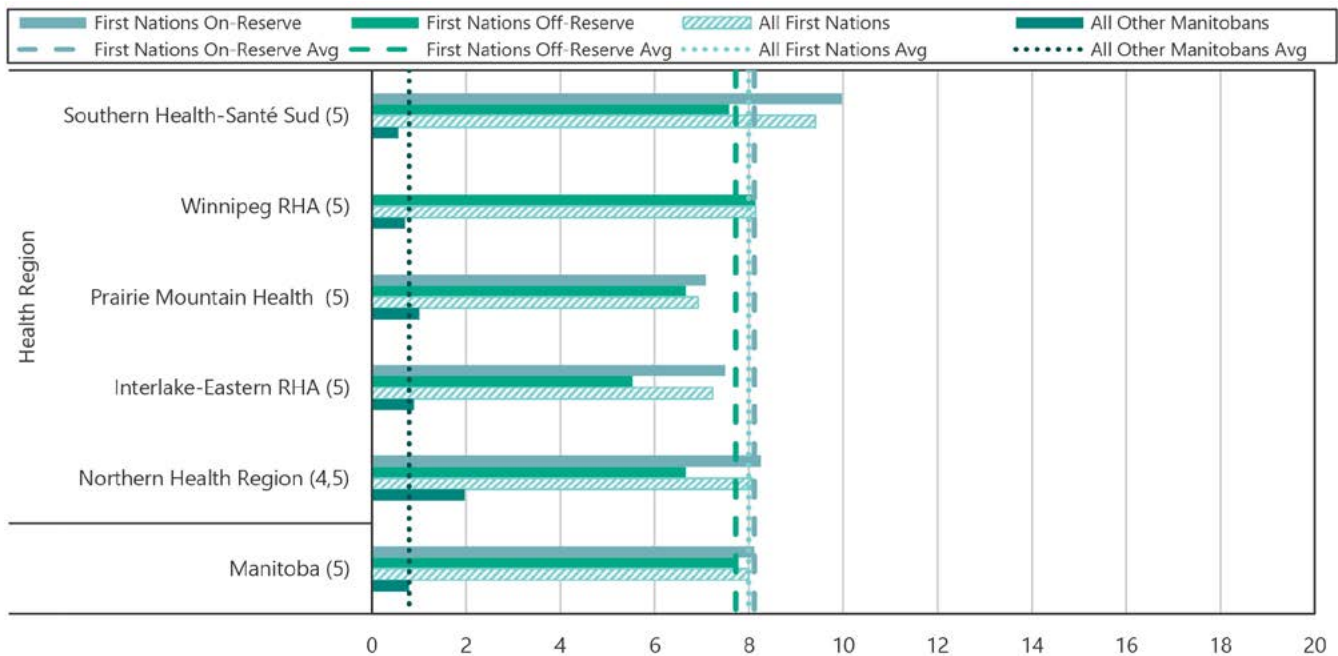
For this indicator, we calculated the percentage of adolescents and youth accused of a crime in Manitoba at least once in the fiscal year 2016/17. These accusations were tracked by Manitoba Justice's Prosecution Information and Scheduling Management (PRISM) database. The PRISM database contains criminal accusations, such as domestic trouble, sexual assault, break and enter, and possession of a firearm. All Highway Traffic Act and

Regulatory offences (e.g., fishing without a license) have been excluded because they are not considered by most people to be crimes.

The most common types of offenses are listed in Appendix 1. We calculated the percentages for adolescents age 12 and older only, because in Canada, children younger than age 12 cannot be charged under the Youth Criminal Justice Act. The data that were available at the time of these analyses did not allow us to determine if the adolescents accused were eventually sentenced.

Figure 10.1: Percentage of Adolescents Accused of a Crime by Health Region

Age- and sex-adjusted rate, per 100 adolescents, age 12-19, 2016/17



Statistically significant differences ($p < 0.01$):

4 - All Other Manitobans: RHA compared to the Manitoba average

5 - All First Nations compared to All Other Manitobans

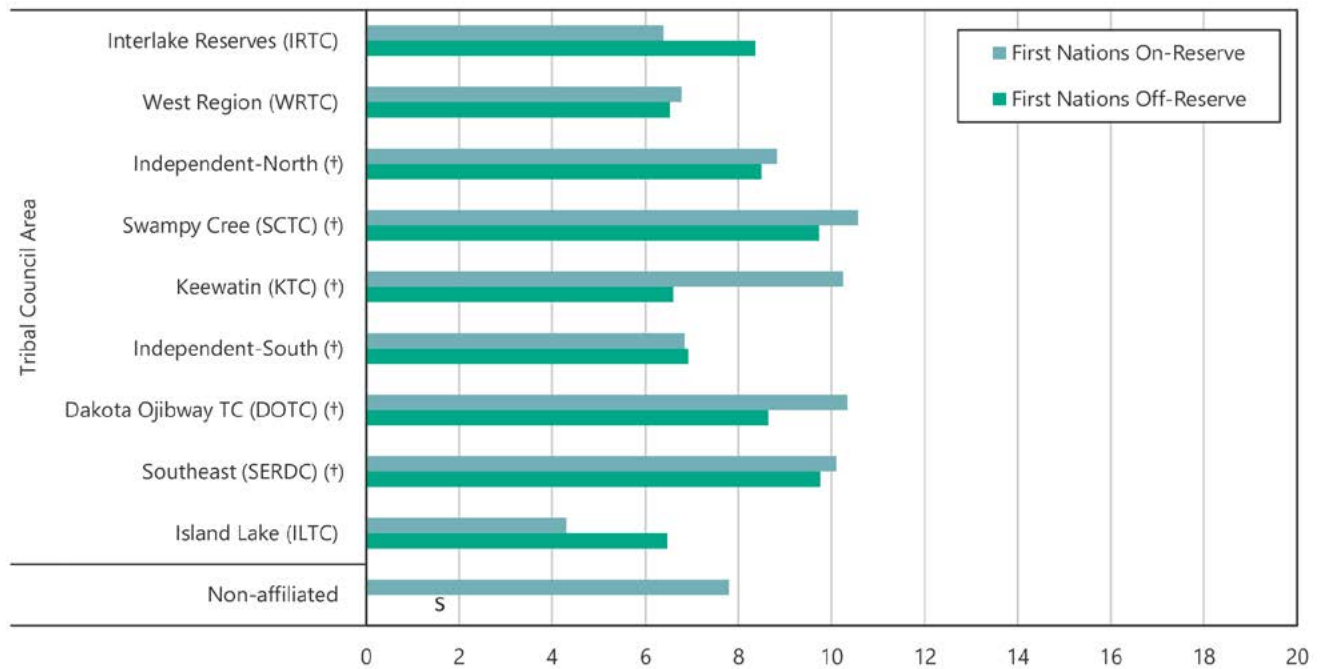
Avg - Manitoba average

- The percentage of First Nations adolescents (8.0%) who were accused of a crime was higher than the percentage of all other adolescents living

in Manitoba overall (0.8%). This was also true in all health regions when comparing First Nations adolescents to all other adolescents.

Figure 10.2: Percentage of Adolescents Accused of a Crime by Tribal Council Area

Age- and sex-adjusted rate, per 100 adolescents, age 12-19, 2016/17



Statistically significant differences ($p < 0.01$):

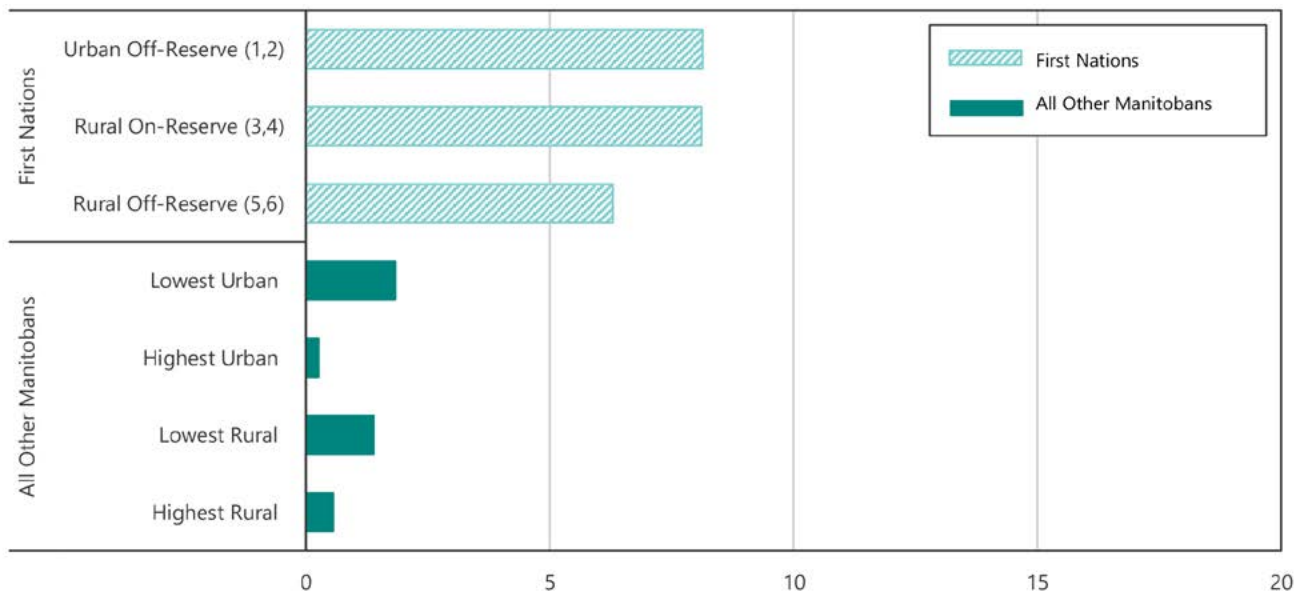
† - First Nations on-reserve: TCA compared to the lowest rate (ILTC)

s - Data suppressed due to small numbers

- Among First Nations adolescents living on-reserve, Independent North (8.8%), Swampy Cree (10.6%), Keewatin (10.2%), Independent South (6.8%), Dakota Ojibway (10.3%) and Southeast (10.1%) tribal councils had a higher percentage of adolescents accused of a crime compared to Island Lake (4.3%), the tribal council with the lowest percentage.
- No statistically significant differences were found in the percentage of First Nations adolescents who were accused of a crime between those living on- and off-reserve. Also, no differences were found across TCAs for adolescents living off-reserve.

Figure 10.3: Percentage of Adolescents Accused of a Crime by Where They Lived (Urban/Rural) and by Income Quintile

Age- and sex-adjusted rate, per 100 adolescents, age 12-19, 2016/17

Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 10.3 compares the percentages of First Nations adolescents and youth to all other Manitoban adolescents and youth who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the percentage of First Nations adolescents who were accused of a crime was higher (8.1%; living off-reserve) compared to all other Manitoba adolescents living in the lowest (1.8%) and the highest (0.3%) income areas.
- Similarly, *in rural areas*, the percentages were higher among First Nations adolescents living on-reserve (8.1%) and those living off-reserve (6.3%) compared to other Manitoba teens living in the lowest (1.4%) and highest (0.6%) income areas.

How do these Results Compare with Previous Studies about Rates of Adolescent and Youth Accusations?

Statistics Canada maintains a database of youth admissions to correctional services. The Youth Criminal Justice Act defines a youth as anyone at least 12 years of age and under 18 years of age [105]. While our study looks at accusations and not admissions to correctional services, the comparison may still offer some insights. In 2016/17,

there were 4,333 youth admitted to correctional services in Manitoba. Among these, 74% were Aboriginal youth (including First Nations youth, Metis youth and Inuit youth), and 26% were other Manitoban youth [106].

Since the introduction of the Youth Criminal Justice Act in 2003, there has been a reduction in the number of youth admitted to correctional services across Canada – from 70,245 youth admitted in 2001/02 to 19,069 youth admitted in 2016/17. This change covers all Canadian youth, yet does not tell the full story. Firstly, when we examined youth admitted to correctional services by Aboriginal identity, a dramatic disparity emerged suggesting the presence of systemic racism. Admissions for non-Aboriginal youth decreased from 42,104 to 9,605 in 2016/17, whereas admissions for aboriginal youth only decreased from 10,058 to 8,262. Secondly, this national trend did not hold true for Manitoba. In 2016/17, the number of youth admitted to correctional services in Manitoba actually *increased* from 3,351 to 4,333. Looking at the longer time period, we saw that admissions of Aboriginal youth in 2001/02 represented 67.9% of all admissions in Manitoba, but this percentage had increased to 74.2% by 2016/17 youth [106].

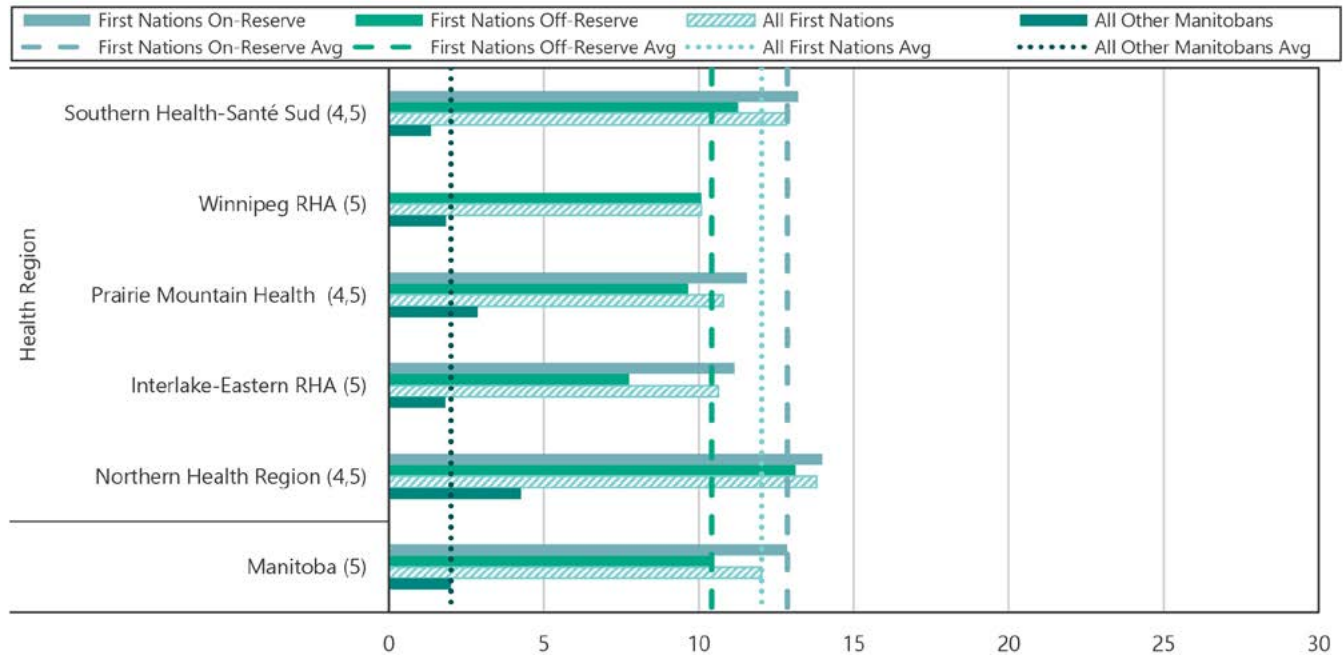
Being a Victim of a Crime

For this indicator, we calculated the rates of children and youth (age 0-19) who were victims of a reported crime in Manitoba at least once in the fiscal year 2016/17. These crimes were tracked by Manitoba Justice's Prosecution Information and Scheduling Management (PRISM)

database. Children may be victims of any number of crimes, such as being assaulted with or without a weapon, being sexually assaulted, or being threatened, or they may be victims of a broader category of crimes related to difficulties within their families. The most common crimes committed against children are listed in Appendix 1.

Figure 10.4: Rate of Children Who Were Victims of a Crime by Health Region

Age- and sex-adjusted rate, per 1,000 children, age 0-19, 2016/17



Statistically significant differences ($p < 0.01$):

4 - All Other Manitobans: RHA compared to the Manitoba average

5 - All First Nations compared to All Other Manitobans

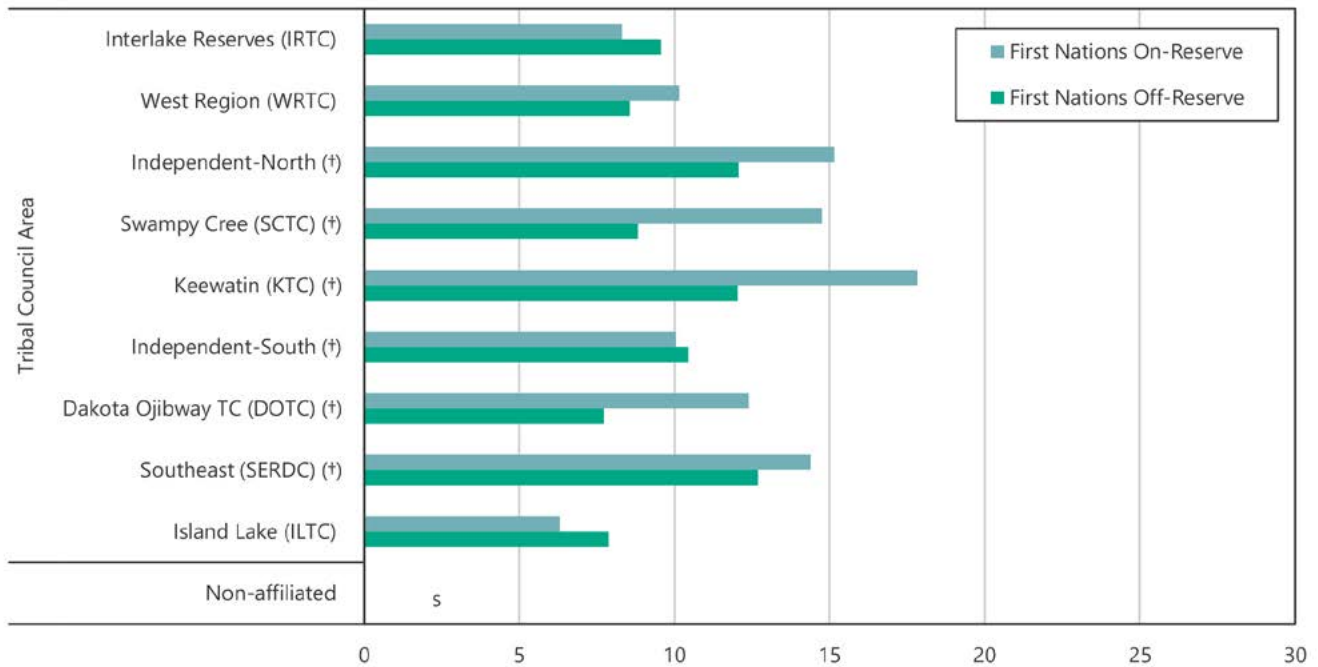
Avg - Manitoba average

- The rate of First Nations children (12 per 1,000 children) who were victims of a crime was higher than the rate for all other children (2 per 1,000) living

in Manitoba overall. This was also true in all health regions when comparing First Nations children to all other children.

Figure 10.5: Rate of Children Who Were Victims of a Crime by Tribal Council Area

Age- and sex-adjusted rate, per 1,000 children, age 0-19, 2016/17

Statistically significant differences ($p < 0.01$):

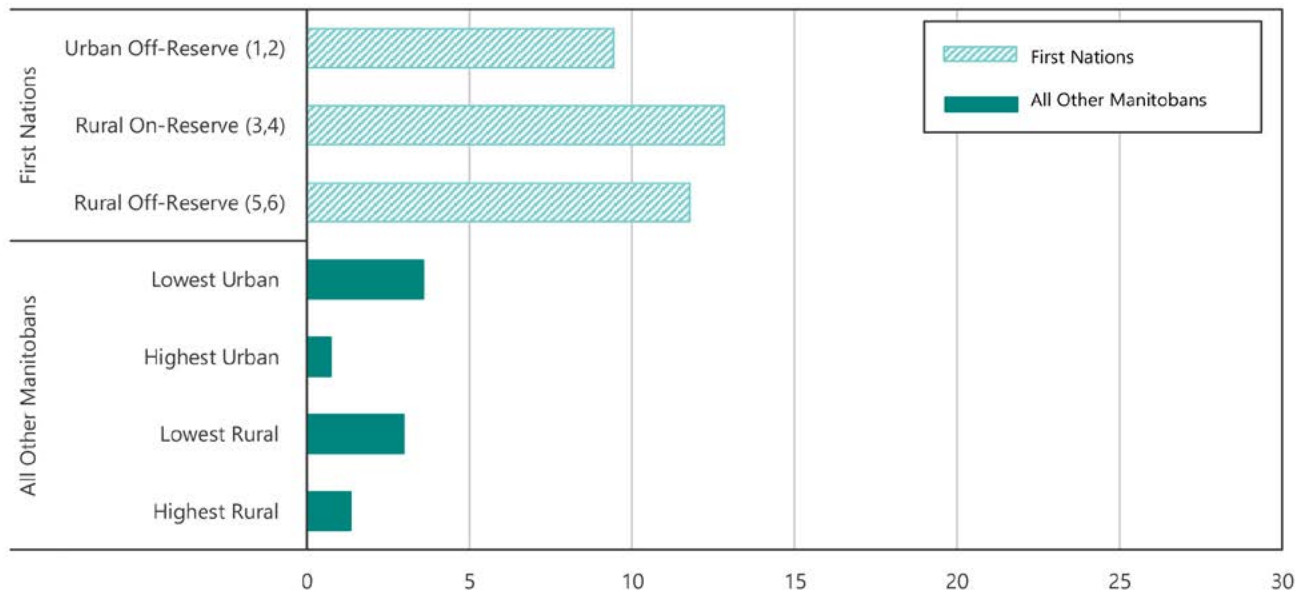
† - First Nations on-reserve: TCA compared to the lowest rate (ILTC)

s - Data suppressed due to small numbers

- Among First Nations children living on-reserve, Independent North (15 per 1,000 children), Swampy Cree (15 per 1,000), Keewatin (18 per 1,000), Independent South (10 per 1,000), Dakota Ojibway (12 per 1,000) and Southeast (14 per 1,000) had a higher rate of children who were victims of a crime compared to Island Lake (6 per 1,000), the tribal council with the lowest rate.
- No statistically significant differences were found in the rates of First Nations children who were a victim of a crime between those living on- and off-reserve. Also, no differences were found across TCAs for children living off-reserve.

Figure 10.6: Rate of Children Who Were Victims of a Crime by Where They Lived (Urban/Rural) and by Income Quintile

Age- and sex-adjusted rate, per 1,000 children, age 0-19, 2016/17

Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 10.6 compares the rates of First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- In urban areas, the rates of First Nations children who were victims of a crime were higher (9 per 1,000 children; living off-reserve) compared to all other Manitoba children living in the lowest (4 per 1,000) and the highest (1 per 1,000) income areas.
- Similarly, *in rural areas*, the rates were higher among First Nations children living on-reserve

(13 per 1,000) and those living off-reserve (12 per 1,000) compared to other Manitoba children living in the lowest (3 per 1,000) and highest (1 per 1,000) income areas.

How do these Results Compare with Previous Studies on Rates of Child Victimization?

Unfortunately, no previous studies focusing on First Nations children could be found to compare rates of children who were victims of a crime.

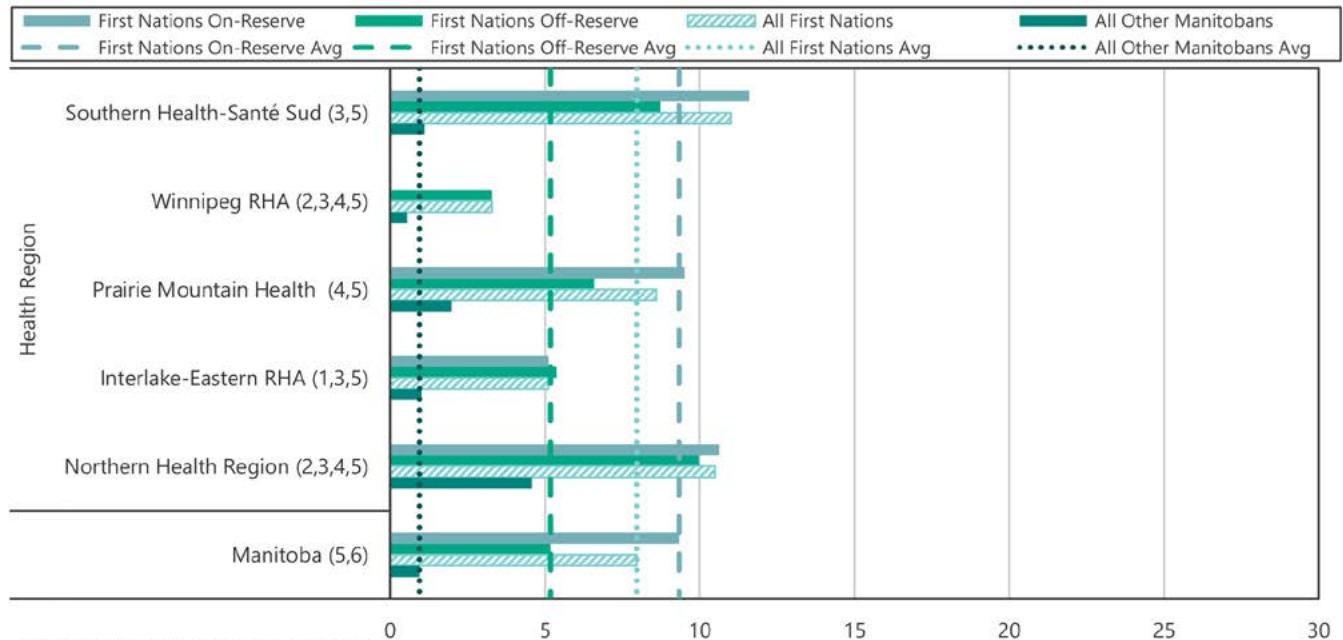
Being a Witness to a Crime

For this indicator, we calculated the rates of children who witnessed a crime in Manitoba at least once in the fiscal year 2016/17. Although the child may not have been directly affected by the crime, being exposed to criminal activity can be traumatic for the developing child [107]. The crimes were

tracked by Manitoba Justice's Prosecution Information and Scheduling Management (PRISM) database. Children may have witnessed any number of crimes, such as difficulties related to their families, assaults with or without a weapon, or hearing serious threats. The most common crimes witnessed by children are listed in Appendix 1.

Figure 10.7: Rate of Children Who Witnessed a Crime by Health Region

Age- and sex-adjusted rate, per 1,000 children, age 0-19, 2016/17



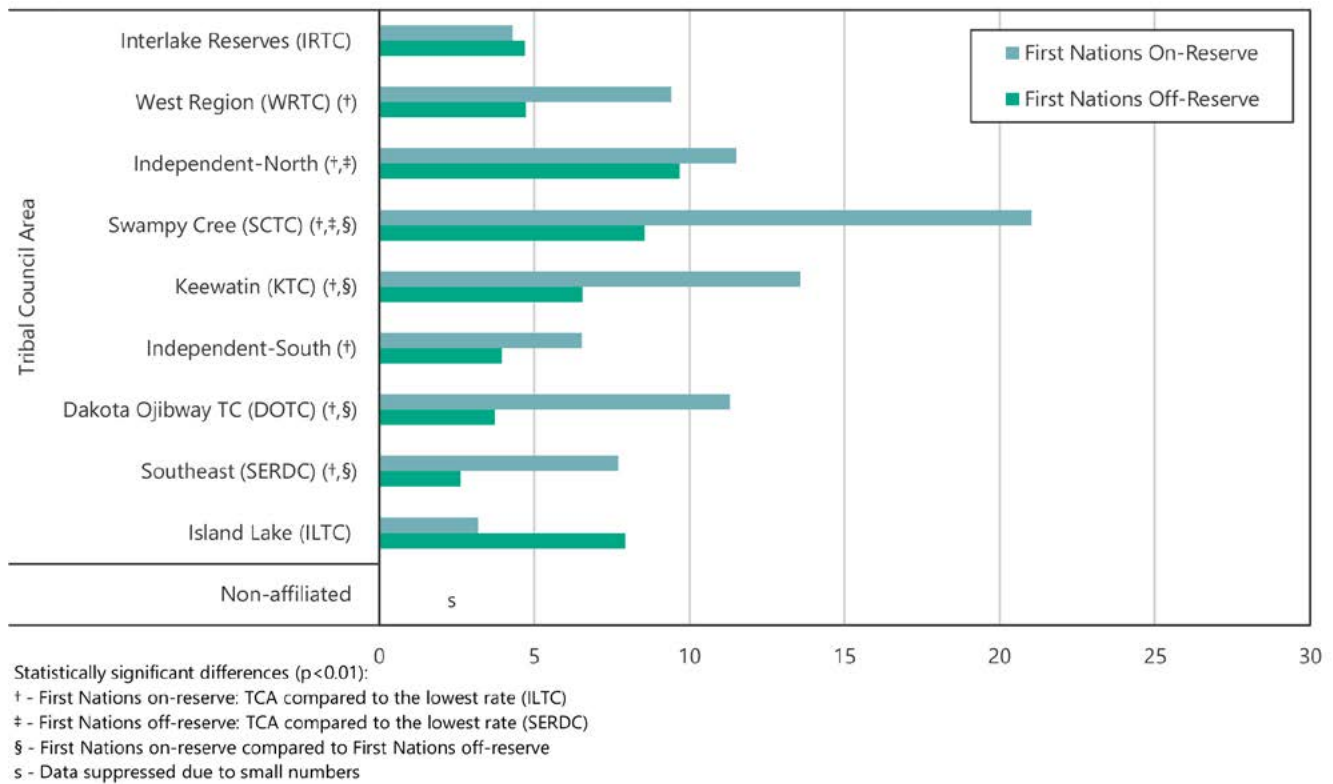
Statistically significant differences ($p < 0.01$):

- 1 - First Nations on-reserve: RHA compared to the Manitoba average
- 2 - First Nations off-reserve: RHA compared to the Manitoba average
- 3 - All First Nations: RHA compared to the Manitoba average
- 4 - All Other Manitobans: RHA compared to the Manitoba average
- 5 - All First Nations compared to All Other Manitobans
- Avg - Manitoba average

- The rate of First Nations children (1 per 1,000) who witnessed a crime was higher than the rate for all other children (0.1 per 1,000) living in Manitoba overall. This was also true in all health regions when comparing First Nations children to all other children.
- Among First Nations children living on-reserve, the rate of children who witnessed a crime was lower for those living in Interlake-Eastern RHA compared to the average Manitoba on-reserve rate.
- Among First Nations children living off-reserve, the rate of children who witnessed a crime was lower in Winnipeg RHA compared to the average Manitoba off-reserve rate; however, it was higher in Northern RHA.
- Winnipeg RHA and Interlake-Eastern RHA had a lower rate of First Nations children who had witnessed a crime compared to First Nations children in Manitoba overall; however, Southern RHA and Northern RHA had a higher rate than First Nations children in Manitoba overall.
- The rate of First Nations children who witnessed a crime was higher among those living on-reserve compared to those living off-reserve in Manitoba overall.

Figure 10.8: Rate of Children Who Witnessed a Crime by Tribal Council Area

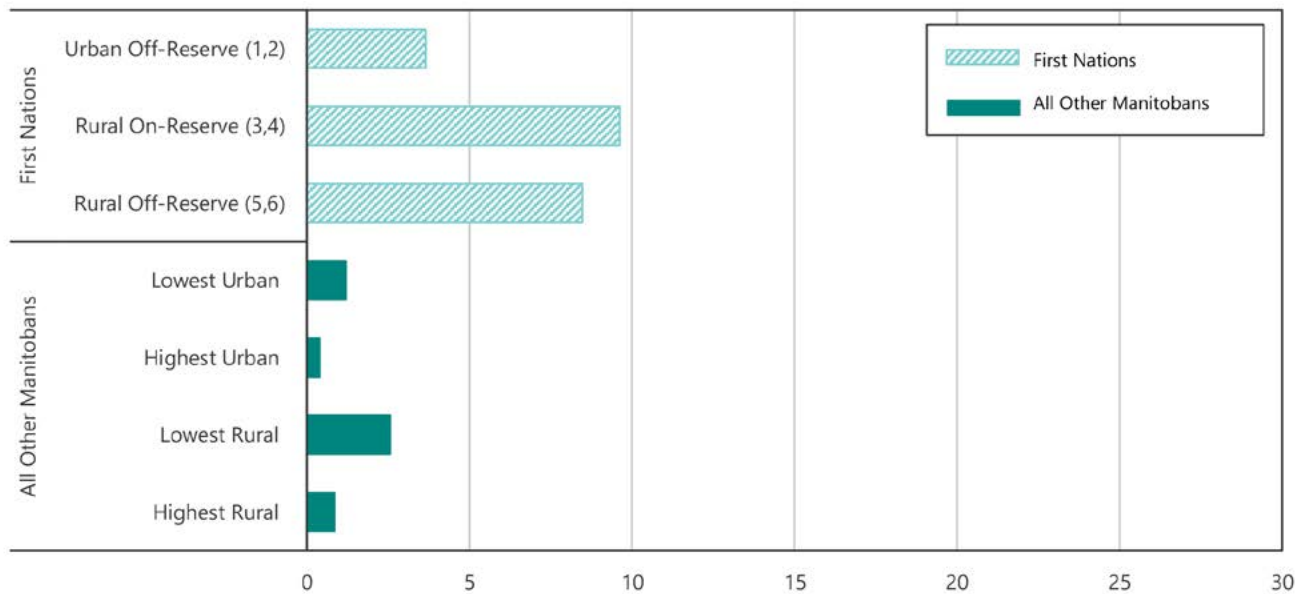
Age- and sex-adjusted rate, per 1,000 children, age 0-19, 2016/17



- Among First Nations children living on-reserve, West Region (9 per 1,000), Independent North (12 per 1,000), Swampy Cree (21 per 1,000), Keewatin (14 per 1,000), Independent South (7 per 1,000), Dakota Ojibway (11 per 1,000) and Southeast (8 per 1,000) had a higher rate of children who witnessed a crime compared to Island Lake (3 per 1,000), the tribal council with the lowest rate.
- Among First Nations children living off-reserve, Independent North and Swampy Cree had a higher rate of children who witnessed a crime compared to Southeast, the tribal council with the lowest rate.
- In Swampy Cree, Keewatin, Dakota Ojibway and Southeast TCAs, the rate of children who witnessed a crime was higher on-reserve than off-reserve.

Figure 10.9: Rate of Children Who Witnessed a Crime by Where They Lived (Urban/Rural) and by Income Quintile

Age- and sex-adjusted rate, per 1,000 children, age 0-19, 2016/17

Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile
- 5 - Rural areas: Off-Reserve First Nations compared to AOM in the lowest income quintile
- 6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile


Figure 10.9 compares First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- In urban areas, the rate of children who witnessed a crime was higher among First Nations children (4 per 1,000; living off-reserve) compared to all other Manitoba children living in the lowest (1 per 1,000) income areas and the highest (0.4 per 1,000) income areas.

- Similarly, *in rural areas*, this rate was higher among First Nations children living on-reserve (10 per 1,000) and off-reserve (9 per 1,000) compared to other Manitoba children living in the lowest (3 per 1,000) and highest (1 per 1,000) income areas.

How do these Results Compare with Previous Studies on Rates of Children Witnessing a Crime?

Unfortunately, no previous studies focusing on First Nations children could be found to compare rates of children who witnessed a crime.



Chapter 11: Mortality

In this chapter, we examine indicators related to child mortality. These indicators (listed below) are often used as an overall indication of population health. A definition of each indicator is provided prior to presentation of the results.

- Infant mortality (<1 year)
- Child mortality (1-19 years)
- Stillbirths (gestational age of 20 weeks or more)

Cautions regarding the data on which the results are based: Given that all deaths involving children are serious events, we are confident these data reflect actual mortality rates. The mortality rates presented by tribal council areas are not shown because the number of deaths are too low.

Notes about Statistical Significance:

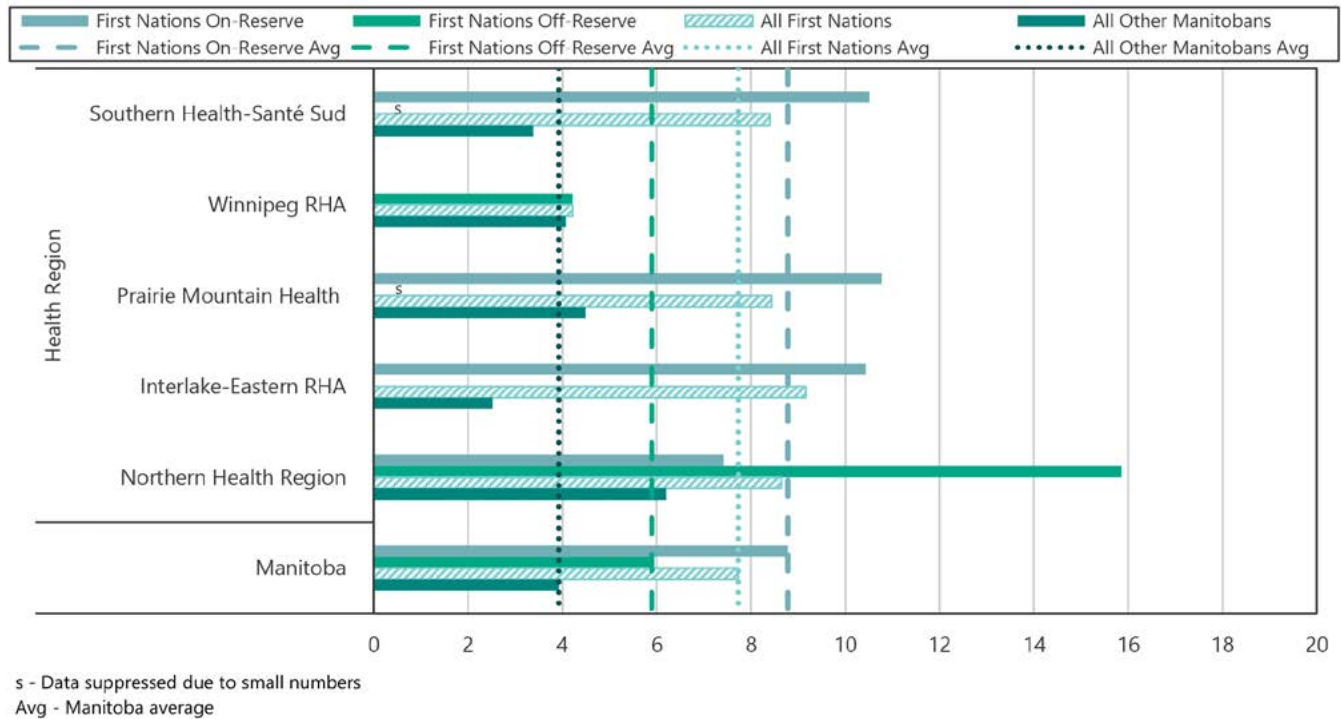
- Only statistically significant results are described in the text. In general, we do not comment if there is no statistically significant result.
- In graphs of health regions, we did not describe results of all other Manitoba children as they are not the focus of this report.
- Differences between groups were tested at $p < 0.01$ level of significance.

Infant Mortality (age <1 year)

Infant mortality is an indicator of death among infants within one year of birth. Infant mortality is often used as an indicator of the health of a population. Details describing how we created this indicator are found in Appendix 2.

Figure 11.1: Rate of Infant Mortality by Health Region

Crude rate, per 1,000 liveborn infants age <1, 2012-2016

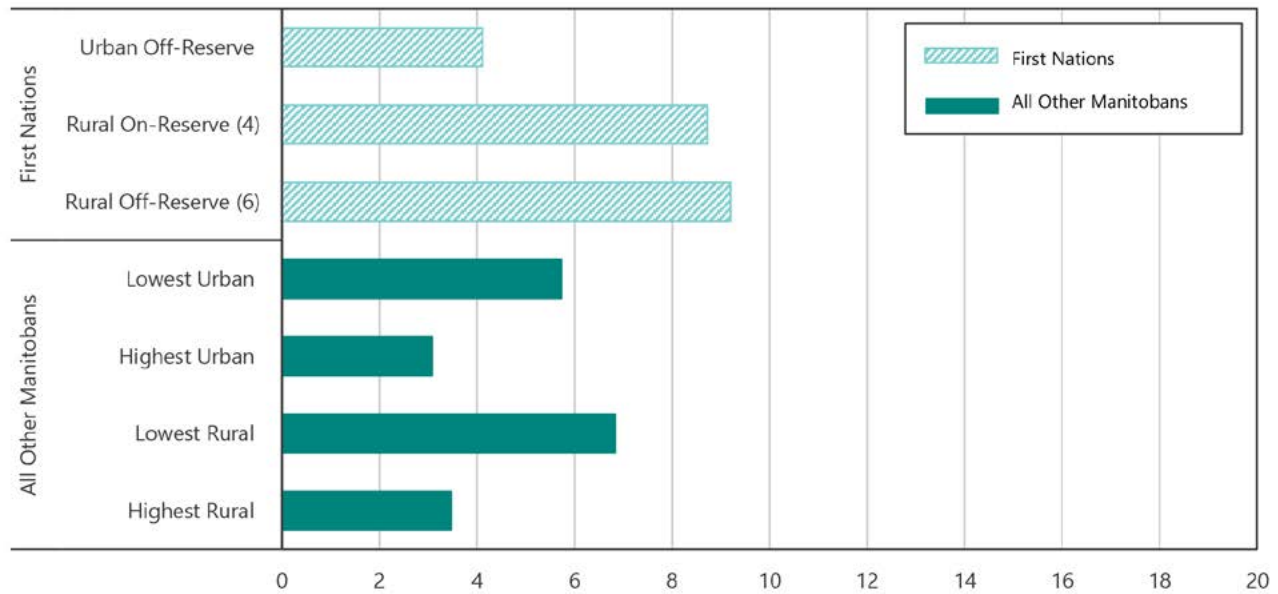


- Although the graph appears to show differences between regions, these differences were not statistically significant. The infant mortality rate among First Nations infants (8 per 1,000 infants) was not statistically different from the rate for all other infants (4 per 1,000 infants) born in Manitoba overall. The reason for this is likely due to the small number of infant deaths.

Note: We have not included a graph showing data by tribal council area because there were no statistically significant differences between the TCAs and between infants living on-reserve and off-reserve. The infant mortality rates were essentially the same as the overall Manitoba rates for First Nations infants (on-reserve: 9 per 1,000 infants; off-reserve: 6 per 1,000 infants).

Figure 11.2: Rate of Infant Mortality for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate, per 1,000 liveborn infants age <1, 2012-2016

Statistically significant differences ($p < 0.01$):

4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile

6 - Rural areas: Off-Reserve First Nations compared with AOM in the highest income quintile

Figure 11.2 compares the rates of First Nations infants to all other Manitoban infants who were living in areas where families had very low income and also in areas where families had very high income.

- *In rural areas*, the infant mortality rate was higher among First Nations infant living on-reserve (9 per 1,000 infants) and those living off-reserve (9 per 1,000 infants) compared to other Manitoba infants living in the highest (4 per 1,000) income areas. No statistically significant differences were found between First Nations infants and other Manitoba infants *in urban areas*.

How do these Results Compare with Previous Studies on Infant Mortality Rates?

Our report found only a few statistically significant differences in infant mortality, and other similar analyses have also found such differences. Our results are similar in the size of the disparity and the differences between groups were likely not statistically significant only because of the small number of children studied in this report. At the national

level (2004-2006), the mortality rate of Aboriginal infants has been found to be 9.6 per 1,000 children and the mortality rate of non-Aboriginal children was 4.4 per 1,000 [108].

Chen and colleagues compared the rates of infant death in the first year of life between First Nations and non-Aboriginal populations in Quebec (1996-2010). In the First Nations population, there were 7.3 deaths in 1,000 infants. In the non-Aboriginal Quebec population, there were 4.1 deaths in 1,000 infants. In this study, infant deaths were 1.8 times more likely in the First Nations group [109].

Our analysis did not find a significant difference when comparing First Nations Manitobans living on-reserve to those living off-reserve. This was not the case in an analysis conducted by Heaman and colleagues. When comparing rates of infant mortality between on- and off-reserve First Nations children from 1991-2000, the infant mortality rate found was 10.7 deaths per 1,000 births on-reserve and 9.6 deaths per 1,000 births off-reserve. The odds of infant death were 1.3 times higher on-reserve compared to off-reserve when accounting for the effect of infant sex, age of mother, marital status, parity, and residence (rural versus urban) [33].

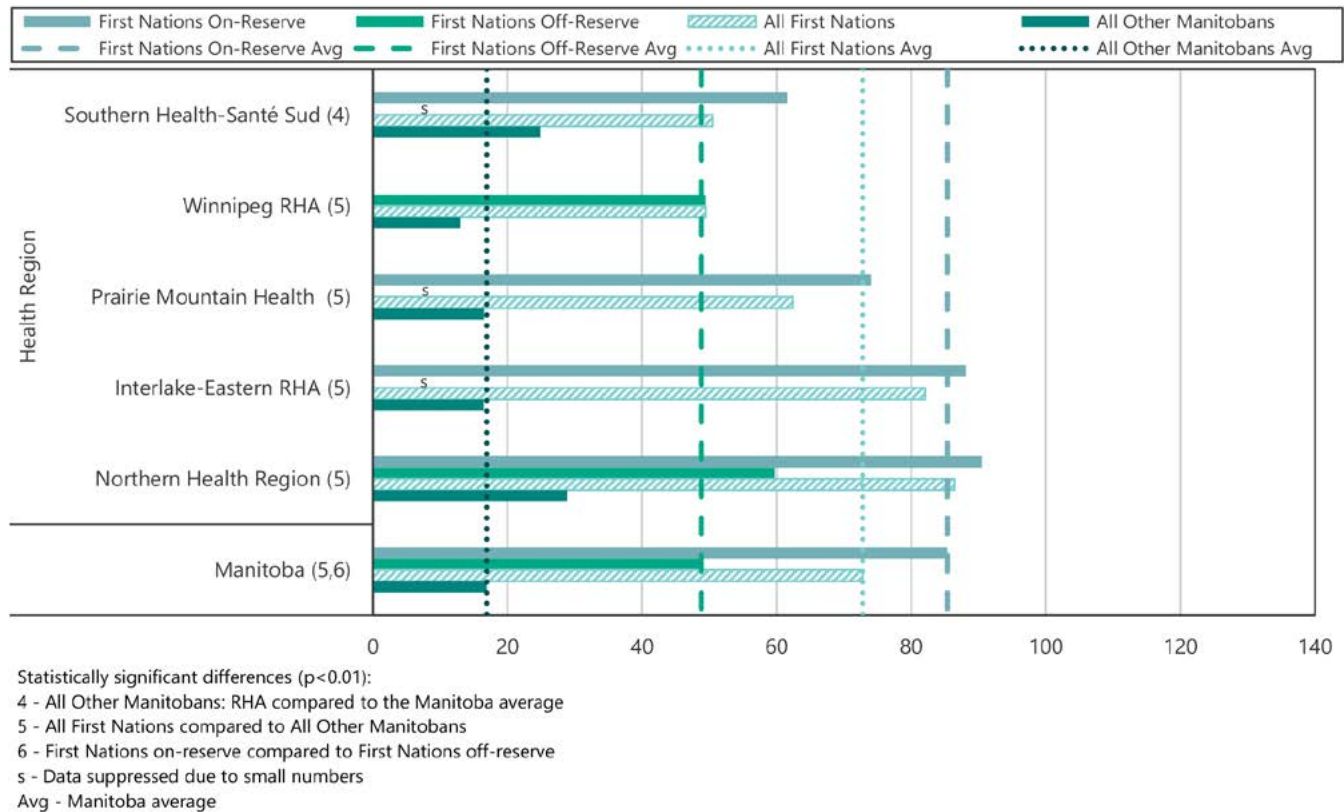
Child Mortality (age 1-19)

Child mortality is defined as the death of children age 1-19 years, as reported in the Vital Statistics database. We

report the child mortality rate as the number of deaths over a five-year period per 100,000 children (age 1-19). More details describing how we created this indicator are found in Appendix 2.

Figure 11.3: Child Mortality by Health Region

Age- and sex-adjusted rate, per 100,000 children age 1-19 years, 2012-2016

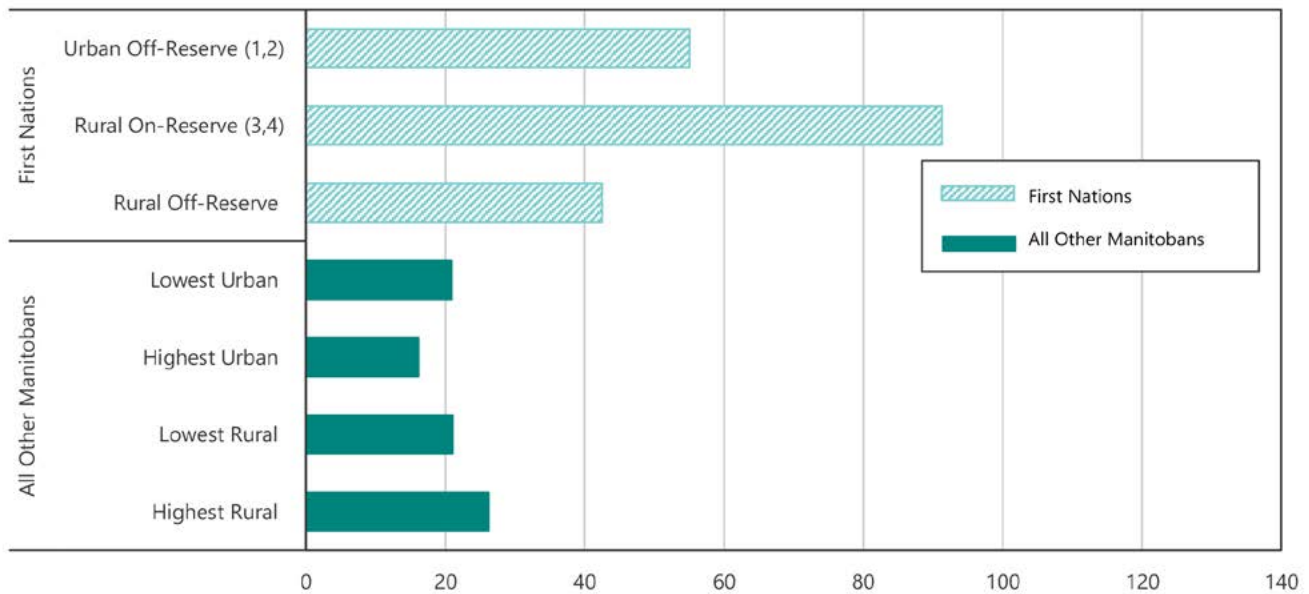


- The child mortality rate among First Nations children (73 per 100,000 children) was higher than among all other children (17 per 100,000) living in Manitoba overall. Likewise, the rate was higher for First Nations children in all health regions with the exception of Southern RHA.
- The child mortality rate was higher among First Nations children living on-reserve (85 per 100,000) compared to off-reserve (49 per 100,000) in Manitoba overall.

Note: We have not included a graph by tribal council area because there were no statistically significant differences in child mortality rates across the TCAs and between children living on-reserve and off-reserve in each TCA. The child mortality rates for the TCAs are essentially the same as the overall First Nations Manitoba rate.

Figure 11.4: Child Mortality for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate, per 100,000 children age 1-19 years, 2012-2016

Statistically significant differences ($p < 0.01$):

- 1 - Urban areas: Off-reserve First Nations compared to AOM in the lowest income quintile
- 2 - Urban areas: Off-Reserve First Nations compared to AOM in the highest income quintile
- 3 - Rural areas: On-Reserve First Nations compared to AOM in the lowest income quintile
- 4 - Rural areas: On-Reserve First Nations compared to AOM in the highest income quintile

Figure 11.4 compares the rates for First Nations children to all other Manitoban children who were living in areas where families had very low income and also in areas where families had very high income.

- *In urban areas*, the child mortality rate was higher (55 per 100,000 children; living off-reserve) compared to all other Manitoba children living in the lowest (21 per 100,000) and the highest (16 per 100,000) income areas.
- Similarly, *in rural areas*, the rate was higher among First Nations children living on-reserve (91 per 100,000) compared to other Manitoba children living in the lowest (21 per 100,000) and highest (26 per 100,000) income areas. No statistically significant differences were found between First Nations children living off-reserve and other Manitoba children *in rural areas*.

How do these Results Compare with Previous Studies on Infant Mortality Rates?

A recent study examined mortality rates among First Nations children and stratified them by age and sex [110]. The largest differences were found in the 15- to 19-year-olds. The mortality rate of 15- to 19-year-old First Nations boys was more than double the Canadian average (123.22 per 100,000 and 46.9 per 100,000, respectively). This difference was larger for girls in the age 15-19 group (92.85 per 100,000 for First Nations girls versus the Canadian average of 24.72 per 100,000) [110].

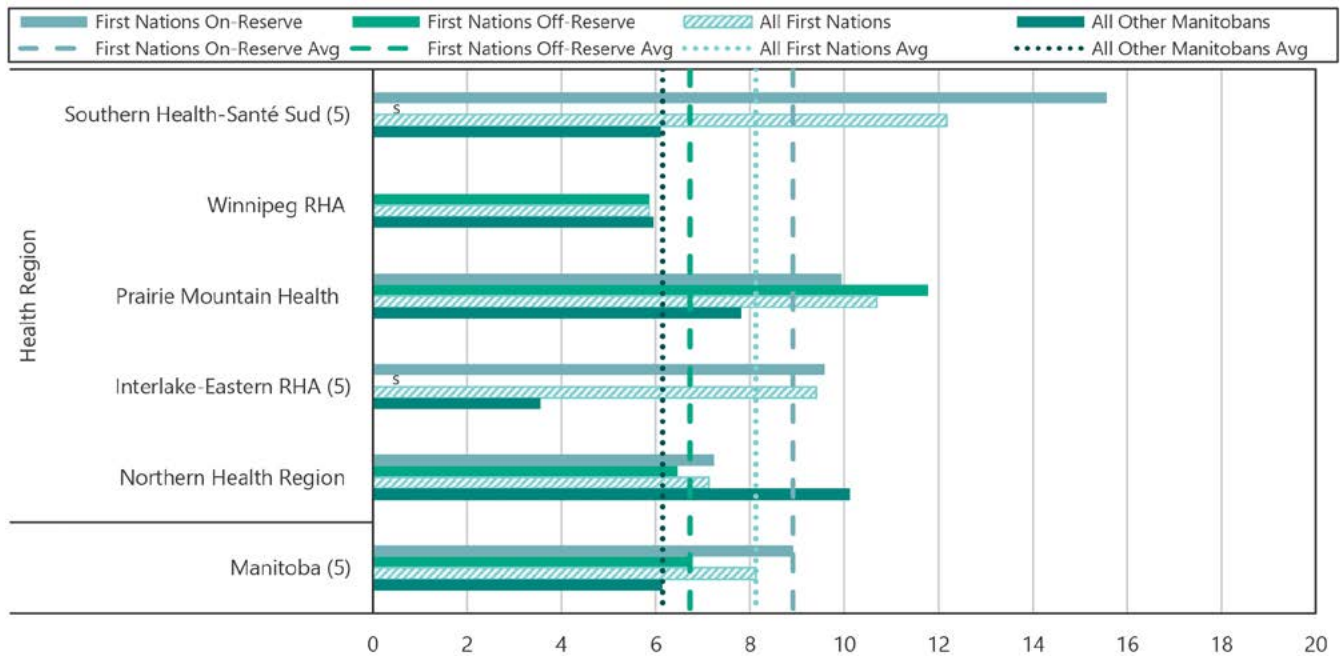
Stillbirths

A stillbirth is defined as a fetal death where the fetal birth weight was at least 500 grams, or the gestational age was

20 weeks or more. In this report, the rate of stillbirths was calculated per 1,000 births over a five-year period. Details describing how we created this indicator are found in Appendix 2.

Figure 11.5: Stillbirth Rates by Health Region

Crude rate, per 1,000 total births, 2012/13-2016/17



Statistically significant differences ($p < 0.01$):

S - All First Nations compared to All Other Manitobans

s - Data suppressed due to small numbers

Avg - Manitoba average

- The rate of stillbirths among all First Nations infants (8 per 1,000 infants) was higher than among all other infants (6 per 1,000 infants) living in Manitoba overall. Likewise, the rate was higher for First Nations infants in Southern RHA and Interlake-Eastern RHA.
- No other statistically significant differences were found.

Note: We have not included a graph by tribal council areas because there were no statistically significant differences in stillbirths across TCAs and between on-reserve and off-reserve. The stillbirth rates for the TCAs were essentially the same as the overall Manitoba rates for First Nations infants (on-reserve: 9 per 1,000; off-reserve: 7 per 1,000).

Figure 11.6: Stillbirth Rates for First Nations by On- and Off-Reserve and for All Other Manitobans by Income Quintile

Crude rate, per 1,000 total births, 2012/13-2016/17

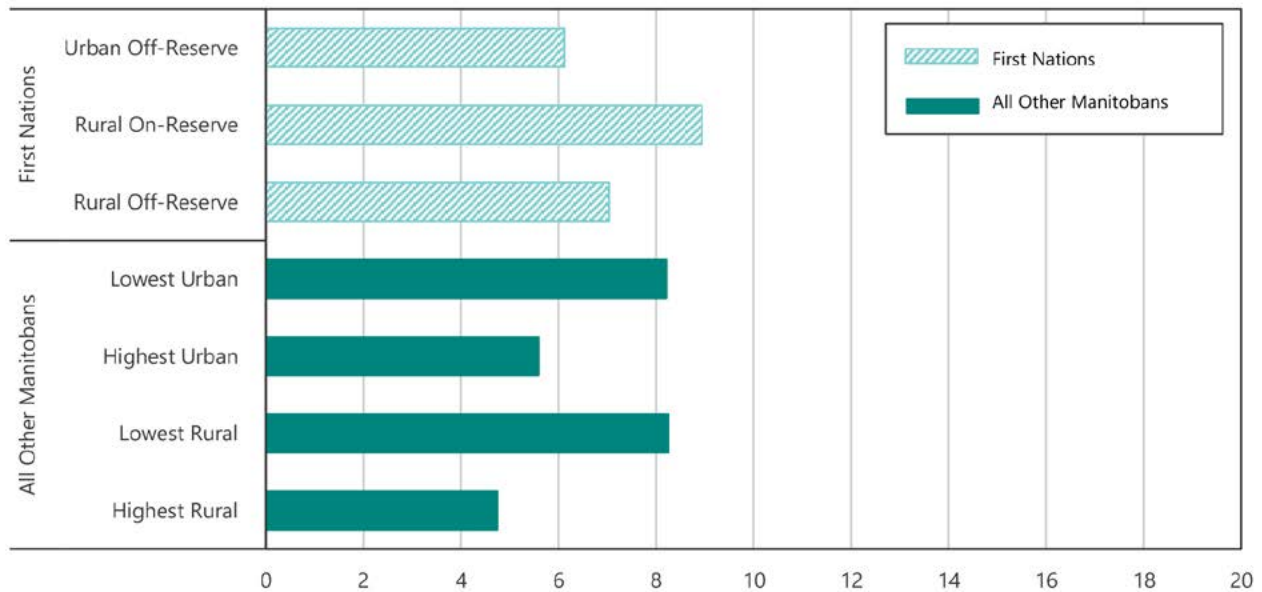



Figure 11.6 compares the rates of stillbirths of First Nations infants to all other Manitoban infants who were living in areas where families had very low income and also in areas where families had very high income.

- No statistically significant differences were found when comparing rates of stillbirths between First Nations infants and other Manitoba infants living in both low and high income areas.

How do these Results Compare with Previous Studies of Stillbirth Rates?

Sheppard and colleagues at Statistics Canada reported stillbirth rates from 2004 to 06 of 5.6 stillbirths per 1,000 births for non-Aboriginal Canadians and 9.0 per 1,000 for Aboriginal Canadians [108]. Rates of stillbirths in Quebec from 1996 to 2010 showed a similar pattern, with 3.9 stillbirths per 1,000 births for the non-Aboriginal population and 6.7 stillbirths per 1,000 births for the First Nations population. The risk of stillbirths among First Nations was 1.73 times that of the non-Aboriginal Quebec population [109].



Chapter 12: Discussion

Highlights of this Report and Relevance of the Findings

This report examined indicators related to the health and well-being of First Nations children living in Manitoba. Here we will present some of the main highlights and discuss their relevance to the lives of First Nations children. We have included some key messages from the Knowledge Keepers, the Elders from Anishinaabe, Cree, Anishininew, Dakota and Dene Nations whose experience and knowledge helped guide the report.

Large disparities between First Nations children and other Manitoba children were found in birth outcomes, physical health, mental health, health & prevention services, education, social services, justice system involvement and mortality. Of particular concern, child mortality rates, including suicide rates, were significantly higher among First Nations children compared to other Manitoba children. For many indicators, First Nations children living off-reserve fared better than those living on-reserve. When comparable studies were found, our results were usually consistent with previous research. For example, a recent international paper summarizing Indigenous studies in 23 countries found higher rates of infant and maternal mortality, child malnutrition and obesity and lower levels of economic status and educational attainment among Indigenous people compared to the general population.

There was consensus among the Knowledge Keepers that these inequities were not surprising, as they have existed historically since colonization and continue to exist in present day society. One of the Knowledge Keepers indicated that the numbers in the report were the saddest and most dismal numbers he had ever seen. The Knowledge Keepers referenced the Hawthorne Report (1967) which was a study commissioned by the federal government to assess the conditions of status “Indians” in Canada. Over 50 years ago, the Hawthorne report uncovered disparities in many areas of Indigenous people’s lives and discussed factors that contribute to them. The present report verifies what we have known for a long time and provides a very strong message that things have not improved over time – and therefore, change is imperative. The legacy of colonization has harmed and continues to harm the well-being and family support systems of First Nations. While the results are sad and disheartening to see, it is crucial that they be clearly identified and exposed so that Manitobans and policymakers can open their eyes and be motivated and pressured in many cases to initiate change.

The inequities in health and social outcomes between First Nations children and other children in Manitoba call for fundamental changes to our practices, policies, systems and society as a whole. Discussing the findings of this report and sharing them widely is critical, as First Nations continue to suffer because of the deficits in Canadian policies and systems. The Knowledge Keepers were adamant that this report not be one of the many reports that have sat on the shelf, been forgotten and not acted upon. Everyone must work diligently to keep it in the forefront because it concerns our children – and our future. The TRC Calls to Action outline what is required [1]. First Nations people have the capacity, the will and desire to initiate change and they can lead the work to address the inequities and deficits that persist. For too long, others have made decisions for First Nations and their ways have often not been valued or recognized. A Knowledge Keeper stated that “we allow these things to happen and don’t make a lot of noise. And when we do, it’s a like lightning bolt that flashes but does not stick around”. The message is that this report must make a difference.

The Knowledge Keepers clearly stated the need to bring their children home, which means bringing the children back to the traditional ways so that they can be grounded in their identity as First Nations. It has been shown that when people engage in their Indigenous culture, they have enhanced health, improved educational and employment outcomes, and lower rates of recidivism [111]. First Nations children need to reconnect to the land, learn their language, and learn the ceremonies and ancestral ways that will strengthen them and provide them with the skills to cope in the modern world. They need to learn the sacred teachings and undergo the rites of passages to understand the sacredness of life, water and identity. Once they are grounded and have gained the strength of their cultural identity, then they can begin healing and begin to mitigate the trauma that has impacted them. Young people need to learn the traditional ways, learn from their Elders and extended family, and work hand in hand with the Western ways that are good and benefit their People.

It is also important to continually work on providing accurate and timely information to monitor the progress being made. Data are crucial for showing, in an undeniable way, the reality of life for First Nations children in Manitoba. Where the numbers were large enough, data were presented by tribal council areas. This enables First Nations communities to better understanding the health of the children in their TCAs and to learn from other communities where results may be stronger. There is a lot to learn by looking at the findings in this report; however, there were some limitations to the data used in this report. For example, a shortcoming that will need to be addressed in future reports is that we were not able to include many strength-based indicators; other than educational outcomes, breastfeeding and vaccination, the indicators focused on deficits. Also, it was not always possible to determine if the percentages and rates calculated from the data were lower or higher than

in reality. Because of lack of services and (in some areas) incomplete data, it is likely that many health problems are underestimated in this report – particularly for First Nations children living on-reserve. Efforts at collecting and analyzing data that are reliable and most relevant to First Nations should continue and efforts to ensure that First Nations have control over their data are also important.

Summary & Discussion of Findings by Chapter

Birth Outcomes: First Nations infants had higher rates of preterm births, large-for-gestational-age infants and newborn readmissions to hospital and lower rates of breastfeeding initiation compared to other Manitoba infants. The breastfeeding initiation rate was lower on-reserve compared to off-reserve. Close to one-third of women had no year-round access to services to assist with giving birth. The teen pregnancy and birth rates were higher among First Nations teens compared to all other Manitoba teens, and these rates were also higher on-reserve compared to off-reserve. Interestingly, we found that the rate of small-for-gestational-age infants was lower among First Nations compared to all other Manitobans.

The indicators for birth outcomes were derived from hospital data, which are fairly complete in the Repository, and this gives us confidence that the results reflect the reality of births in Manitoba. However, it is important to keep in mind that if births occurred outside the hospital, we would not have captured them in our analyses. It appears that First Nations infants are, on average, larger at their gestational age compared to other Manitoba infants. Other studies have shown that the rates of gestational diabetes among First Nations women in Manitoba are four times higher than among non-Indigenous women [34] and this could potentially help to explain this finding, and may also explain why we found that there are fewer First Nations infants who are smaller at their gestational age.

Our study demonstrated that access to services to give birth is a problem for many First Nations, as only 5% of First Nations women gave birth within 50 km of their home community. The Knowledge Keepers have noted that there may be more supports for breastfeeding off-reserve than on-reserve, and this might explain why there are higher breastfeeding rates off-reserve.

Physical Health: First Nations children had higher rates of diabetes, dental surgeries, lower respiratory tract infections and developmental disabilities compared to all other Manitoba children. However, First Nations children also had lower rates of asthma and otitis media compared to other children. Lower rates of asthma, lower respiratory tract infections, otitis media, atopic dermatitis and developmental disabilities were diagnosed on-reserve compared to off-reserve. However, rates of dental surgeries were higher among children living on-reserve compared to off-reserve.

The largest disparity between First Nations preschool children and all other preschool children was for dental surgeries, which are how severe early childhood caries are treated. The Canadian Paediatric Society considers the poor oral health of Indigenous children of Canada to be a major health concern [49]. The finding that the prevalence of asthma and otitis media was lower among First Nations children than other children is inconsistent with previous research.

We found that many physical health conditions were more prevalent among First Nations children living off-reserve compared to on-reserve. The reason for this may be two-fold: first, many of the data collected from people who live in the north and in First Nations communities are incomplete, and second, access to primary care services in the north and in many First Nations communities is limited. For example, the Knowledge Keepers told the research team that screening and diagnostic services for developmental disability are lacking in First Nations communities. They felt that the rates of developmental disability are likely higher in reality than what we present in this report. Previous research highlights several barriers to screening and diagnosing developmental disabilities, including less help-seeking by Indigenous parents, lack of cultural sensitive diagnostic tools, cultural and languages barriers and the historical oppression and the legacy of residential schools [57]

Mental Health: First Nations children had higher rates of attention-deficit hyperactivity disorder (ADHD), substance use disorders, schizophrenia, suicide attempts and suicidal deaths compared to all other Manitoba children. Rates of ADHD and mood/anxiety disorders were lower on-reserve compared to off-reserve; however, the rate of hospitalization for suicide attempts was higher on-reserve compared to off-reserve.

The very high rates of suicide attempts and deaths signal high levels of distress among First Nations adolescents. The findings of severe mental distress are based on data from Vital Statistics and from hospitalizations, and they contrast sharply with the relatively low rates of mental disorders we found using physician claims data, suggesting that First Nations adolescents lack access to prevention and primary care services. The rate of suicide among First Nations adolescents is ten times higher than among other adolescents in Manitoba, yet we found few differences in mood/anxiety disorders between First Nations children and other children. The lack of difference in ADHD prevalence between First Nations children living on-reserve and other children living in rural areas in both high and low income areas also points to a lack of access to mental health services in rural areas compared to urban areas. As mentioned earlier, incomplete data in the north and in First Nations communities can partially explain the lower rates of mental disorder diagnoses there. Higher rates of schizophrenia among Indigenous youth were also reported in New Zealand, where researchers speculated that factors such as inequality, stress, resilience and social adversity played a role [71].

Health & Prevention Services: First Nations children had higher hospitalization rates and lower vaccination rates compared to all other Manitoba children. There were fewer different types of drugs dispensed to First Nations children living on-reserve compared to off-reserve and the vaccination rates were higher on-reserve compared to off-reserve.

Hospitalization rates are often used to measure the health of a population, because hospitals are reserved for those who are seriously ill. High hospitalization rates also signal lack of primary care or access to primary care, as children may be hospitalized because they were not treated early enough. The fact that there were fewer medications prescribed to a population of children with more health problems also points to a lack of health services. Interestingly, vaccination rates were higher on-reserve than off-reserve, presumably because these are provided by nurses and so are recorded in the Manitoba Immunization Monitoring System data in the Repository.

Education: A smaller proportion of First Nations children met or were approaching expectations for Grade 3 reading and numeracy, Grade 7 mathematics, and Grade 8 reading and writing compared to other Manitoba children. They were also less likely to be engaged in their learning, to have passed their Grade 12 language and mathematic tests, and to have graduated from high school. Children living off-reserve performed better in all of these education outcomes compared to children living on-reserve.

Given the importance of education to the health and well-being of First Nations peoples, these findings demonstrate an urgent need to improve educational outcomes for First Nations children today. Historical and ongoing colonialism and under-resourced schools have placed them at a serious disadvantage. The Manitoba Education & Training data on which these results are based include information on most children living off-reserve, but are only about 90% complete for children living on-reserve. It is important to note that the high school graduation rate measures “on-time” graduation (i.e., in the expected Grade 12 year or the two years after) and does not provide information on those who obtained their high school diplomas after age 20.

Social Services: First Nations children had higher rates of being taken into care or receiving services from Child & Family Services (CFS), and higher rates of receiving income assistance and living in social housing compared to all other Manitoba children. Children living on-reserve had lower rates of being taken into care or receiving services from CFS. As expected, First Nations youth (age 18-19) living on-reserve had lower rates of receiving provincial income assistance and living in social housing compared to those living off-reserve.

It is important for the reader to recall that First Nations people are not eligible for provincial income assistance if they are living on-reserve. There is a lot of movement of children, youth and families from on-reserve to off-reserve

and back again. This report used the address where youth and families were living in 2016 as recorded in the Manitoba First Nations Research File (federal file), although they might actually have been living off-reserve for part of the year. This may be the reason that some youth appear to be receiving income assistance while living on-reserve.

Although the rates of children being taken into care reported here are very high for First Nations children, they may be even a little higher than found in this report. Some of the northern child welfare agencies do not make all of their data available, so our results are likely to be an underestimation of the true number of children in care.

Justice System Involvement: First Nations children had higher rates of criminal accusations, criminal victimization and of being a witness to a crime compared to all other Manitoba children. The rate of being a witness to a crime was higher among children living on-reserve compared to off-reserve.

The database on which the justice system indicators are based tracks charges laid against youth involved in a crime. Although these indicators provide valuable information, it is important to be aware that these are only charges – not a guilty sentence. Youth who are accused of a crime may be acquitted in the future, or their charges may be dropped. As well, many children who have been victimized are not reported to the police, and therefore the percentage of children who were victimized or witnessed a crime are likely to be undercounted in this report. Like other services, there are many biases involved in the justice system that should be taken into account when considering the findings of this report. For example, police may be more likely to stop or arrest Indigenous youth and be more likely to lay charges against Indigenous youth than other youth.

Mortality: Higher rates of stillbirths and child mortality were found among First Nations children compared to all other Manitoba children. Children living on-reserve had a higher mortality rate than those living off-reserve. Infant mortality appeared to be higher among First Nations infants, particularly on-reserve, but this difference was not statistically significant.

Mortality rates are based on Vital Statistics data, so we are confident that all deaths among children in Manitoba were recorded. Mortality rates are often used to determine the health of a population. The higher rates of stillbirths and child mortality among First Nations people point to undeniable health disparities between First Nations and other children in Manitoba.

Promising Initiatives

More than ever before, First Nations in Manitoba are now working together to advance health, education, justice and child welfare to improve their children's and their communities' quality of life. A crucial component of the programs and

policies they lead is that the programs are consistent with First Nations values, beliefs and traditions. In this section, we provide some examples of promising initiatives in First Nations communities highlighted by the Knowledge Keepers and our other research team members. This list is by no means exhaustive, but is placed here to illustrate some of the work that is ongoing to ensure the well-being of First Nations children and to instill hope for the future.

Initiatives to Support Birth and Early Childhood Development Outcomes

Wijiidiwag Ikwewag provides support for traditional Indigenous childbirth and parenting teachings for supporting Indigenous families (and especially mothers) in a traditional way. Its vision is to empower families to connect to their Indigenous language, culture and identity throughout the journey of pregnancy, birth, postpartum and beyond. *Wijiidiwag Ikwewag* facilitates circles of women to come together and reclaim their roles as guardians of the sacred bond between mother and baby [112].

Restoring the Sacred Bond is a two-year pilot project that aims to match Indigenous Birth Helpers with Indigenous mothers who may be at risk of having their infant apprehended by the child welfare system. The program identifies and takes referrals for expectant mothers from the First Nations CFS agencies across southern Manitoba and connects them with a Birth Helper. Part of the process includes helping the mother reconnect with her traditional cultural practices and strengthen her support network [113].

The *Canada Prenatal Nutrition Program* (CPNP) provides funding to community groups to help improve the health of pregnant women and new mothers and their babies who face challenges that put their health at risk. These challenges might include social and geographic isolation, poverty, teen pregnancy, substance use and/or family violence. The program is available on-reserve [114].

The *Healthy Baby Community Support* program is similar to the CPNP but is available to women living off-reserve. It provides education and facilitates support groups for women in their own communities during pregnancy and throughout the baby's first year [115].

The *Manitoba Prenatal Benefit* provides a monthly financial cash transfer to women during pregnancy to support eating healthy foods. It also helps women connect to early prenatal care and to other resources and services. The benefit is available to women living both on- and off-reserve [116].

The *InSight Mentoring Program* is an outreach program where mentors provide intensive support to women who use substances and are pregnant or have recently had a baby. A mentor is assigned to each woman and works intensively with her and her family on a one-to-one basis for up to three years. Using trauma-informed and harm-reduction practices, mentors support the women in the program in building and maintaining healthier lifestyles in a non-judgmental way [117].

The Success Through Advocacy and Mentoring (STAR) program is similar to the InSight Mentoring Program and is available on-reserve in some First Nations communities. Cultural safety of language, family ties, and cultural and spiritual acceptance are focal points of the program. As with the InSight program, the mentors work intensively with women to achieve goals related to wellness and keep them connected to services. The mentors are women from the community who have overcome similar issues that STAR clients are confronting [118].

Strengthening Families is a home visiting program delivered through the Maternal Child Health program for families living on-reserve. It enrolls families during pregnancy and the preschool period and is currently available in 18 First Nations communities. The aim is to promote the physical, emotional, mental and spiritual health of women, children and families by building trusting and supportive relationships between parents and families, empowering the families and increasing their connections to community supports. The guiding principles include being grounded in First Nations culture, building on community strengths, and focusing on family [119].

The *Families First Home Visiting* program is often referred to as the “sister program” of *Strengthening Families*. It is a home visiting program delivered through the provincial public health department to Manitoba families who face parenting challenges. It is available off-reserve. Families First offers home visiting supports to families with children, from pregnancy to school entry. The home visitor supports families in building a strong relationship between parents and children, provides information on early childhood development and health, and also connects families to programs and resources [120].

Initiatives Supporting Education

In 2019, education funding for First Nations across Canada increased for the first time since 1996. A new funding formula was created that resulted in a funding model more comparable to how provincial schools are funded. This increased funding has allowed First Nations to purchase more resources for classrooms and implement more culturally relevant programs, such as land-based education. In early learning and child care, the increased funding has led to the establishment of a transformational fiscal arrangement called the Indigenous Early Learning and Child Care Framework. This initiative will strengthen early learning and child care programs and services for Indigenous children and families within Manitoba and across Canada. Through Jordan's Principle, significant funding has also been provided directly to Manitoba First Nations and to the Manitoba First Nations Education Resource Centre's Clinical Support Unit, which has greatly increased the clinical services available to First Nations in Manitoba.

Another exciting development is the creation of the *Manitoba First Nations School System (MFNSS)*. The MFNSS is a First Nations-led initiative to create a new high-quality and culturally relevant education system, and is a first in Canada. The Knowledge Keepers highly recommended that First Nations language immersion programs (currently offered in Ojibway and Cree in some schools) be created because of the importance of language and culture in children's lives.

The *Youth Criminal Justice Act (YCJA)* introduced in 2003 replaced the previous Young Offenders Act (YOA). The new act was designed to address concerns about the YOA, including the overuse of the courts and incarceration in less serious crimes and inequity in sentencing [105]. The YCJA contains a set of statements and principles used to address the problems in the YOA. These include ideas such as working in partnership with communities and families, youth crime prevention, addressing the underlying causes of crime and connecting youth to programs and services. These are promising initiatives with measurable success, as seen by the reduction in total admissions to corrections services. However, the initiatives appear to have failed to address disparity and unfairness in sentencing and to respond proportionally to the needs of Aboriginal young people.

Initiatives Supporting Mental Health Promotion

The *PAX Good Behaviour Game (PAX)* is a proven recipe for co-creating a nurturing environment where all children can thrive [121]. It is used in schools but can also be used at the community level. It creates a caring and predictable environment that grows peace, productivity, health and happiness for students and for the adults who are working with them. An evaluation found that children in PAX classrooms showed improvements in conduct problems, emotional symptoms, hyperactivity, peer relationship problems and prosocial behaviour over time compared to those not using PAX [121]. Swampy Cree Tribal Council communities have implemented some adaptations to PAX to ensure that it fits culturally and contextually within northern First Nations communities [122,123].

Towards Flourishing (TF) Mental Health Promotion is a set of everyday strategies that promotes the mental well-being of parents and their families. It focuses on positive mental health as well as mental illness and distress. An important component of the initiative is working closely with mental health promotion facilitators who provide guidance for families and train public health nurses and home visitors in mental health promotion strategies. First Nations service providers made key recommendations early in the development of TF to ensure that the materials and processes would be culturally safe for First Nations families [124,125].

Health Care Services

Community-Based Primary Health Care (CBPHC) is a comprehensive model of timely and holistic health care that integrates traditional health knowledge, increases health care services and medical transportation, and promotes healthy foods as important preventative measures. It also employs a culturally-informed workforce backed by local leadership [126], the First Nation Health and Social Secretariat of Manitoba (FNHSSM).

Telehealth addresses the challenge of providing access to health services in remote communities. Telehealth networks are now located in First Nations communities across Manitoba to connect people to the information and services they require to manage their health and well-being closer to home. These services are particularly useful for providing access to clinical specialists and mental health clinicians [127].

A partnership with *Project ECHO* is being planned. Project ECHO is a virtual program to support communities and clinicians to deliver timely and culturally safe mental health services. It brings together local clinicians and medical experts in weekly virtual clinics, and can make specialized medical knowledge more accessible to northern communities [128].

Strengths and Limitations of this Report

Strengths

It is important that readers of this report interpret our findings with a good understanding of the strengths and limitations of the methods and datasets that we used. A key strength of this report is the partnerships on which it is based. The research team included researchers from MCHP and co-principal investigators from FNHSSM and MFNERC. From the onset, the team wanted as much involvement from First Nations people as possible. It was crucial to hear the voices from the five broad First Nations linguistics groups in Manitoba – Anishinaabe, Cree, Anishininew, Dakota and Dene. The team met with the Knowledge Keepers three times over the course of this report. Knowledge Keepers are respected members of First Nations communities with extensive knowledge of the language, values and traditions of First Nations people. The Knowledge Keepers gave us direction on how to present the indicators, affirmed the relevance of the report and provided valuable insights into interpretation of the findings.

This report provides a population-based perspective on a wide array of indicators that reflect the health and well-being of First Nations children. We used the MCHP Repository for the analyses, which includes data on virtually everyone in the province. FNHSSM arranged with

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC; formerly INAC) for the Manitoba First Nations Research File to be transferred to the Repository based on a trilateral agreement between FNHSSM, MHSAL and the University of Manitoba (on behalf of MCHP). Thus, we created a cohort of registered First Nations children living in Manitoba. Linking data from dozens of data sources enabled us to study indicators from many aspects of children's lives. The indicators chosen were in keeping with First Nations' *wholistic* perspective that many factors influence the health and well-being of First Nations children. The TRC recommends that outcomes from health, education, social services and the justice system be measured in order to monitor progress.

This report describes the “what” rather than the “why” – the types of analyses we did can describe the outcomes but do not fully explain why we saw what we saw. To make fair comparisons between First Nations and other children in Manitoba, we adjusted for biological factors like age and sex. However, we did *not* adjust for other factors that influence the lives of First Nations children, such as income. We know that the income families earn is not the same across groups and regions and that income has a strong influence on the indicators – this was an important difference that we wanted to show in our results.

Limitations

We acknowledge that this report is based on secondary data that were collected for administrative purposes in the province of Manitoba. In many cases, the data underreport the true prevalence of illnesses and services received. The rates and prevalence of illnesses and conditions that we report reflect the number of children who were diagnosed by physicians or nurse practitioners or recorded in hospital records. In the north, we are likely undercounting the number of medical conditions because we do not have reliable data from nursing stations. Complete data on education outcomes and on involvement with Child and Family Services were not always available.

Another limitation is the small number of strength-based indicators that we were able to measure, despite the research team's strong desire to present strength-based findings to foster hope of improving the well-being of children. Given that the Repository at MCHP contains very few strength-based indicators, the team framed this report as a baseline to measure future progress, and included context around each of the findings. We also highlighted some promising initiatives that are driving the progress being made. Not having strength-based data underscores the importance having First Nations people choose their own measures during data collection so that the indicators are relevant to their aspirations, policies and programs.

Concluding Remarks

Children are our hope for the future. The findings clearly show that an enormous amount of work is required in every area of First Nations children's lives.

There is an urgent need for equitable access to equitable services, and the nature of these services should be self-determined, planned and implemented by First Nations people. An important aspect that should be included in this work is a clearer understanding and articulation of the traditional knowledges, languages and values that were stripped from so many First Nations by colonialist practices and policies. First Nations Peoples hold these cultural knowledges and values in their memory and within themselves. Collectively, as First Nations and as

Manitobans, we should revive them as we begin to address gaps in the key areas this report describes and work to improve First Nations children's health, education and social outcomes.

This report can inform us and guide us in making changes to approaches, programs, policies and systems that will improve the lives of First Nations children. The profound hope of the research team is that this report will promote equity in funding for First Nations children and that Indigenous and non-Indigenous people can work in a more collaborative and unified way to address the gaps. In so doing, and in the true tradition of honoring First Nations ways of doing, knowing and being, we strive to be *wholistic* in our approaches to clear the path for First Nations children to live and thrive in our province.



Final Thoughts from our Knowledge Keepers

This report validates what we, First Nations, already knew. There is a stark gap between First Nations children and other Manitoba children. These gaps cut across every domain of their lives and, unquestionably, point to the inequity that our children and families face in this present day. We have seen that our children do not fare as well as other Manitoba children in their physical and mental health and in their educational attainment. We know that the educational system is failing them, and they score poorly on indicators that measure their success by Western instruments. We also know that by no fault of their own, our children are still being taken away from their families, homes and communities. Our children endure a great deal of emotional suffering from this involvement in the child welfare system and continue this involvement in the justice system.

Our children are bearing the brunt of political decisions and inaction, from unsafe homes, unsafe drinking water, lack of health care, unresolved trauma and the impacts of colonial policies intended to destruct rather than to build and empower. The intergenerational impacts of destructive policies and actions/inaction must stop. Our children and grandchildren have a right to a good life as was intended by our Creator.

Pregnancy and Birth Outcomes

As Knowledge Keepers, we understand that the disruption and loss of First Nations' traditions and way of life has had a significant negative impact on pregnancy and birth well-being and health. Due to the disruption of traditional knowledge systems, teen mothers may not be well prepared to bring forth a child. More First Nations women are having babies born prematurely, leading to multiple physical complications. Breastfeeding used to be part of our norm – now it is 33% lower than all other Manitobans. Again, the loss of support from our traditional midwives and birth helpers have resulted in this trend. And where First Nations women once gave birth supported by their mothers, aunties and grandmothers, now expectant mothers are sent to hospitals far away from home and family. As Knowledge Keepers, we assert the need to return to traditional teachings and practices in order for our children and families to be healthy once again. Our sacred ones are often born with medical conditions that are a result of a lifestyle that is foreign to our people with an unhealthy diet and inactive lifestyle.

Physical and Mental Health and Preventative Care

First Nations children are more likely to be diagnosed with diabetes, need dental surgery for tooth decay, and are less likely to be fully immunized at two years of age in this report. Here again, we Knowledge Keepers reiterate that much of the illness in our children is a result of colonization and systemic racism that has led to dramatic inequalities for First Nations children. Imposed poverty, lack of clean water, racism, and lack of primary care are significant determinants of health that contribute to these dismal statistics on physical and mental health. A diet that included access to fresh and healthy traditional foods once protected the health of growing children.

It is no surprise this report demonstrates the poor mental health of our children. The intergenerational effects of colonization continue to perpetuate the cycle of mood and anxiety disorders among First Nations children in Manitoba. Furthermore, First Nations children and youth are more likely than other children and youth to be diagnosed with ADHD or with an alcohol or drug use disorder in certain regions in Manitoba. Most tragically, First Nations children are also more likely to attempt suicide or to die by suicide. We Knowledge Keepers view these disproportionate rates of ADHD and mental illness as an imbalance, a disconnect from spirit, language and culture that has been one of the primary goals of colonization. As Knowledge Keepers, our teachings indicate that we must “Go back”. “Go back to our ways, go back to the land, and reconnect to your spirit.” In other words, the key to healing must begin with relearning and retaining our language, our culture and our traditions, including our ceremonies and rites of passage. The return to these practices is healing and holistic in nature, involving all aspects of being – mind, body and spirit. Learning our language is the important first step – the bridge that reconnects our spirit to who we once were and to each other. Once we are able to heal our sense of and our pride in who we are, our physical healing will follow.

Mortality

Higher rates of stillbirths and infant and child mortality continue to be recorded. This violence against our unborn and children is a direct result of the ongoing colonial practices faced by First Nations families.

Education

High school graduation rates are lower for our First Nations children living on reserve than off reserve. The reading and numeracy skills of our children living on reserve are assessed as lower than those living off reserve. What is this telling us? Even though we acknowledge that there are concerns with the Western context and methods of evaluating our children, this gap between on and off reserve speaks more about systemic deficiencies and funding than our children's performance.

Justice

Our children are being accused of crimes at a rate 10 times higher than all other Manitoba children. We know that our children are poorer, they are more likely to be involved in the justice system. Again, these indicators are linked to colonization and the social determinants of health, and poverty is one area that we have within our power to remedy.

We agree and must emphasize that these health disparities are evidence and the embodiment of persistent inequity. We join other voices that have articulated that these indicators of health are indicators of inequity, and many of the underlying causes of the disparities sit largely outside of the domain of what is regarded as “health” and the health system. These health disparities are, directly and indirectly, due to social, economic, cultural and political inequities. The end result of these is the disproportionate burden of ill health and social suffering.¹² We know our children bear a disproportionate burden of diabetes, injuries, and dental extractions and are having children themselves way too early. We know these morbidity and mortality patterns are strongly connected to histories of colonization, the dispossession of lands and economic resources, and the ongoing lack of access to the social determinants of health.

Despite inadequacies in the health care delivery system and regardless of peoples' relative access to or use of the biomedical system, we also know these problems are entrenched in the history of relations between First Nations people and the nation-state. We know that the inequity they face from the moment they are born is leaving a mark in their minds, bodies and spirits.¹ In this day and age, this inequity is not acceptable.

We know that government policies and legislation have caused a great deal of harm to First Nations people and our children are particularly vulnerable. The Indian Act of 1876 prevented us from practicing traditional medicine and our healing traditions. Fortunately, our sacred societies persisted in secrecy to prevent the teachings and practices from being lost. As Knowledge Keepers, we have stated that, unlike Brian Sinclair, Joyce Echaquan and Sadie North, we need to feel safe and attended to when we access care in our health system; we need to reclaim sovereignty in our health and healing systems, and more importantly, we need to be strong nations and be self-determining.

Culturally safe care and a health care system free of discrimination is achievable today. Likewise, in every other sector, there is action that can be taken today. Until we as a people have equal and full participation in our social, economic, cultural and political processes and all facets of our lives, we and all levels of government have a duty and responsibility to act together to close those gaps and address the many obstacles that our First Nations children face on a daily basis. We can begin closing this health

¹² Adelson N. The Embodiment of Inequity: Health Disparities in Aboriginal Canada. *Can J Public Heal.* 2005;96(Suppl 2):S45–61

equity gap by addressing racism in the health care system and focus on what we can do together to address this inequity. It is within our power for all to ACT now.

It is with this in mind we make these declarations:

1. Urgent action is needed in the development of a unified and seamless health care system to ensure our children have equitable access to all provincially funded health and social services.
2. Urgent action is needed to eliminate discrimination and racism at all levels of the health care system, beginning with health care providers and extending to policies that place First Nations people at an unfair advantage.
3. Urgent action is needed in the educational system that allows for the provision of equitable funding.
4. Urgent action is needed to fund and support land-based or culturally appropriate educational models.
5. Urgent action is needed in the creation of fair and culturally appropriate assessment tools in the educational system.
6. Urgent action is needed to restore our languages by the wide implementation of First Nations language programs in all schools and support for full language immersion in our schools on reserve.

7. Urgent action needed for supports and services that are planned by and put in place by First Nations people and must be funded at the same level as services for other Canadian children in the child welfare system.
8. Urgent action is needed to completely overhaul the child welfare system and discontinue the colonial practice of child removal and any incentives that support this practice.
9. Urgent action is needed to acknowledge existing Knowledge Keepers grandmother's and grandfather's circles so that they have meaningful and legitimate authority to oversee and ensure that all proceeding urgent calls for action are implemented.

We reiterate what we stated in the beginning of this report, that our hope lies in the beauty and strength of our Traditional Knowledge, our *wholistic* view and approach to life, our languages and gifts of our Mother Earth and all that she provides. For our children to be a healthy, they must be healthy in mind, body and spirit. First Nations people, traditional First Nations knowledge, our languages and values must be front and centre in this work.

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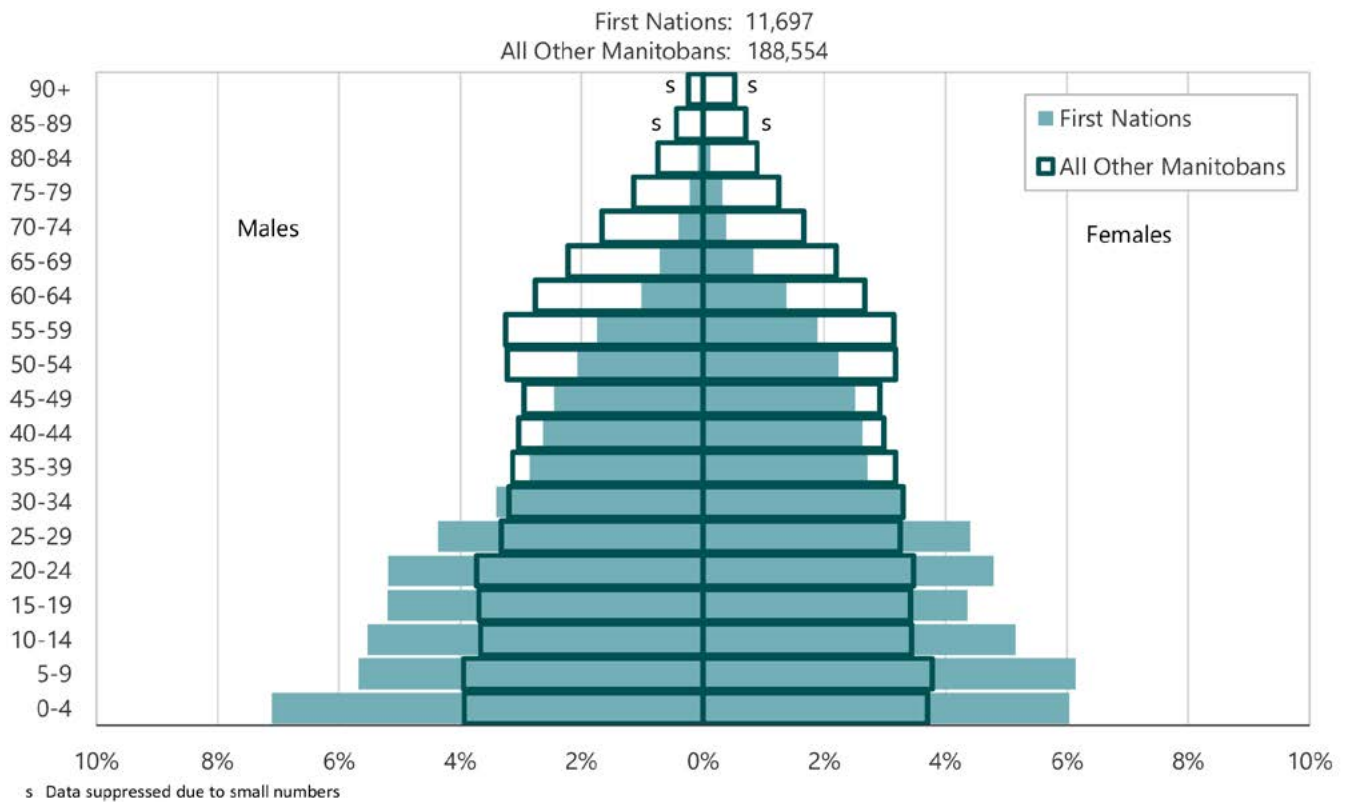
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Appendix 1: Additional Indicators

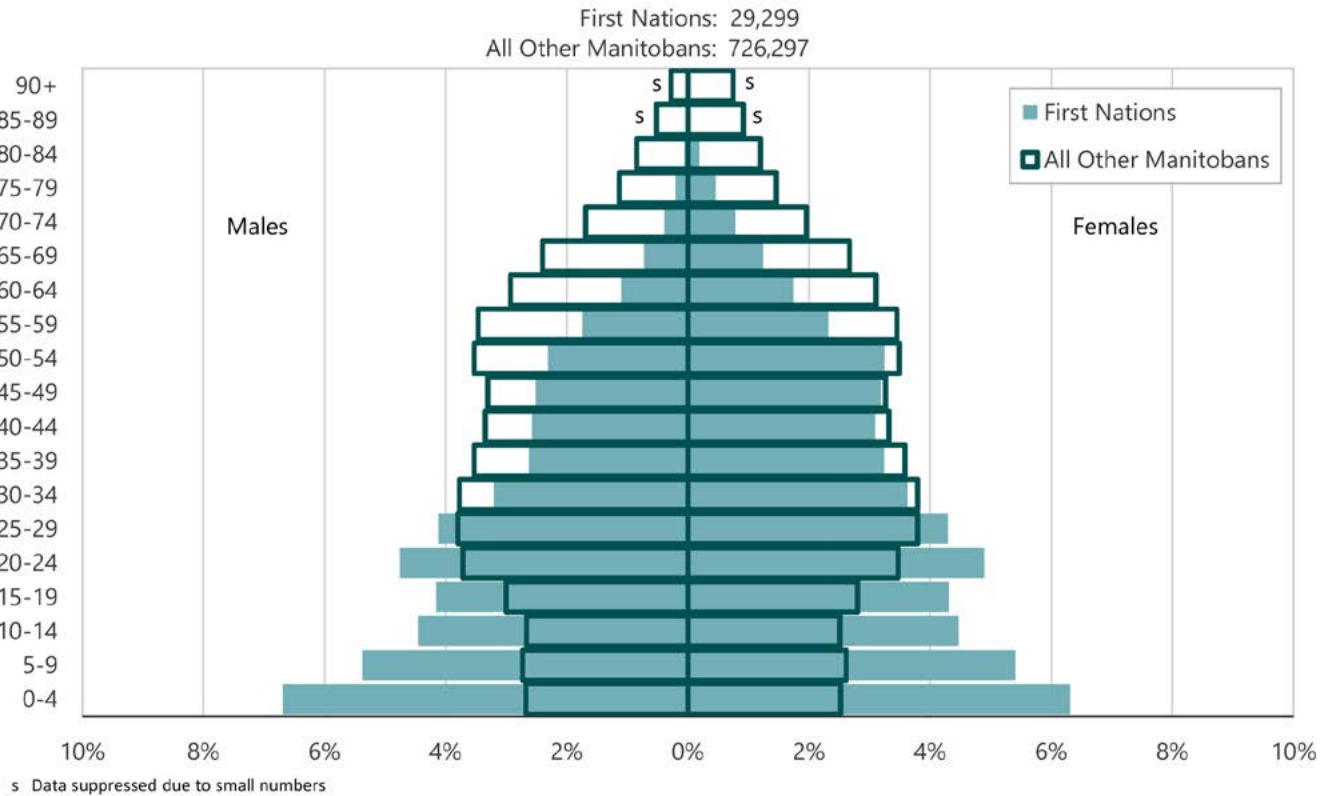
Age and Sex Distribution for RHAs by First Nations and All Other Manitobans

Appendix Figures 1.1-1.5 show that the age and sex distribution follow a similar pattern in all RHAs as was seen in other graphs of all other Manitobans. Across all RHAs, a large proportion of the First Nations population is made up of children.

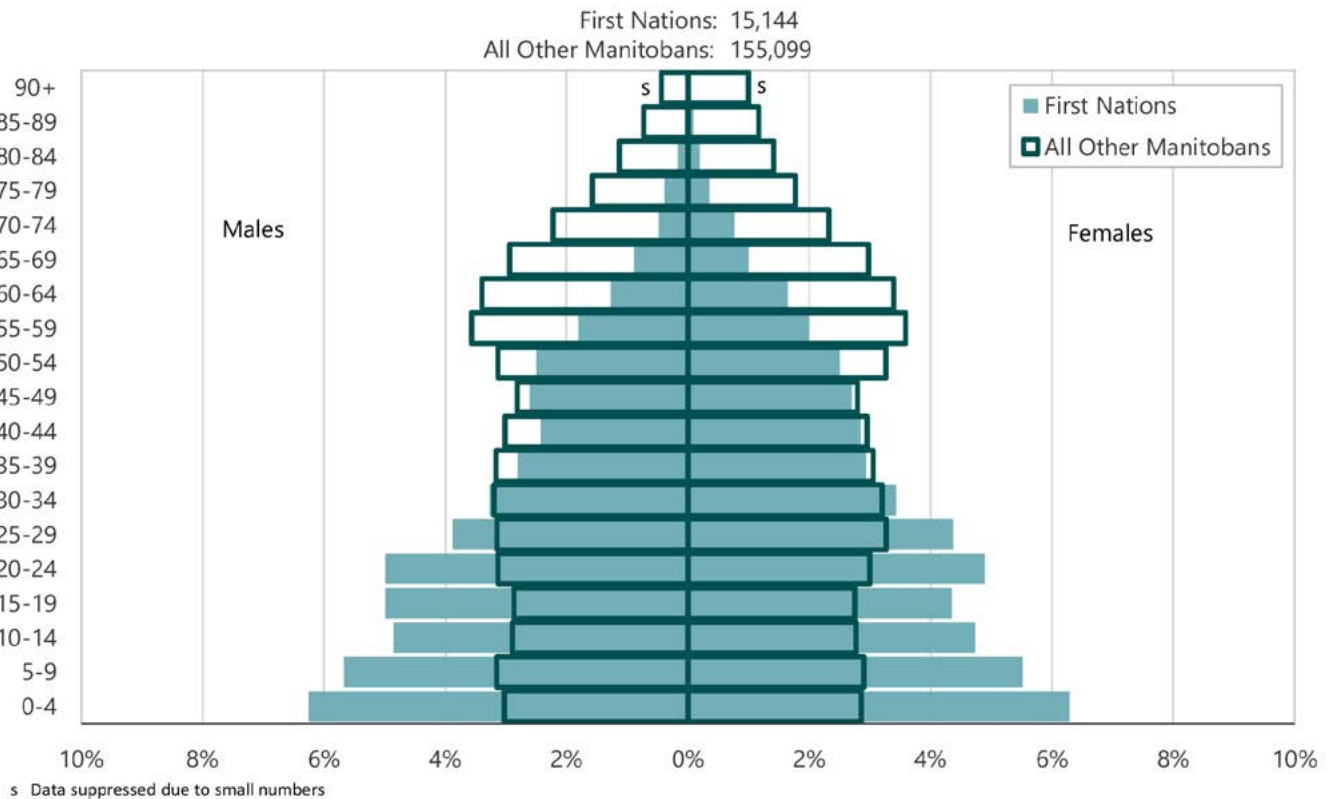
Appendix Figure 1.1: Age Profile of Manitoba, 2016



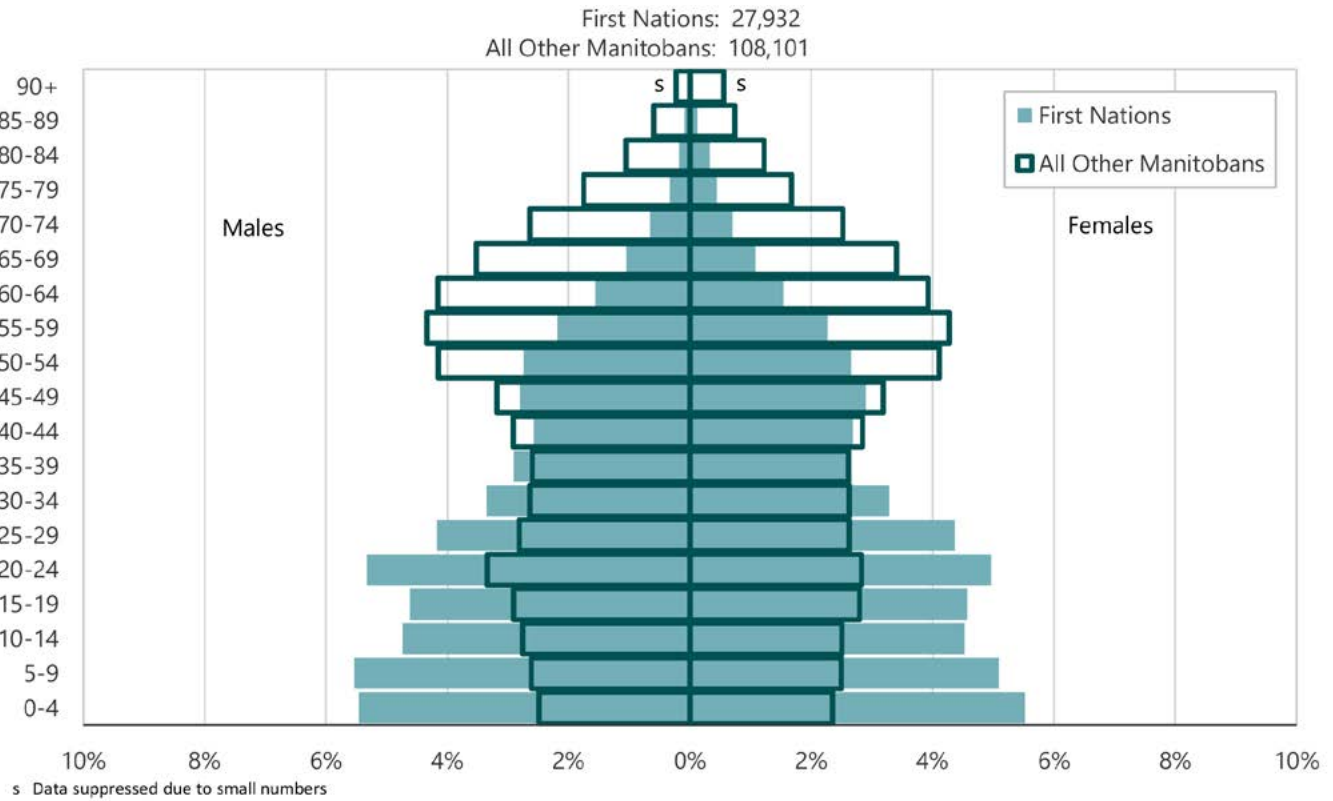
Appendix Figure 1.2: Age Profile of Winnipeg RHA, 2016



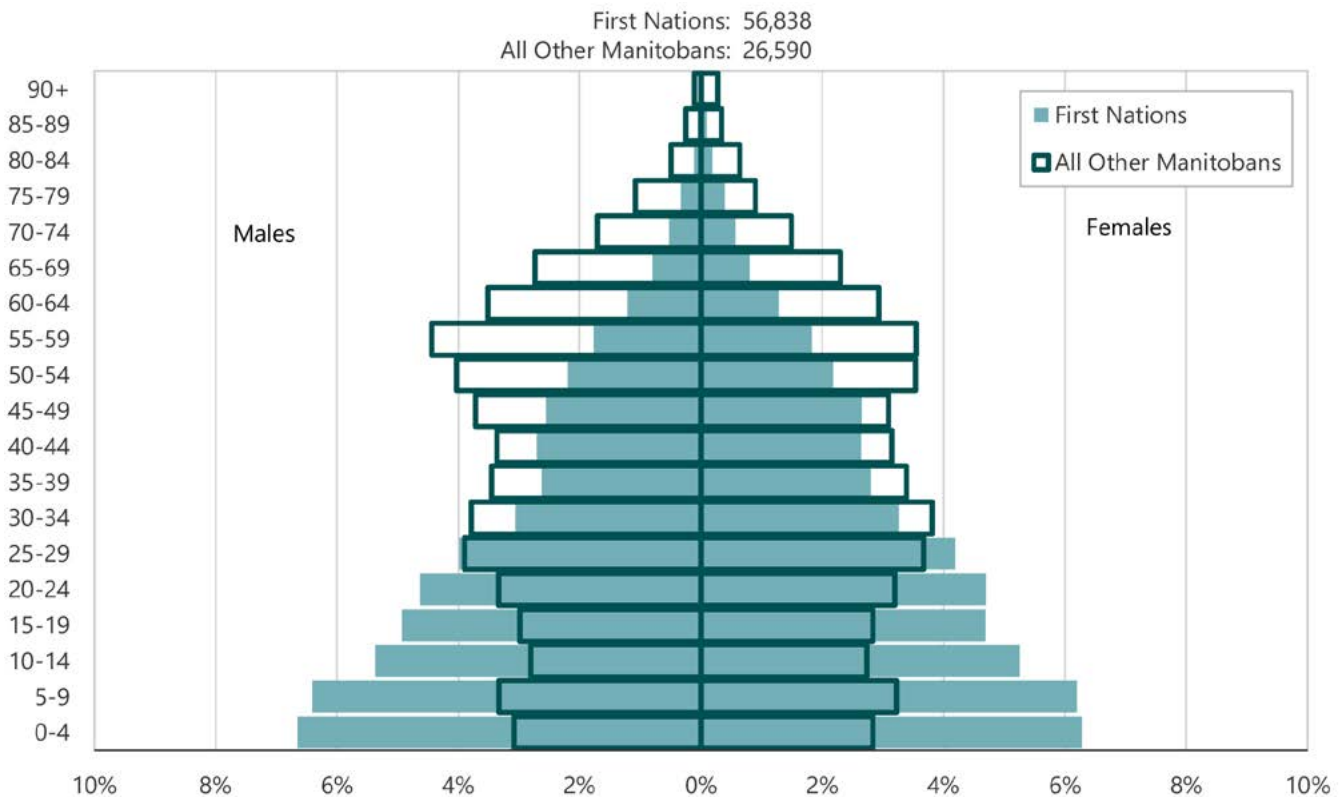
Appendix Figure 1.3: Age Profile of Prairie Mountain Health, 2016



Appendix Figure 1.4: Age Profile of Interlake-Eastern RHA, 2016



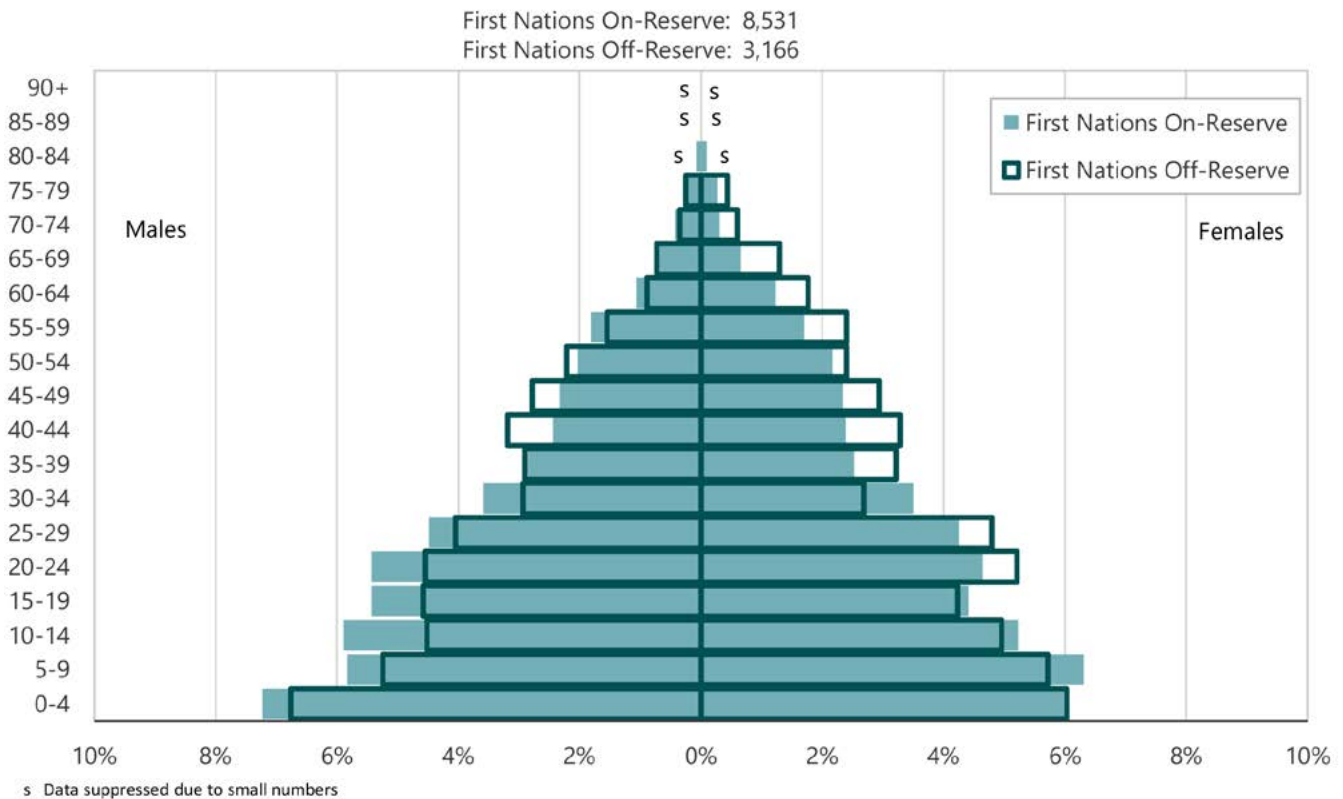
Appendix Figure 1.5: Age Profile of Northern Health Region, 2016



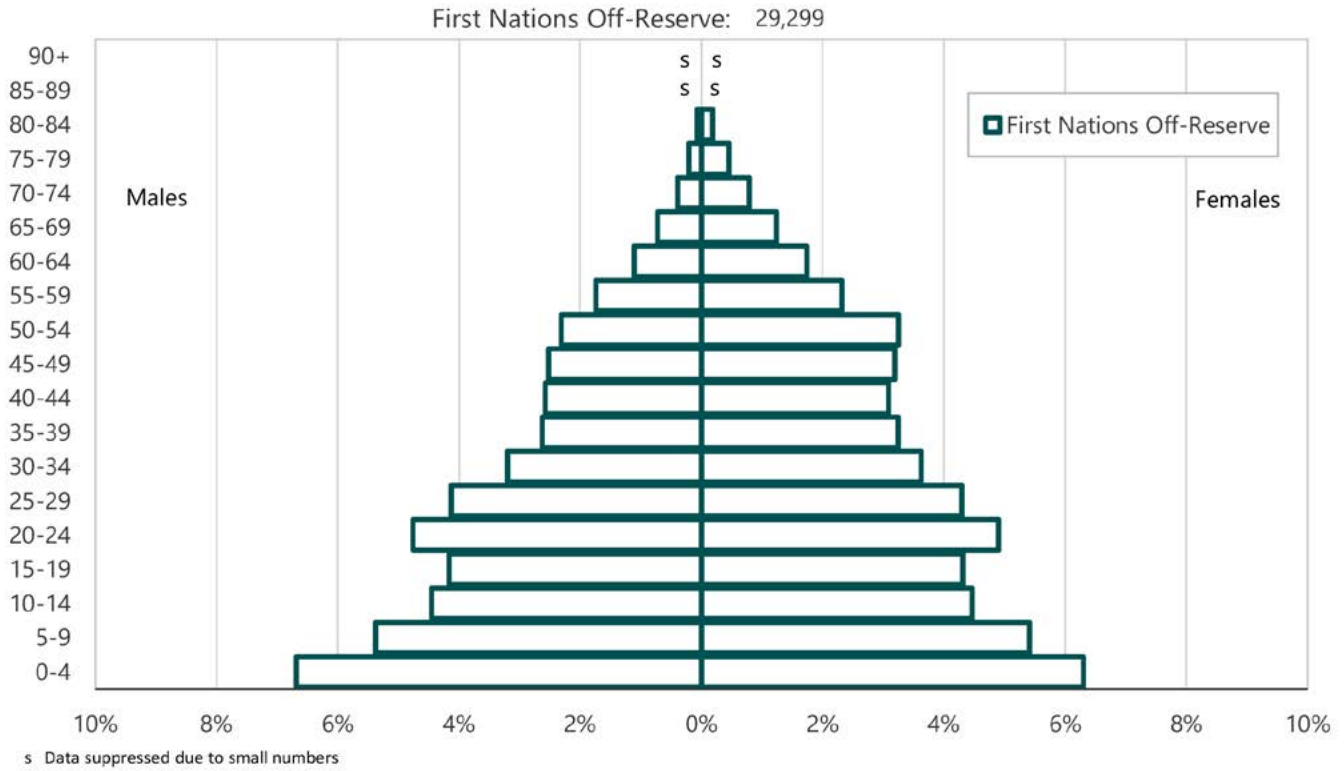
Age and Sex Distribution among First Nations On-Reserve and Off-Reserve by RHA

Appendix Figure 1.6 denotes that in the Southern RHA the proportions of First Nations children are similar on- and off-reserve. There appears to be a higher proportion children relative to adults living on-reserve compared to off-reserve in Interlake-Eastern RHA and Northern RHA.

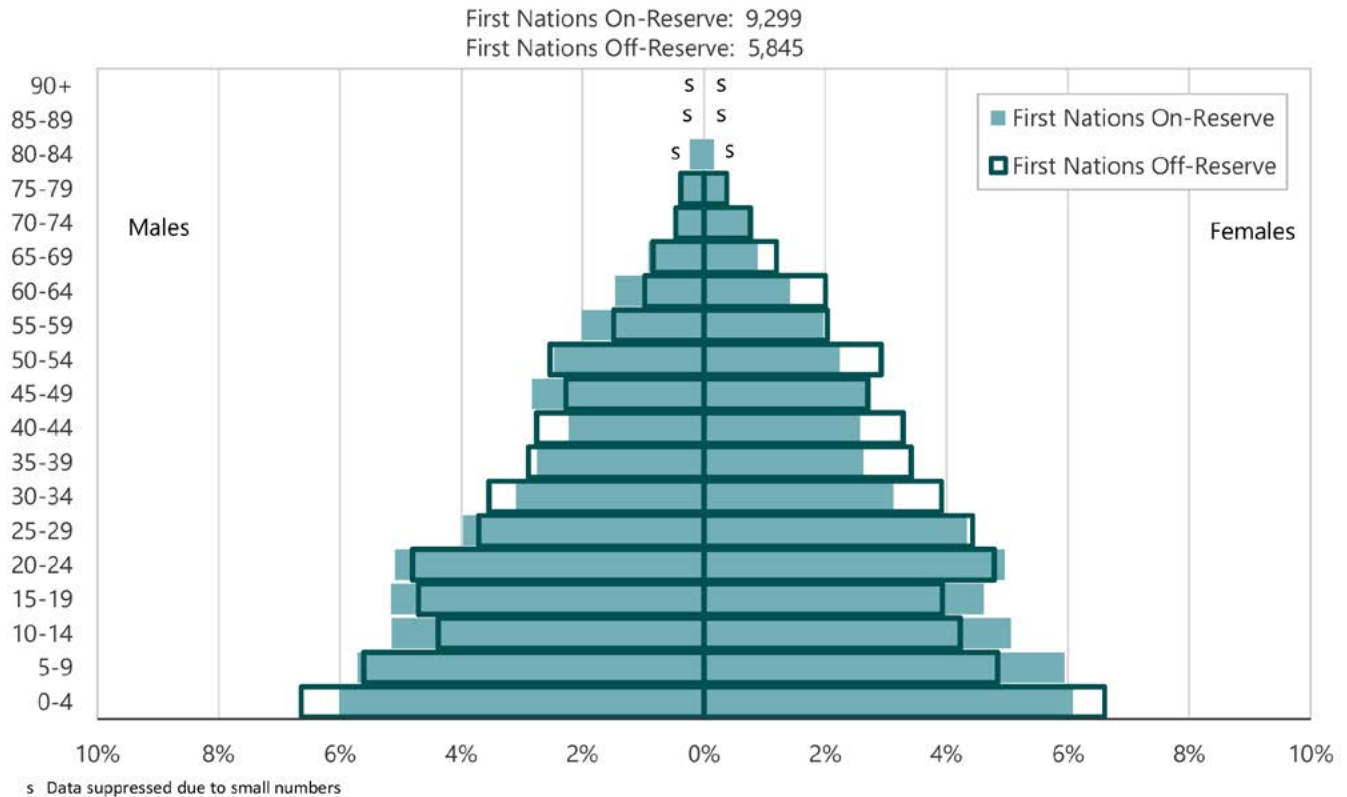
Appendix Figure 1.6: Age Profile of First Nations in Southern Health-Santé Sud, 2016



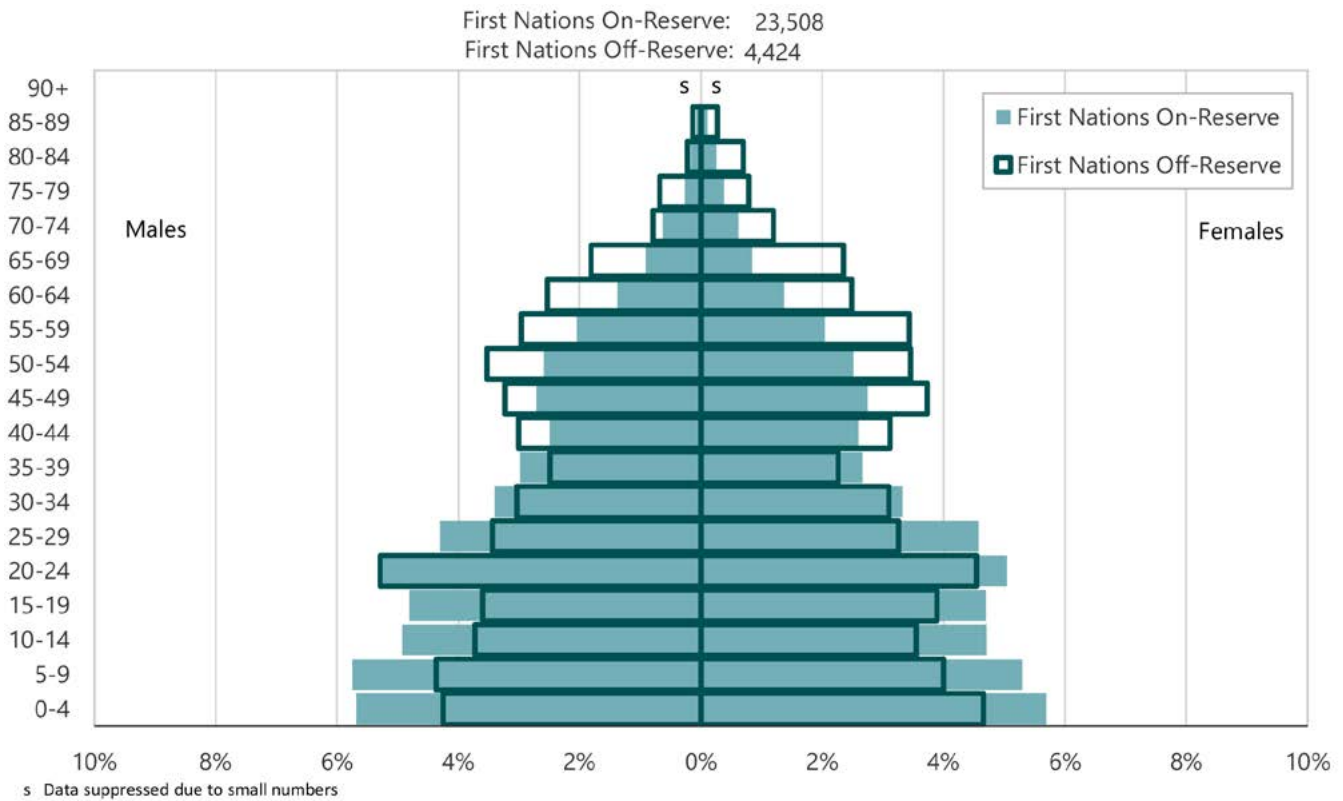
Appendix Figure 1.7 Age Profile of First Nations in Winnipeg RHA, 2016



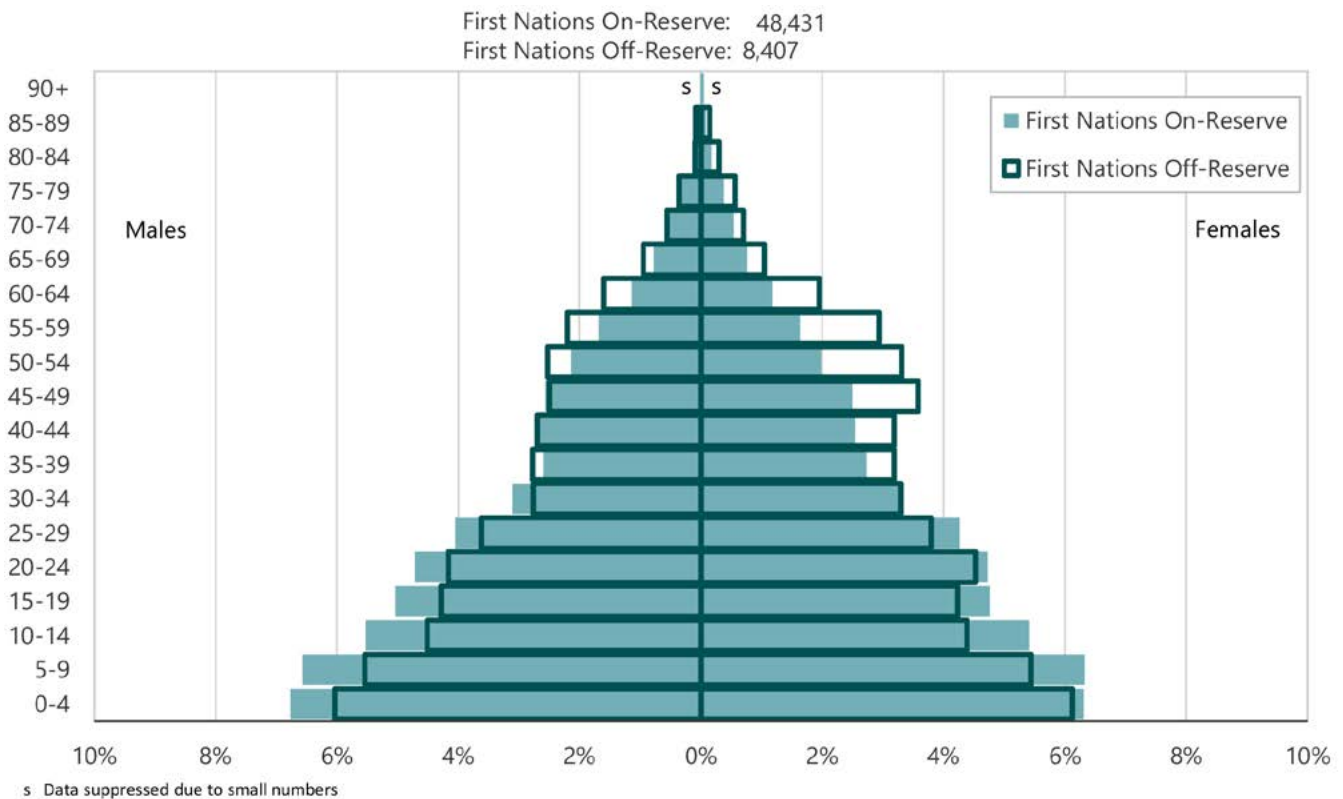
Appendix Figure 1.8: Age Profile of First Nations in Prairie Mountain Health, 2016



Appendix Figure 1.9: Age Profile of First Nations in Interlake-Eastern RHA, 2016



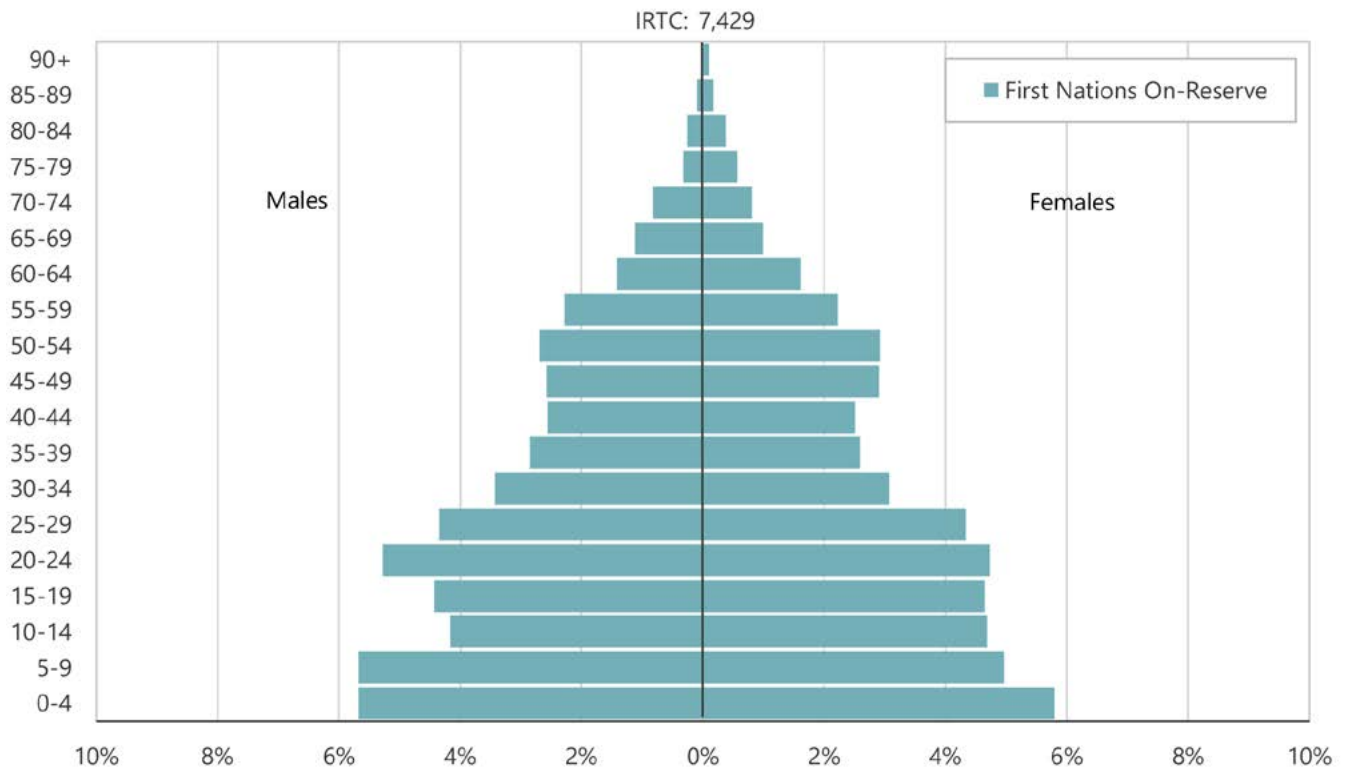
Appendix Figure 1.10: Age Profile of First Nations in Northern Health Region, 2016



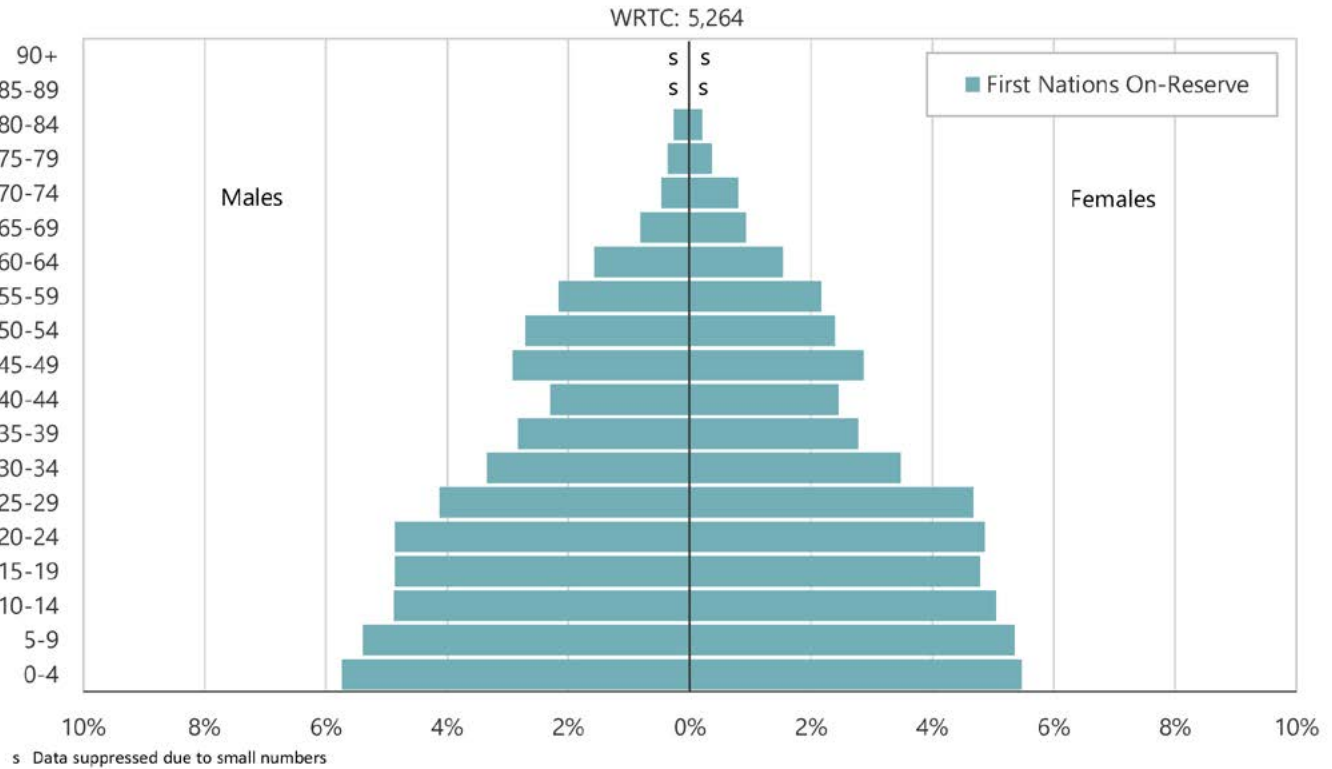
Age and Sex Distribution among First Nations On-Reserve by Tribal Council Area (TCA)

Appendix Figures 1.11– 1.19 provides the age and sex distribution for each TCA. TCAs with smaller populations have too few people in the older age groups to be graphed. As shown in previous graphs, children and youth make up a large proportion of the First Nations population living on-reserve.

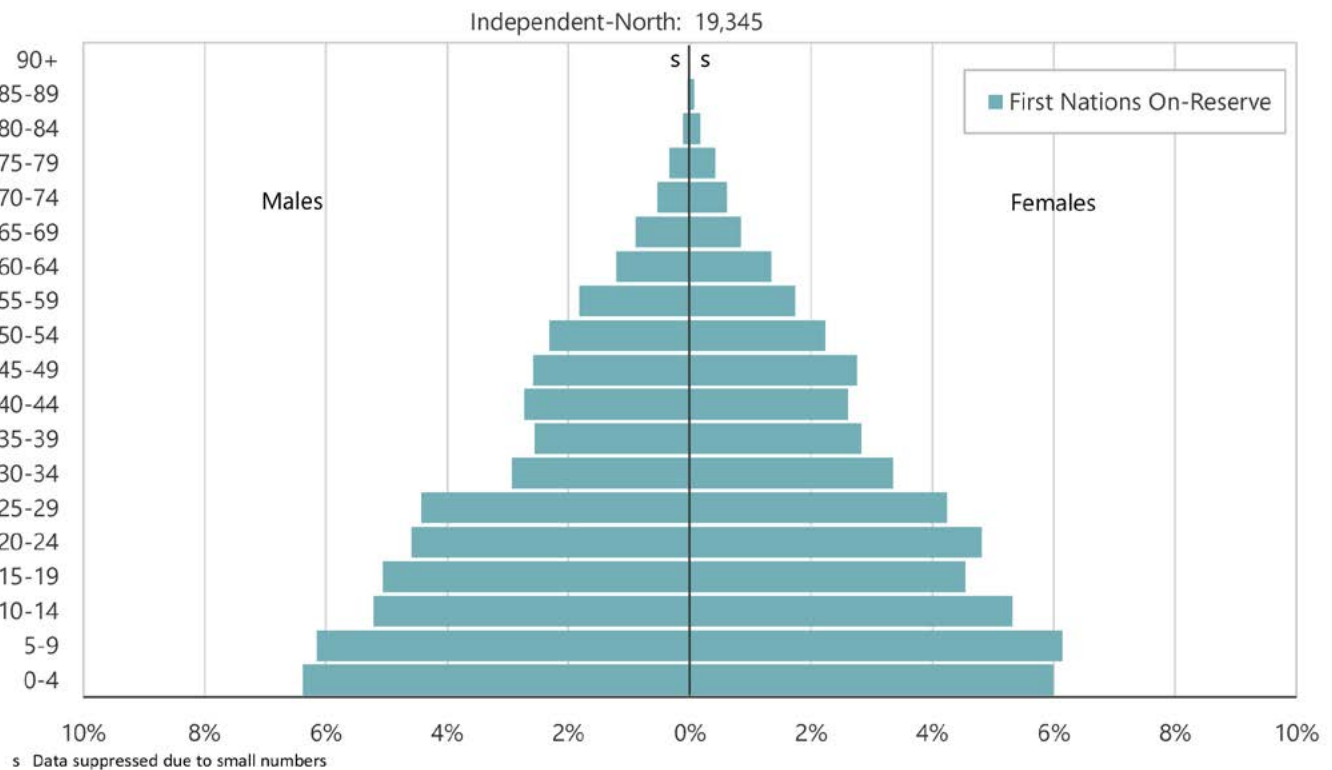
Appendix Figure 1.11: Age Profile of First Nations People in Interlake Reserves Tribal Council Area (IRTC), 2016



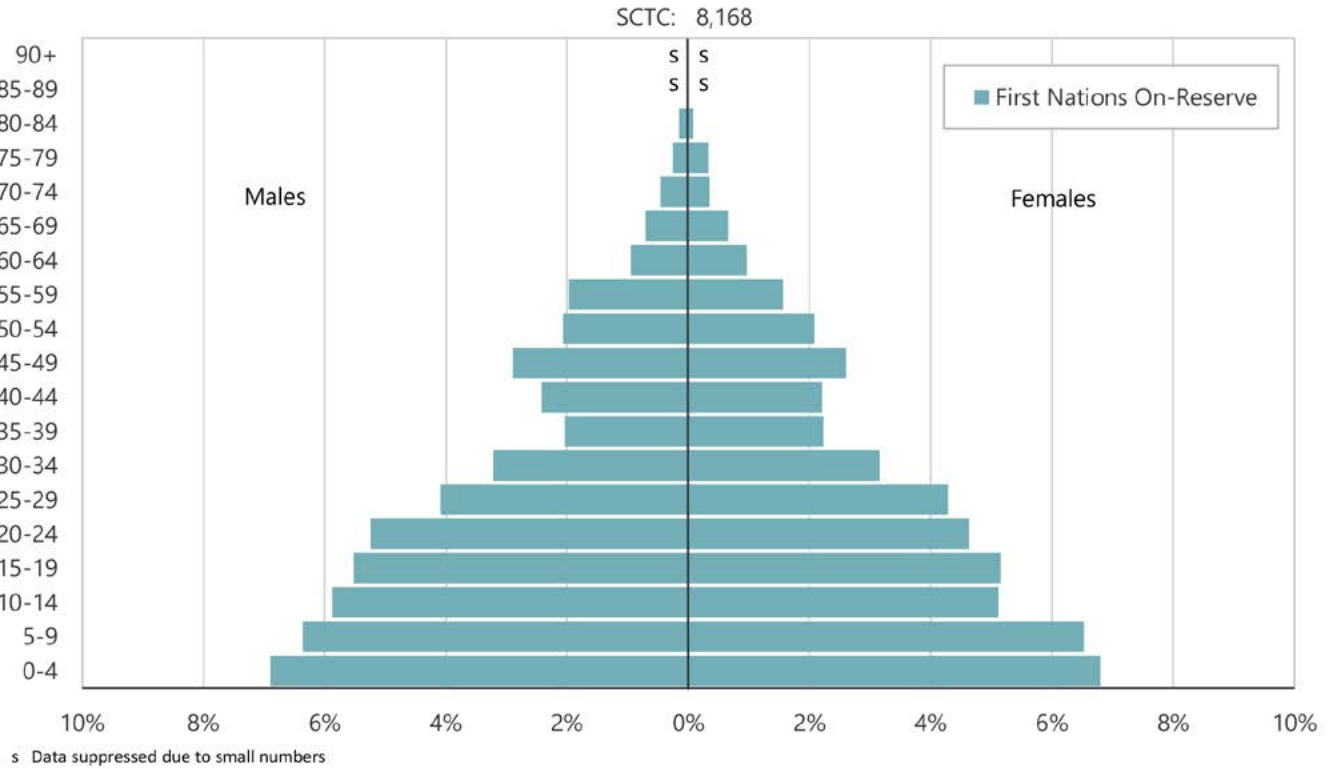
Appendix Figure 1.12: Age Profile of First Nations People in West Region Tribal Council Area (WRTC), 2016



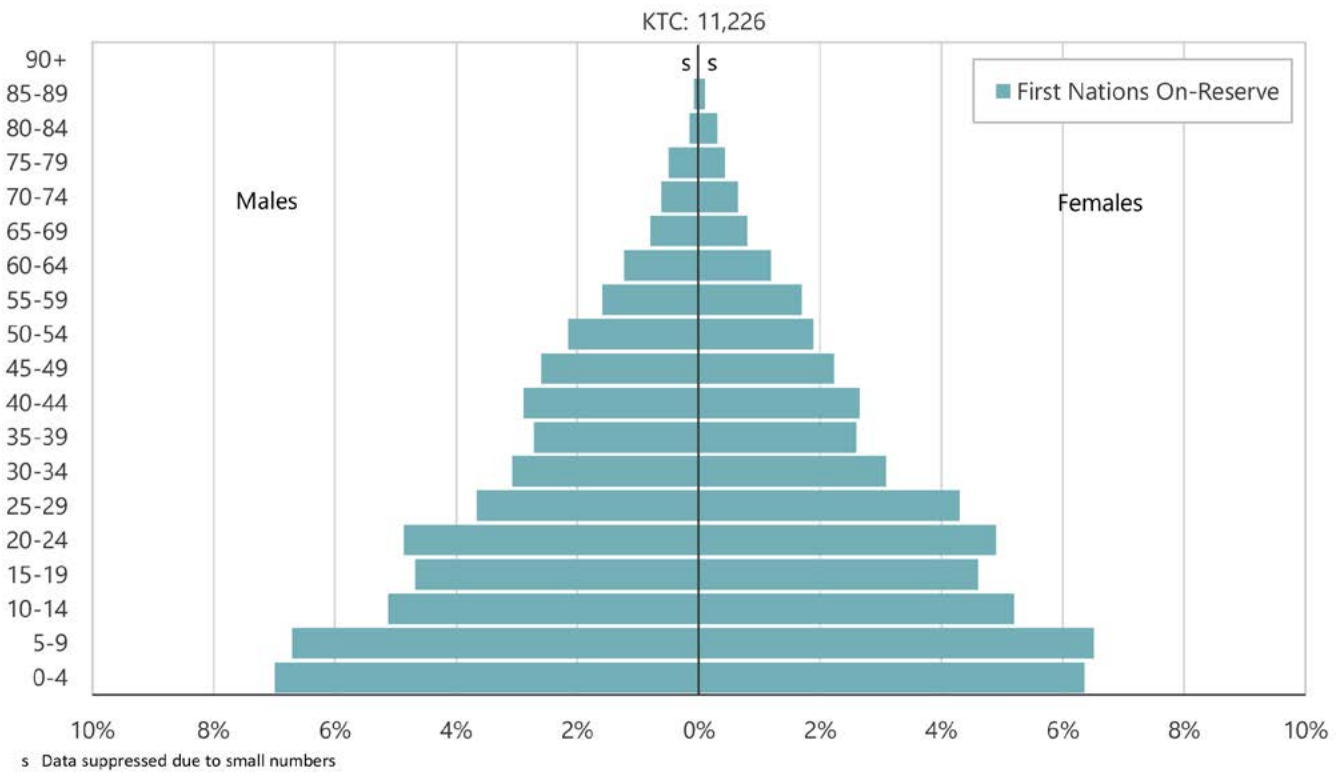
Appendix Figure 1.13: Age Profile of First Nations People in Independent-North Tribal Council Area, 2016



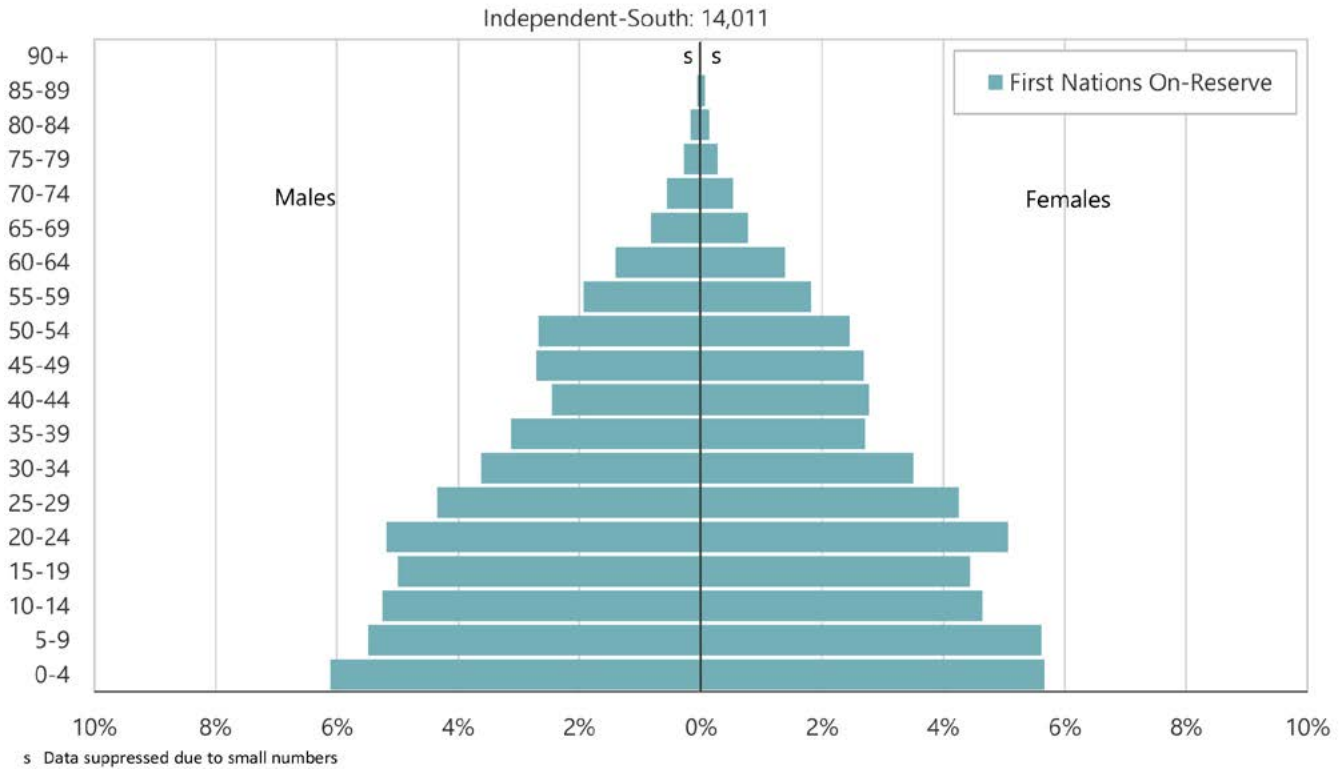
Appendix Figure 1.14: Age Profile of First Nations People in Swampy Cree Tribal Council Area (SCTC), 2016



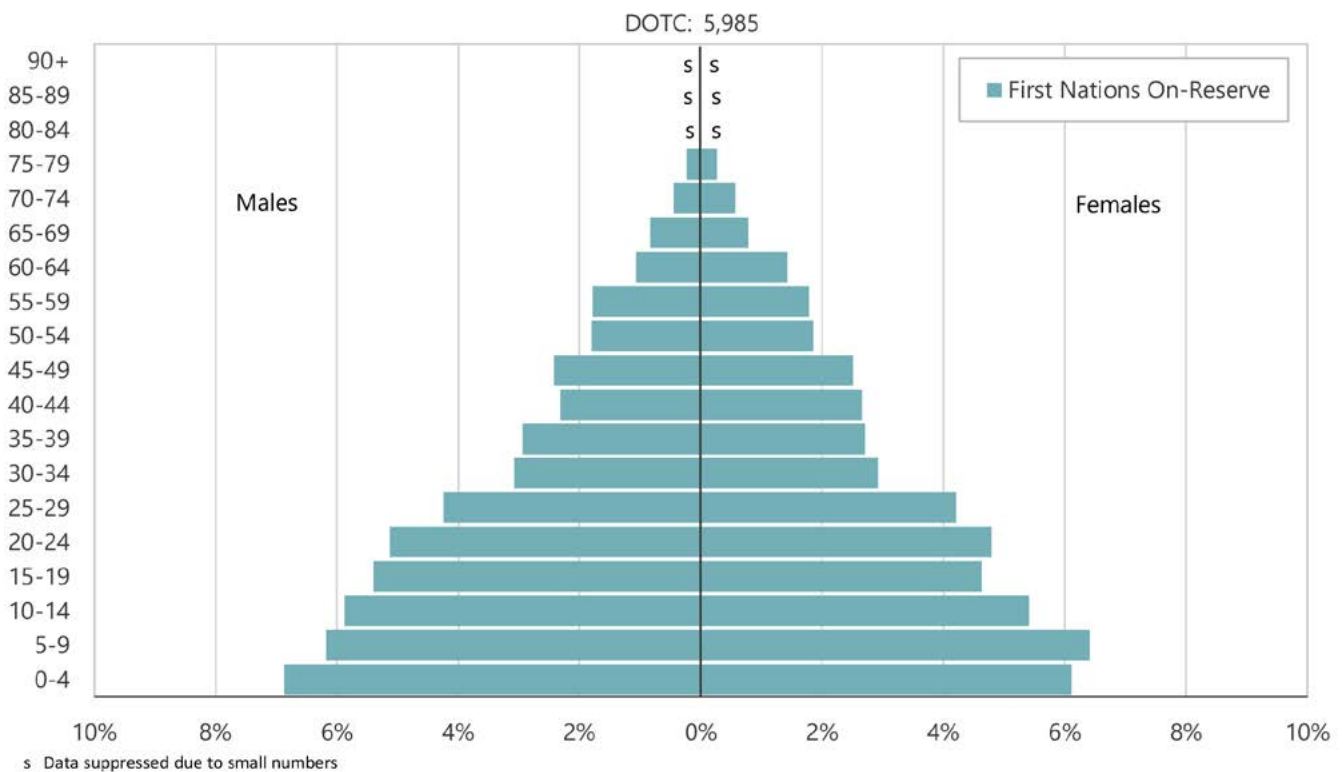
Appendix Figure 1.15: Age Profile of First Nations People in Keewatin Tribal Council Area (KTC), 2016



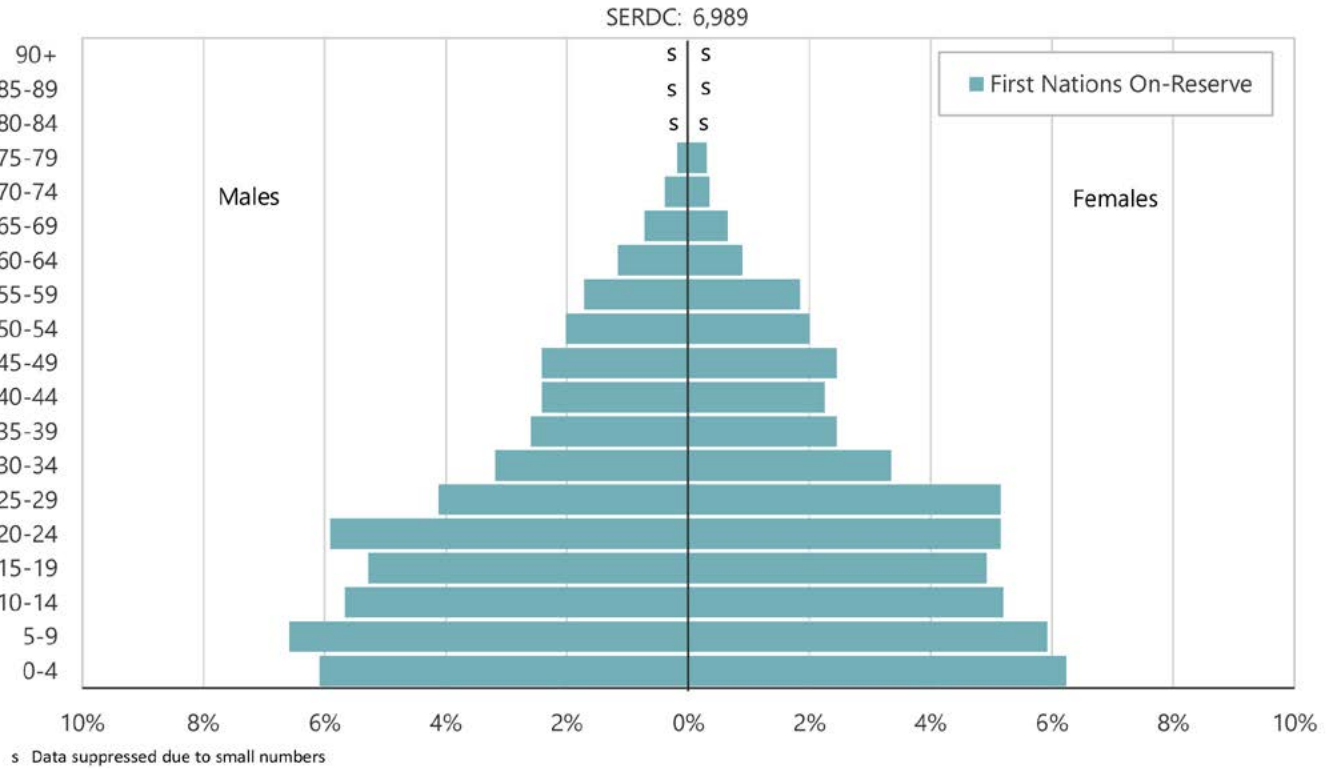
Appendix Figure 1.16: Age Profile of First Nations People in Independent-South Tribal Council Area, 2016



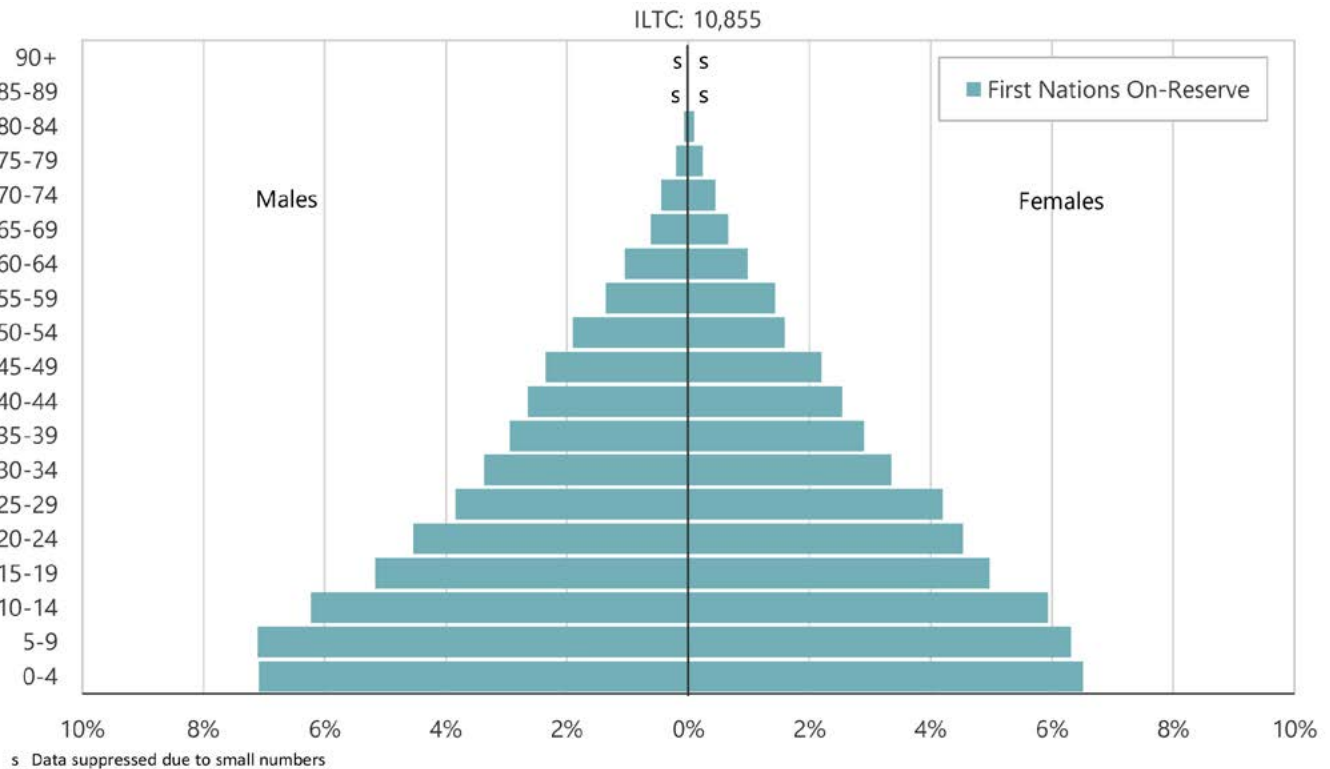
Appendix Figure 1.17: Age Profile of First Nations People in Dakota Ojibway Tribal Council Area (DOTC), 2016



Appendix Figure 1.18: Age Profile of First Nations People in Southeast Tribal Council Area (SERDC), 2016



Appendix Figure 1.19: Age Profile of First Nations People in Island Lake Tribal Council Area (ILTC), 2016



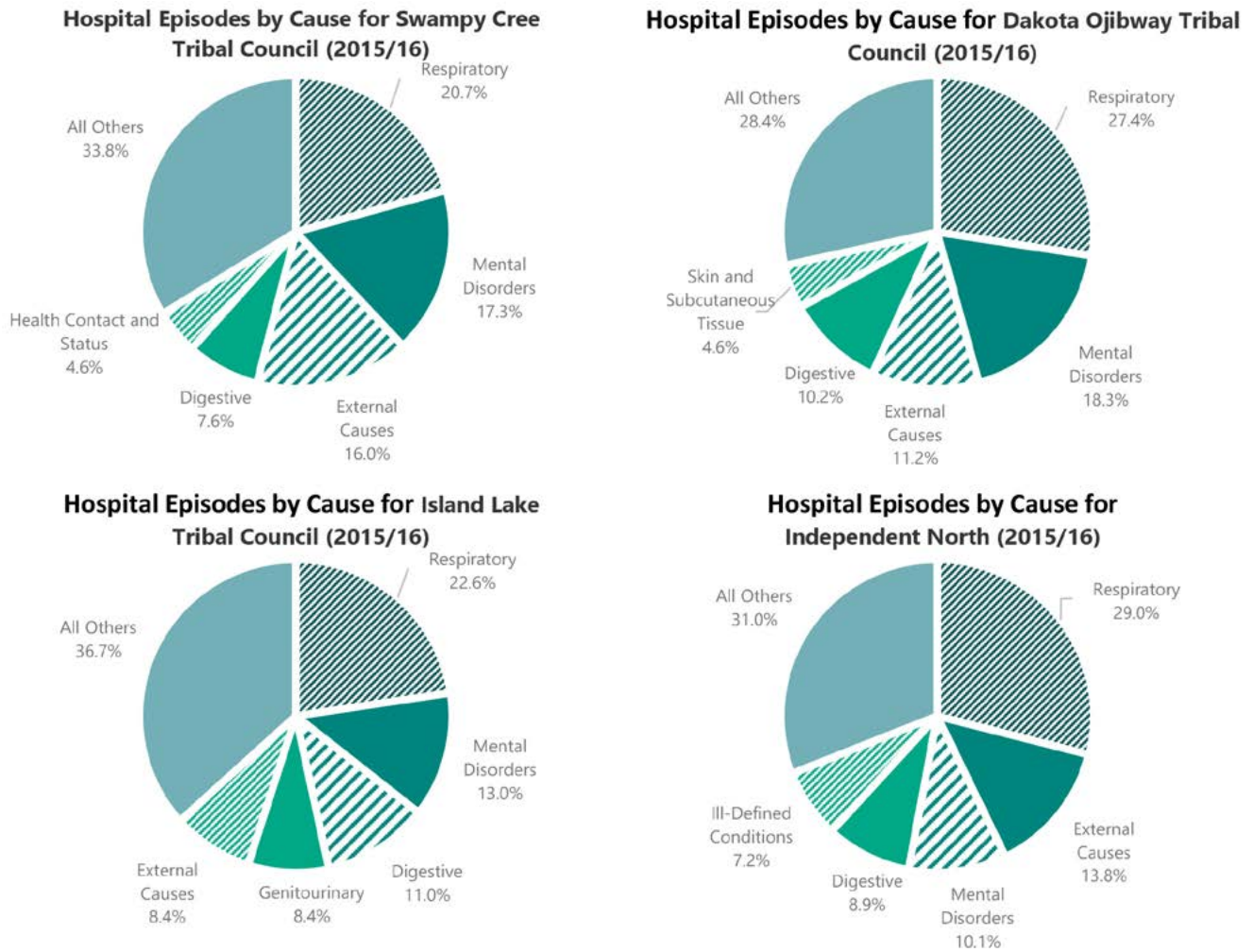
Note: The graph showing the age and sex profile of First Nations people living in non-affiliated communities is not shown due to the small number of people.

Appendix Table 1.1: Complete List of ICD-10-CA Chapters for Causes of Hospitalization

Chapter	Blocks	Title
1	A00-B99	Certain infectious and parasitic diseases
2	C00-D48	Neoplasms
3	D50-D89	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
4	E00-E90	Endocrine, nutritional and metabolic diseases
5	F00-F99	Mental and behavioral disorders
6	G00-G99	Diseases of the nervous system
7	H00-H59	Diseases of the eye and adnexa
8	H60-H95	Diseases of the ear and mastoid process
9	I00-I99	Diseases of the circulatory system
10	J00-J99	Diseases of the respiratory system
11	K00-K93	Diseases of the digestive system
12	L00-L99	Diseases of the skin and subcutaneous tissue
13	M00-M99	Diseases of the musculoskeletal system and connective tissue
14	N00-N99	Diseases of the genitourinary system
15	O00-O99	Pregnancy, childbirth and the puerperium
16	P00-P96	Certain conditions originating in the perinatal period
17	Q00-Q99	Congenital malformations, deformations and chromosomal abnormalities
18	R00-R99	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified
19	S00-T98	Injury, poisoning and certain other consequences of external causes
21	Z00-Z99	Factors influencing health status and contact with health services

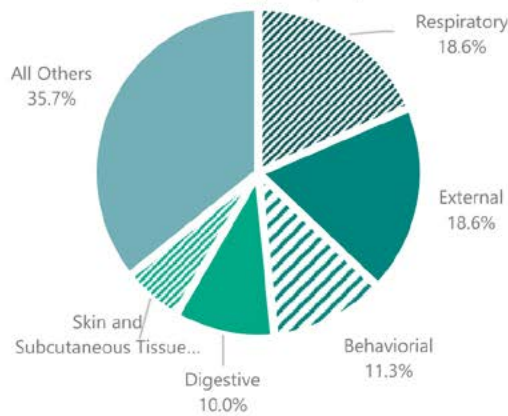
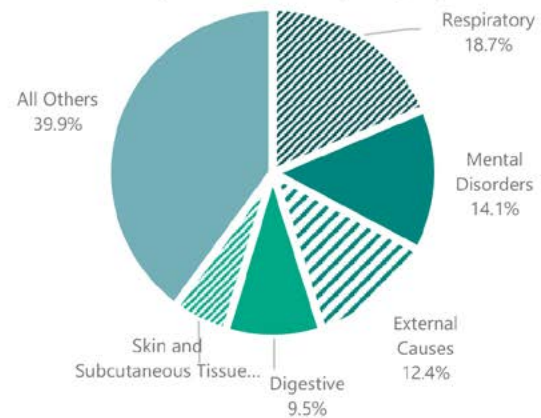
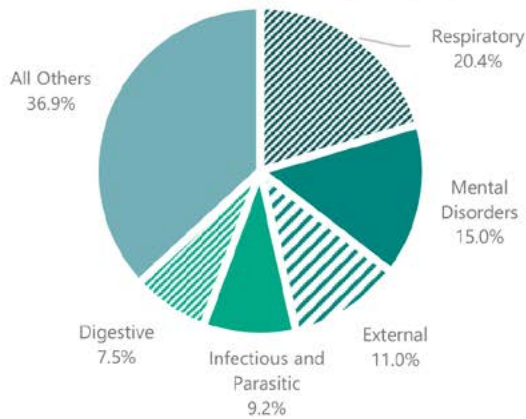
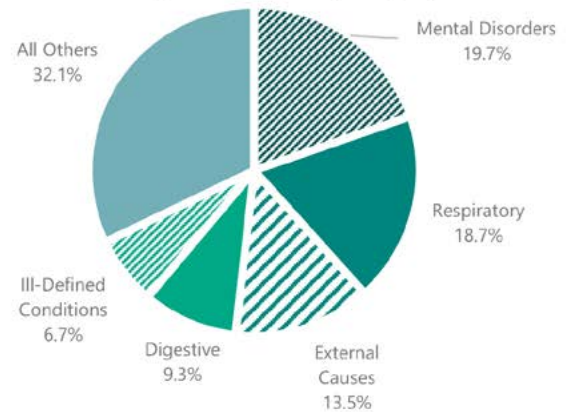
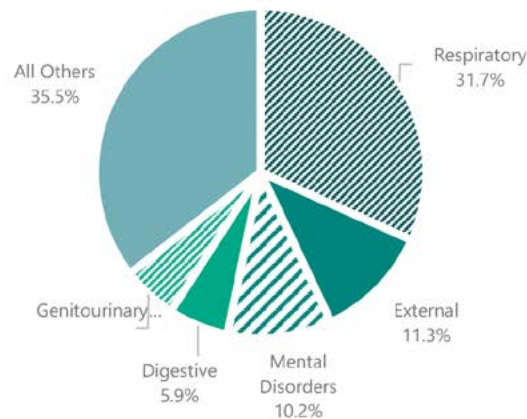
Appendix Figure 1.20: Most Frequent Causes of Hospitalization by Tribal Council Area

Crude percent, age 0-19, 2015/16



Appendix Figure 1.20 Cont'd: Most Frequent Causes of Hospitalization by Tribal Council Area

Crude percent, age 0-19, 2015/16

Hospital Episodes by Cause for Interlake Reserves Tribal Council (2015/16)

Hospital Episodes by Cause for Independent South (2015/16)

Hospital Episodes by Cause for Keewatin Tribal Council (2015/16)

Hospital Episodes by Cause for Southeast Resource Development Council (2015/16)

Hospital Episodes by Cause for West Region Tribal Council (2015/16)


Appendix Table 1.2: Most Common Types of Charges for Adolescents Accused of a Crime

Children age 12-19, 2016/17

All First Nations		All Other Manitobans	
Charge	Percent	Charge	Percent
Failure to Comply with Sentencing/Disposition	15.15%	Failure to Comply with Sentencing/Disposition	14.22%
Failure to Compy with Condition on a Recognizance or Undertaking	9.44%	Failure to Compy with Condition on a Recognizance or Undertaking	7.98%
Assault	6.11%	Possess Weapon for a Purpose Dangerous to the Public Peace	5.60%
Mischief	6.03%	Mischief	5.54%
Possess Weapon for a Purpose Dangerous to the Public Peace	5.07%	Theft Under \$5,000	5.30%
Failure To Comply With Conditions Of Undertaking	4.23%	Assault	4.94%
Robbery	3.56%	Robbery	3.41%
Assault with a Weapon	3.29%	Possession Of Property Obtained By Crime	3.32%
Failure Comply with Terms of Probation	3.09%	Uttering Threats	3.06%
Theft Under \$5,000	3.04%	Failure To Comply With Conditions Of Undertaking	2.90%

Appendix Table 1.3: Most Common Crimes Committed Against Children

Children age 0-19, 2016/17

All First Nations		All Other Manitobans	
Incident Type	Percent	Incident Type	Percent
Unknown	83.49%	Unknown	65.52%
Domestic/family trouble	8.80%	Domestic/family trouble	15.14%
Assault - no weapon	3.29%	Assault - no weapon	3.85%
Weapon incident (not firearms)	<1.00%	Weapon incident (not firearms)	2.87%
Assault with weapon	<1.00%	Assault with weapon	2.31%
Sexual assault	<1.00%	Sexual assault	1.68%
Disturbance	<1.00%	Break & enter - residential	1.26%
Fight	<1.00%	Disturbance	1.19%
Property damage	<1.00%	Threats	1.05%
Threats	<1.00%	Fight	<1.00%

Note: Only incidents that are reported to the Winnipeg Police Services include the incident type. Incidents reported to RCMP and other agencies do not record the incident type, and are therefore shown as 'Unknown'.

Appendix Table 1.4: Most Common Crimes Witnessed by Children

Children age 0-19, 2016/17

All First Nations		All Other Manitobans	
Incident Type	Percent	Incident Type	Percent
Unknown	94.11%	Unknown	81.15%
Domestic/family trouble	2.25%	Domestic/Family trouble	5.62%
Assault without a weapon	1.16%	Assault with a weapon	2.50%
Residential Break & enter	<1.00%	Sexual Assault	1.87%
Weapon incident (not firearms)	<1.00%	Impaired Driving	1.25%
Assault with weapon	<1.00%	Shoplifting	1.12%
Sexual assault	<1.00%	Assault without a weapon	<1.00%
Disturbance	<1.00%	Motor vehicle accident	<1.00%
Porno/prost/gambling	<1.00%	Disturbance	<1.00%
Property damage	<1.00%	Fight	<1.00%

Note: Only incidents that are reported to the Winnipeg Police Services include the incident type. Incidents reported to RCMP and other agencies do not record the incident type, and are therefore shown as 'Unknown'.

Appendix 2: Technical Definitions

Appendix Table 2.1: Technical Definitions

Indicator	Technical Definition
Asthma	Children were considered to have a diagnosis of asthma if they met one of the following conditions: <ol style="list-style-type: none"> 1 or more hospitalization in 1 year: ICD-10-CA code: J45; or 1 or more physician visits in 1 year: ICD-9-CM code = 493; or 1 or more prescription in 1 year: R03, R06AX17, R05CA10 (with several DINs deleted after being reviewed). DINs: 01900552, 02394936, 02409720, 02418282, 02418401, 00328944, 02359456, 02376938, 02408872.
Atopic Dermatitis (Atopic Eczema)	Children were considered to have a diagnosis of atopic dermatitis if they met one of the following conditions: <ol style="list-style-type: none"> 1 or more hospitalizations with any of the following ICD-10-CA codes: <ul style="list-style-type: none"> Atopic dermatitis: L20 Allergic contact dermatitis: L23 Unspecified contact dermatitis: L25 1 or more physician visits with any of the following ICD-9-CM codes: <ul style="list-style-type: none"> Dermatitis due to substances taken internally: L27; or Atopic dermatitis and related conditions: 691 Contact dermatitis and other eczema: 692 Dermatitis due to substances taken internally (e.g., food, drugs, other specified, unspecified): 693
Attention Deficit Hyperactivity Disorder (ADHD)	Children were considered to have a diagnosis of attention deficit hyperactivity disorder if they met one of the following conditions [1]: <ol style="list-style-type: none"> 1 or more hospitalizations with diagnosis of hyperkinetic syndrome (ICD-10-CA code F90) in one fiscal year, or 1 or more physician claims with diagnosis of hyperkinetic syndrome (ICD-9-CM code 314) in one fiscal year, or 2 or more prescriptions for ADHD drugs in one fiscal year without a diagnosis (by ICD-10-CA code) in the same fiscal year of: <ul style="list-style-type: none"> Conduct disorder: F63, F91, F92 Disturbance of emotions: F93, F94 Cataplexy/narcolepsy: G47.4, or One prescription for ADHD drugs in one fiscal year with diagnosis of hyperkinetic syndrome (ICD-9-CM code 314 or ICD-10-CA code F90) in the previous 3 fiscal years.
Being Accused of a Crime	Individuals who have had contact with the justice system and are identified using the PRISM (Prosecutions Information and Scheduling Management) database having been accused of a crime.
Being a Victim of a Crime	Individuals who have had contact with the justice system and are identified using the PRISM (Prosecutions Information and Scheduling Management) database as having been a victim of a crime.

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
Being a Witness to a Crime	Individuals who have had contact with the justice system and are identified using the PRISM (Prosecutions Information and Scheduling Management) database as having been a witness of a crime.
Breastfeeding Initiation	A baby is considered breastfed if he/she was fully breastfed or partially breastfed at hospital discharge.
Child Mortality (age 1-19)	Causes of death for children aged 1 to 19, categorized by the chapters of the International Classification of Diseases (ICD) codes as reported on the Death Certificate (also known as the Medical Certificate of Death) from Vital Statistics.
Children in Care	Children in care are children who are involved in the Manitoba Child Welfare system (Child and Family Services (CFS)) who have been removed from the care of their original families because of a situation where authorities have deemed their family unable or unfit to look after them properly. In some cases, children are voluntarily placed into care by their parents or guardians. Children can come into care for a variety of reasons including abuse and neglect, illness, death of a parent, addiction issues or conflict in their family, disability, or emotional problems. Some children are placed in care for very short time periods before being returned to their families, whereas others may spend many years in care. Children in care do not include children who remain with or are returned to a parent or guardian under an order of supervision.
Complete Vaccination (Two Year Olds) (Continued on next page)	<p>In order for a child to be considered completely immunized, a minimum number of doses of each type of vaccine must be received within the first few months, up to 2 years of age.</p> <ol style="list-style-type: none"> 1. If child is born in 2009: <ul style="list-style-type: none"> 4 DTP, 3 Polio, 4 HiB, 1 MMR, 4 PCV7, 1 Varicella, 1 Men-C 2. If child is born between Jan.1,2010-Jul.1,2010: <ul style="list-style-type: none"> 4 DTP, 3 Polio, 4 HiB, 1 MMR, 4 PCV7, 1 Varicella, 1 Men-C 3. If child is born between Jul.2,2010-Dec.31,2010: <ul style="list-style-type: none"> 4 DTP, 3 Polio, 4 HiB, 1 MMR, 3 PCV13, 1 Varicella, 1 Men-C, or 4 DTP, 3 Polio, 4 HiB, 1 MMRV, 3 PCV13, 1 Men-C 4. If child is born in 2011: <ul style="list-style-type: none"> 4 DTP, 3 Polio, 4 HiB, 1 MMR, 3 PCV13, 1 Varicella, 1 Men-C, or 4 DTP, 3 Polio, 4 HiB, 1 MMRV, 3 PCV13, 1 Men-C 5. If child is born in 2012: <ul style="list-style-type: none"> 4 DTP, 3 Polio, 3 PCV13, 4 HiB, 1 MMRV, 1 Men-C 6. If child is born in 2013: <ul style="list-style-type: none"> 4 DTP, 3 Polio, 3 PCV13, 4 HiB, 1 MMRV, 1 Men-C 7. If child is born between Jan. 1, 2014-Mar. 31, 2014: <ul style="list-style-type: none"> 4 DTP, 3 Polio, 3 PCV1 4 HiB, 1 MMRV, 1 Men-C 8. If child is born between Apr. 1, 2014-Dec. 31, 2014: <ul style="list-style-type: none"> 4 DTP, 3 Polio, 3 PCV13, 4 HiB, 1 MMRV, 1 Men-C, 2 Rota-1

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
<p>Complete Vaccination (Two Year Olds) (Continued)</p>	<p>Tariff Codes for Vaccinations [2]</p> <ol style="list-style-type: none"> 1. DTP: 8601, 8602, 8603, 8609, 8641, 8642, 8643, 8649, 8651, 8781, 8782, 8783, 8789, 8798, 8802, 8804, 8805, 8806, 8807, 8921, 8922, 8923, 8924, 8929; 2. Polio: 8611, 8612, 8613, 8619, 8798, 8802, 8804, 8805, 8806, 8807, 8924, 8931, 8932, 8933, 8939; 3. Hib: 8781, 8782, 8783, 8789, 8802, 8804, 8806, 8807, 8901, 8902, 8903, 8909; 4. MMR: 8621, 8670; 5. Varicella: 8672, 8674; 6. PCV7/13: 8681, 8682, 8683, 8684, 8962, 8896 7. Men-C: 8685, 8686, 8687, 8925 8. MMRV: 8671 (Launched 2012 [3]) 9. Rota-1: 8897 10. Rota-5: 8778
<p>Dental Surgeries</p>	<p>Dental Surgeries were identified using Hospital Abstracts or Medical Services data sources:</p> <ol style="list-style-type: none"> 1. Medical Services: Dental anesthesia: tariff code 6999, or 2. Hospital abstracts CCI procedure codes: 1.FE.57 or 1.FE.89 <p>Note: The hospital abstract must indicate that the patient received general anesthesia OR a dental anesthesia claim must have been made during, in the five days preceding, or in the five days following, their hospital stay. This includes both inpatient and day surgeries.</p> <p>Exclusions</p> <ol style="list-style-type: none"> 1. Newborns and infants requiring extraction of natal or neonatal teeth in the first five months of life 2. Children diagnosed with a cleft-lip or a cleft-palate at <72 months of age using the following ICD-10-CA codes: <ul style="list-style-type: none"> Cleft hard palate: Q35.1 Cleft soft palate: Q35.3 Cleft hard palate with cleft soft palate: Q35.5 Cleft uvula: Q35.7 Cleft palate, unspecified: Q35.9 Cleft lip, bilateral: Q36.0 Cleft hard palate with bilateral cleft lip: Q37.0

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
Developmental Disorders (Continued on next page)	<p>Children were considered to have a diagnosis of a developmental disorder if they met one of the following conditions:</p> <ol style="list-style-type: none"> 1. In the Medical Services data, diagnoses are recorded using three-digit ICD-9-CM diagnosis codes, and therefore the 5-digit, specific codes used in the hospital data are not available from the Medical Services data. The following 3-digit ICD-9-CM codes were used to select cases of Developmental Disability from the Medical Services data: Mild Mental Retardation (MR): 317 Other MR: 318 Unspecified MR: 319 Autism and other psychoses with origin specific to childhood: 299, or 2. In the hospital discharge data, the following ICD-10-CA codes were used to select cases of Developmental Disorders (NOTE: In Manitoba, for data beginning on April 1, 2004, up to 25 diagnoses can be coded in an abstract using ICD-10-CA): Mild mental retardation: F70.0, F70.1, F70.8, F70.9 Moderate mental retardation: F71.0, F71.1, F71.8, F71.9 Severe mental retardation: F72.0, F72.1, F72.8, F72.9 Profound mental retardation: F73.0, F73.1, F73.8, F73.9 Other mental retardation: F78.0, F78.1, F78.8, F78.9 Unspecified mental retardation: F79.0, F79.1, F79.8, F79.9 Pervasive developmental disorders: F84.0, F84.1, F84.3, F84.4, F84.5, F84.8, F84.9 Congenital malformation syndromes due to known exogenous causes, not elsewhere classified: Q86.1, Q86.2, Q86.8 Other specified congenital malformation syndromes affecting multiple systems: Q87.0, Q87.1, Q87.2, Q87.3, Q87.5, Q87.8 Other specified congenital malformations: Q89.8 Down's syndrome: Q90.0, Q90.1, Q90.2, Q90.9 Edward's syndrome and Patau's syndrome: Q91.0, Q91.1, Q91.2, Q91.3, Q91.4, Q91.5, Q91.6, Q91.7 Monosomies and deletions from the autosomes, not elsewhere classified: Q93.0, Q93.1, Q93.2, Q93.3, Q93.4, Q93.5, Q93.6, Q93.7, Q93.8, Q93.9 Fragile X chromosome: Q99.2

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
<p>Developmental Disorders (Continued)</p>	<p>As developmental disabilities looks at incidence over the child's life, the following ICD-9-CM codes were used to identify developmental disabilities prior to April 1, 2004.</p> <p>Mild Mental Retardation (MR): 317</p> <p>Other MR: 318</p> <p>Unspecified MR: 319</p> <p>Autism and other psychoses with origin specific to childhood: 299</p> <p>Chromosomal abnormalities: 758.0 - 158.3</p> <p>Other and Unspecified congenital anomalies: 759.81 - 759.89</p> <p>(note: P04.3 'Fetus and newborn affected by maternal use of alcohol' presented unreliable coding and therefore was excluded)</p> <p>3. In the Manitoba Education & Training (MET) Special Needs data file, children receiving special (categorical) funding for special needs were identified using the variable CATEGORYN. Children with developmental disabilities are selected by a value of "Multiple Handicaps" ("MH") or "Autism Spectrum Disorder" (ASD) in this variable. The data also contains a variable STATUSN, that identifies whether the funding is approved, denied, non-supportable or terminated, and works in conjunction with CATEGORYN. Only those with an "approved status" are included in the selection process.</p> <p>4. From the FASD clinic data, individuals were included if they had the following diagnoses in the variable DIA_Diagnosis: "ARBD", "ARND", "ARND/ARBD", "FAS", "FAS/ARBD", "Partia FAS".</p>
<p>Diabetes</p>	<p>Children were considered to have a diagnosis of diabetes if they met one of the following conditions:</p> <ol style="list-style-type: none"> 1 or more hospitalizations with a diagnosis of diabetes, ICD-10-CA codes E10-E14, or 2 or more physician visits with a diagnosis of diabetes, ICD-9-CM diagnosis code 250 or 1 or more prescriptions for drugs used in diabetes, e.g., insulins, blood glucose lowering drugs, ATC code A10, or 1 or more glycohemoglobin (HbA1C) tests with a result $\geq 6.5\%$, or Identified as having diabetes in the Diabetes Education Resource for Children and Adolescents <p>And did not meet any of the following conditions:</p> <ol style="list-style-type: none"> 1 prescription for metformin (ATC code A10BA) without a diagnosis for diabetes from a hospitalization or physician visit Ever had 1 or more prescriptions for an insulin infusion set (Manitoba Product Identification Numbers: 00905739, 00908300, 00992968, 00992976, 00992984, 00992991) Ever had 1 or more diagnoses for cystic fibrosis from a hospitalization or physician visit: ICD-9-CM diagnosis code 277.0; ICD-10-CA code E84

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
Grade 3 Reading Assessment	<p>Grade 3 students who were 'meeting' or 'approaching' expectations on all three reading competencies in academic years 2012/13-2016/17.</p> <p>Teacher assessment of reading skills for students in Grade 3 of publicly funded schools in Manitoba. The three reading competencies are assessed early in the school year:</p> <ol style="list-style-type: none"> 1. Reflects on and sets reading goals; 2. Uses strategies during reading to make sense of texts; and 3. Demonstrates comprehension.
Grade 3 Numeracy Assessment	<p>Grade 3 students who were 'meeting' or 'approaching' expectations on all four numeracy competencies in 2012/13-2016/17; Teacher assessment of number skills for students in Grade 3 of publicly funded schools in Manitoba. The four numeracy competencies are assessed early in the school year:</p> <ol style="list-style-type: none"> 1. Predicts an element in a repeating pattern; 2. Understands that the equal symbol represents an equality of the terms found on either side of the symbol; 3. Understands that a given whole number may be represented in a variety of ways; and 4. Uses various mental mathematic strategies to determine answers to addition and subtraction questions up to the number 18.
Grade 7 Mathematics Assessment	<p>Grade 3 students who were 'meeting' or 'approaching' expectations on all four numeracy competencies in 2012/13-2016/17; Teacher assessment of number skills for students in Grade 3 of publicly funded schools in Manitoba. The four numeracy competencies are assessed early in the school year</p> <ol style="list-style-type: none"> 1. Orders fractions; 2. Orders decimal numbers; 3. Understands that a given number may be represented in a variety of ways; 4. Uses number patterns to solve mathematical problems; and 5. Uses a variety of strategies to calculate and explain a mental mathematics problem.
Grade 7 Student Engagement Assessment	<p>Grade 7 students who had 'established' (nearly always demonstrate the described behaviour) or 'were developing' (frequently demonstrate the described behaviour) on a five measures of engagement in 2012/13-2016/17; Teacher assessment of engagement for students in Grade 7 of publicly funded schools in Manitoba. The five measures of engagement are assessed halfway through the school year:</p> <ol style="list-style-type: none"> 1. Demonstrates an interest in his/her learning; 2. Engages in self-assessment; 3. Aware of learning goals as a unit of study and/or personal learning goals; 4. Participates in lessons; and 5. Accepts responsibility for assignments.

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
Grade 8 Reading and Writing Assessment	<p>Grade 8 students who were 'meeting' or 'approaching' expectations on all six reading and writing competencies in 2012/13-2016/17; Teacher assessment of reading comprehension and writing of informal texts for students of publicly funded schools in Manitoba. The six competencies are assessed in the first term of the school year:</p> <ol style="list-style-type: none"> 1. Understands key ideas and messages in a variety of texts; 2. Interprets a variety of texts; 3. Responds critically to a variety of texts; 4. Generates, selects and organizes ideas to support the reader's understanding; 5. Chooses language (word choices and sentence patterns) to make an impact on the reader; and 6. Uses conventions (spelling, grammar, and/or punctuation) and resources to edit and proofread to make meaning clear.
Grade 12 Language Arts Test	<p>Grade 12 Language Arts Tests are provincial exams [4] for Grade 12 students administered toward the end of the academic year or semester. They are curriculum-based and account for 30% of the students' final course mark [5]. To measure this indicator, we selected five grade 9 cohorts of students who were living in Manitoba and remained living in Manitoba until their expected year of graduation. All children who enrolled in grade 9 in school year 2008/09 and graduated in school year 2011/12 (or one year after) made up the first cohort. The second cohort started with children who enrolled in grade 9 in school year 2009/10, etc. The last cohort included all children enrolled in grade 9 in school year 2012/13 and graduated in school year 2015/16 (or one year after). We calculated the crude percentage of students who passed the Grade 12 Language Arts Tests in their grade 12 year or the year after.</p>
Grade 12 Mathematics Test	<p>Grade 12 Mathematics Tests are provincial exams [4] for Grade 12 students administered toward the end of the academic year or semester. They are curriculum-based and account for 30% of the students' final course mark [5]. To measure this indicator, we selected five grade 9 cohorts of students living in Manitoba and remained living in Manitoba until their expected year of graduation. All children who enrolled in grade 9 in school year 2008/09 and graduated in school year 2011/12 (or one year after) made up the first cohort. The last cohort included all children who enrolled in grade 9 in school year 2012/13 and graduated in school year 2015/16 (or one year after). We calculated the crude percentage of students who passed the Grade 12 Mathematics Tests in their Grade 12 year or the year after.</p>
High School Graduation	<p>High school graduation included individuals who:</p> <ol style="list-style-type: none"> 1. Were identified as graduates in the "year-end status" variable; or 2. Earned at least 28 high school credits prior to 2008/09; or 3. Earned at least 29 high school credits in 2008/09; or 4. Earned at least 30 high school credits from 2009/10 onward; or 5. Earned at least four Grade 12 credits during high school. <p>Population was a cohort of Grade 9 students who were residents of Manitoba followed for six years up until 2008/09 and 2012/13, with or without mental health problems by December 31, 2008/2012 over 2005/06-2008/09 & 2009/10-2012/13.</p>

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
Hospitalizations	<p>A single, continuous stay in the hospital system, irrespective of transfers between hospitals. Transfers within the same hospitalization are not counted as separate events.</p> <p>Exclusions: In cases of birth, newborn hospitalizations are excluded as are the hospitalizations of mother's giving birth.</p> <p>Hospitalizations for attempted suicide were identified using the following ICD-10-CA codes [1,6]:</p>
Hospitalization for Attempted Suicide	<p>1. Suicide Attempts (as defined in the Metis Health Status deliverable [7]) are defined by an inpatient hospitalization with an ICD-10-CA diagnosis code for suicide and self-inflicted injury or with an ICD-10-CA diagnosis code for accidental poisoning combined with a psychiatric tariff code from medical claims during hospital stay or within 30 days of discharge</p> <p>Accidental Poisoning: X40-X42, X44, X46, X47</p> <p>Self inflicted poisoning: X60-X69</p> <p>Self inflicted injury by hanging, strangulation and suffocation: X70</p> <p>Self inflicted injury by drowning: X71</p> <p>Self inflicted injury by firearms and explosives: X72-X75</p> <p>Self inflicted injury by smoke, fire, flames, steam, hot vapours and hot objects: X76, X77</p> <p>Self inflicted injury by cutting and piercing instruments: X78, X79</p> <p>Self inflicted injury by jumping from high places: X80</p> <p>Self inflicted injury by jumping of lying before a moving object: X81</p> <p>Self inflicted injury by crashing motor vehicle: X82</p> <p>Self inflicted injury by other and unspecified means: X83, X84</p> <p>Poisoning with undetermined intent: Y10-Y12, Y16, Y17</p> <p>NOTE: there were no supporting ICD-9-CM codes included from source: Fransoo et al. (2009) and Martens et al. (2010) [7,8]</p> <p>Late effects of self inflicted injury:</p> <p>NOTE: there were no supporting ICD-10-CA codes included from source: Fransoo et al. (2009) and Martens et al. (2010) [7,8]</p> <p>Ultimately, the overall SUICIDE ATTEMPT DEFINITION will include those PHINs that attempted suicide or were admitted into the hospital for accidental poisoning (supported by a psychiatric tariff code either during the hospital stay or within 30 days post-discharge).</p>
Infant Mortality (age <1 year)	<p>Causes of death for infants under one year of age, categorized by the chapters of the International Classification of Diseases (ICD) codes as reported on the Death Certificate (also known as the Medical Certificate of Death) from Vital Statistics. Infant mortality is seen as an indicator of health status, level of care in an area, and the effectiveness of prenatal care.</p>

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
Large-for-Gestational-Age	<p>Infants were considered LGA if they were at or above the 90th percentile in birth weight, from an infant population of the same sex and gestational age [9].</p>
Living in a Family Receiving Income Assistance	<p>A provincial program of last resort for people who need help to meet basic personal and family needs. Wherever possible, the program is aimed at helping people find a job or get back to work. Eligibility for income assistance is determined by a test of need. The total financial resources of the household are compared to the total cost of basic necessities as defined in the Employment and Income Assistance Act and Regulation. Applicants must be in financial need for the monthly cost of basic needs such as food, clothing, personal needs and household supplies; some medical costs; housing (rent) and utilities; and some special costs for adults with disabilities.</p> <p>Children were considered to have a diagnosis of a lower respiratory tract infection if they met one of the following conditions</p> <ol style="list-style-type: none"> 1. A Hospitalization with one of the following ICD-10-CA codes: <ul style="list-style-type: none"> Influenza due to certain identified influenza viruses: J09 Influenza due to other identified influenza virus: J10 Influenza due to unidentified influenza virus: J11 Viral pneumonia, not elsewhere classified: J12 Pneumonia due to Streptococcus pneumoniae J13 Pneumonia due to Hemophilus influenzae: J14 Bacterial pneumonia, not elsewhere classified: J15 Pneumonia due to other infectious organisms, not elsewhere classified: J16 Pneumonia in diseases classified elsewhere: J17 Pneumonia, unspecified organism: J18 Acute bronchitis: J20 Acute bronchiolitis: J21 2. A physician visit with one of the following ICD-9-CM codes: <ul style="list-style-type: none"> Unspecified acute lower respiratory infection: J22 Suppurative and necrotic conditions of lower respiratory tract: J85-J86; or A physician visit with one of the following ICD-9-CM codes: <ul style="list-style-type: none"> Acute bronchitis and bronchiolitis: 466 Viral pneumonia: 480 Pneumococcal pneumonia [Streptococcus pneumoniae pneumonia]: 481 Other bacterial pneumonia: 482 Pneumonia due to other specified organism: 483 Pneumonia in infectious diseases classified elsewhere: 484 Bronchopneumonia, organism unspecified: 485 Pneumonia, organism unspecified: 486
Lower Respiratory Tract Infections (Continued on next page)	

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
Lower Respiratory Tract Infections (Continued)	<p>Influenza: 487</p> <p>Influenza due to certain identified influenza viruses: 488</p> <p>Bronchitis, not specified as acute or chronic: 490</p> <p>Chronic bronchitis: 491</p> <p>Bronchiectasis: 494</p> <p>Empyema: 510</p> <p>Pleurisy: 511</p> <p>Abscess of lung and mediastinum: 513</p>
Mood and Anxiety Disorders	<p>Children were considered to have a diagnosis of a mood and anxiety disorder if they met one of the following conditions:</p> <ol style="list-style-type: none"> One or more hospitalizations with a diagnosis for depressive disorder, affective psychoses, neurotic depression, adjustment reaction, bipolar disorder, anxiety state, phobic disorders, obsessive-compulsive disorders or disturbance of emotions specific to childhood and adolescence: ICD-10-CA codes: <ul style="list-style-type: none"> Manic episode: F30 Bipolar affective disorder: F31 Depressive Episode: F32 Recurrent depressive disorder: F33 Persistent mood (affective) disorders: F34 Other mood (affective) disorders: F38 Phobic anxiety disorders: F40 Other anxiety disorders: F41 Obsessive-compulsive disorder: F42 Reaction to severe stress, and adjustment disorders: F43 Mental and behavioural disorders associated with the puerperium, not elsewhere classified: F53.0 Emotional disorders with onset specific to childhood: F93.0; or Two or more physician visits with a diagnosis for depressive disorder or affective psychoses, emotional disorders with onset specific to childhood, adjustment reaction or anxiety disorders (including dissociative and somatoform disorders): ICD-9-CM codes: <ul style="list-style-type: none"> Manic-depressive psychosis 296 Depressive disorder, not elsewhere classified: 311 Disturbance of emotions specific to childhood and adolescence: 313 Adjustment reaction: 309 Neurotic disorders: 300

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
Newborn Readmissions	The number of newborns readmitted to hospital within 28 days of birth was divided by the total number of live births. Only inpatient hospitalizations were included (i.e., newborns admitted for day procedures were not included). Additionally newborns that were directly transferred to another hospital after birth were not counted as a readmission. In some cases, newborns may be readmitted to hospital not because they are ill themselves, but because their mother is hospitalized and an effort is being made to keep the mother and newborn together. This analysis was done excluding "boarder Newborns".
Number of Different Prescription Drugs	<p>The total number of different drugs* dispensed to an individual.</p> <p>Exclusions: over the counter drugs.</p> <p>* defined by different 4th levels of ATC (which is the first 5 characters of the ATC code).</p> <p>Children were considered to have a diagnosis of otitis media if they met one of the following conditions:</p> <ol style="list-style-type: none"> 1 or more hospitalization with any of the following ICD-10-CA codes: <ul style="list-style-type: none"> Nonsuppurative otitis media: H65 Suppurative and unspecified otitis media: H66 Otitis media in diseases classified elsewhere: H67 Tuberculosis – Otitis Media: A18.6 Measles complicated by otitis media: B05.3; or 1 or more physician visits with any of the following ICD-9-CM codes: <ul style="list-style-type: none"> Nonsuppurative otitis media and eustachian tube disorders: 381 Suppurative and unspecified otitis media: 382
Otitis Media (Ear Infections)	
Preterm Births	Identified live births where the gestational age of the infants are less than 37 weeks using the Hospital Abstracts data.
Receiving Services from Child and Family Services (CFS)	Children whose health or emotional well-being is thought to be endangered, but who remain in a family that receives a service from Child and Family Services (CFS). Services requested by the family or received upon "recommendation" by CFS are intended to serve as aid in the resolution of family matters.
Schizophrenia	Children were considered to have a diagnosis of schizophrenia if they met one of the following conditions [10]: <ol style="list-style-type: none"> One or more hospitalizations with a diagnosis of schizophrenia: ICD-10-CA codes F20; or One or more physician visits with a diagnosis for schizophrenia: ICD-9-CM code 295.
Small-for-Gestational-Age	Infants were considered SGA if they were at or below the 10th percentile in birth weight, from an infant population of the same sex and gestational age.
Social Housing	Individuals who reside in publicly assisted non-profit housing often subsidized by government funds. In this report, analysis is limited to people living in social housing that is owned and directly managed by Manitoba Housing.
Stillbirths	Death of a baby before delivery. Also referred to as Stillborn or fetal death. A stillbirth was identified as a fetal death with a gestation of 20 weeks or greater or a birth weight of at least 500 grams.

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
Substance Use Disorders	<p>Children were considered to have a diagnosis of a substance use disorder if they met one of the following conditions [1]:</p> <ol style="list-style-type: none"> One or more hospitalization with a diagnosis for alcohol or drug psychoses, alcohol or drug dependence, or nondependent abuse of drugs, using: ICD-10-CA codes: <ul style="list-style-type: none"> Mental and behavioural disorders due to psychoactive substance use: F10-F19 Abuse of non-dependence-producing substance use: F55 Alcohol rehabilitation: Z50.2 Drug rehabilitation: Z50.3; or One or more physician visits with a diagnosis for alcohol or drug psychoses, alcohol or drug dependence, or nondependent abuse of drugs using ICD-9-CM codes: <ul style="list-style-type: none"> Alcoholic psychoses: 291 Drug psychoses: 292 Alcohol dependence: 303 Drug dependence: 304 Nondependent abuse of drugs: 305
Suicide	<p>Suicides were identified using the following ICD-10-CA codes:</p> <ol style="list-style-type: none"> Manitoba Vital Statistics death record with one of the following ICD-10-CA codes as the primary cause of death: <ul style="list-style-type: none"> Accidental Poisoning: X40-X42, X46, X47 Self-inflicted poisoning: X60-X69 Self-inflicted injury by hanging, strangulation and suffocation: X70 Self-inflicted injury by drowning: X71 Self-inflicted injury by firearms and explosives: X72-X75 Self-inflicted injury by smoke, fire, flames, steam, hot vapours and hot objects: X76, X77 Self-inflicted injury by cutting and piercing instruments: X78, X79 Self-inflicted injury by jumping from high places: X80 Self-inflicted injury by jumping or lying before a moving object: X81 Self-inflicted injury by crashing motor vehicle: X82 Self-inflicted injury by other and unspecified means: X83, X84 Poisoning with undetermined intent: Y10-Y12, Y16, Y17
Teen Births	<p>Females age 15 to 19 that had a live born.</p> <ol style="list-style-type: none"> A hospitalization with the following ICD-10-CA code <ul style="list-style-type: none"> Live/Stillborn Delivery: Z37

Appendix Table 2.1: Technical Definitions Continued...

Indicator	Technical Definition
<p>Teen Pregnancy</p>	<p>Females age 15 to 19 that had a live birth, stillbirth, ectopic pregnancy, spontaneous abortion, induced abortion, or molar pregnancy.</p> <p>1. A Hospitalization with one of the following ICD-10-CA codes:</p> <ul style="list-style-type: none"> Live/Stillborn Delivery: Z37 Molar Pregnancy: O001, O02, D392 Ectopic Pregnancy: O000-O002, O008-O009 Spontaneous Abortion: O03, O36.4 Induced Abortion: O04, O05; or <p>2. A Hospitalization with one of the following procedures by CCI code:</p> <ul style="list-style-type: none"> Surgical termination of pregnancy: 5.CA.89, 5.CA.90 Surgical removal of extrauterine (ectopic) pregnancy: 5.CA.93 Pharmacological termination of pregnancy: 5.CA.88 Interventions during labour and delivery: 5.MD.5, 5.MD.60
<p>Youth (age 18-19) Receiving Income Assistance</p>	<p>Once an individual turns 18 years of age they are no longer considered dependents and may thereafter apply for their own income assistance, regardless of whether they reside in a family with dependents receiving IA.</p>

References for Appendix 2: Technical Definitions

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