# Healthy Communities: A Role for **Everyone**

## **2022** Health Status of Manitobans Report

from the Chief Provincial Public Health Officer



#### THE HONOURABLE AUDREY GORDON

Minister of Health Room 302, Legislative Building Winnipeg, Manitoba R3C 0V8

### **Dear Minister Gordon:**

Fulfilling the requirements of The Public Health Act, I have the honour and privilege of presenting you the Chief Provincial Public Health Officer's Report on the Health Status of Manitobans 2022: Healthy Communities: A Role for Everyone.

Respectfully submitted,

### Dr. Brent Roussin

**Chief Provincial Public Health Officer** 

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# Message from the Chief Provincial Public Health Officer

COVID-19 has brought upheaval to all of our lives, and has made many of us reconsider what it means to be healthy. Although health has different meanings for different people, we can generally agree it includes physical, mental, social, emotional and spiritual components.

Most Manitobans enjoy very good health, but unfortunately, this is not evenly distributed across our province. We know that racialized people in Manitoba, and those living with lower incomes, have poorer health outcomes compared with other people in Manitoba.

Consider SARS CoV-2, the virus that causes COVID-19. This novel (new) virus was introduced into a world where essentially no one was immune, meaning that everyone was at risk of infection. Even though the entire population was equally susceptible, we still saw that certain groups were unequally affected across many jurisdictions, including our own.

We can also look at the widespread transmission of sexually transmitted and blood-borne infections (STBBIs) and high rates of substance use in our province, which, once again, disproportionally impact marginalized populations.

To address these inequitable health outcomes, we must continue to measure and report on these disparities and strive to address the root causes, especially inequitable structural issues that adversely affect health, such as poverty, racism, stigma, historical trauma and access to care.

During the COVID-19 pandemic, public health played a supporting role with First Nations and Inuit partners that developed a more autonomous and Indigenous-informed and led public health response. This community-led approach, provides a framework for future work on other health issues that can lead to improved health outcomes and long-lasting change.

This report highlights the gaps in health status that impact different populations across our province. My hope is that shining a light on these health inequities and the structural factors that underpin them, will inspire Manitobans to consider their own roles in making Manitoba a healthier place for everyone.

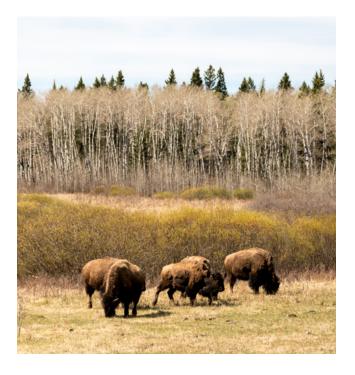
"As COVID-19 has once again shown us, we are all truly in this together."

# Land Acknowedgement

I would like to acknowledge the land on and about which this report was developed. Manitoba borders include the treaty territories and ancestral lands of the Anisihinaabeg, Anishiniewuk, Dakota Oyate, Densuline and Nehethowuk peoples. Manitoba lands cover seven numbered Treaties between Canada and First Nations (1, 2, 3, 4, 5, 6, 10), although five Manitoba First Nations are not signatory to any Treaty (Birdtail Sioux, Sioux Valley, Canupawakpa, Dakota Tipi and Dakota Plains).<sup>[1]</sup> I also acknowledge that Manitoba is located on the homeland of the Red River Métis and that the northern region includes ancestral lands of the Inuit. Manitoba continues to be the home of diverse Indigenous cultures and we are committed to working in partnership with First Nations people, Inuit and Red River Métis citizens in the spirit of truth, reconciliation and collaboration.

## OTHER ACKNOWLEDGEMENTS

As Manitoba's Chief Provincial Public Health Officer, I acknowledge that racist and colonial practices, past and current, have negatively affected the health and



well-being of racialized and Indigenous Peoples, and I am dedicated to moving forward collaboratively with community and Indigenous leadership towards healing and true reconciliation.

This report describes the health gaps that exist between different groups of people in Manitoba and discusses the inequitable practices and conditions that have led to them. It is my hope that a greater understanding of the determinants of health, including the legacy of colonialism in Canada, will support greater health equity in our province.

## DATA

The nearly two-year delay of this report, due to the COVID-19 pandemic, has created many challenges, including, in some cases, the reporting of older data. Data has been updated to the extent possible. However, timing constraints, the timing of data cycles for certain reports, such as the census, and reporting delays as a result of resources being directed to reporting on COVID-19, have meant that some data presented is older.

Identifying and measuring health inequities in Manitoba sets the foundation for creating goals and taking action to close the gaps in health outcomes experienced by different populations. For many indicators presented, data is not available by race, ethnicity and Indigeneity as this information is not regularly collected. To describe the health gap between First Nations and non-First Nations people in Manitoba, this report relies heavily on data from The Health Status of and Access to Healthcare by Registered First Nation Peoples in Manitoba report produced in partnership between the First Nations Health and Social Secretariat and the Manitoba Centre for Health Policy.



During the COVID-19 pandemic, Manitoba began collecting information on race, ethnicity and Indigenous self-identity which supported further analysis of how COVID-19 impacted different groups. In addition, an information sharing agreement between the First Nations Health and Social Secretariat of Manitoba and the Province of Manitoba was signed on April 28, 2020. This unprecedented agreement sets the standard for future agreements that respects the First Nations principles of Ownership, Control, Access and Possession (OCAP®) and First Nations data sovereignty. This report would not have been possible without contributions from many individuals and organizations. A sincere thank you to the numerous people who have provided their time, expertise and perspectives in order to support this effort to describe and improve the health of Manitobans.

Data and feedback were provided by many individuals, government departments and organizations across Manitoba. While not all contributors can be included, the input received was crucial in the development of this final report.

## In particular, the Chief Provincial Public Health Office would like to acknowledge (alphabetically):

- Assembly Manitoba Chiefs
  - First Nations Health and Social Secretariat of Manitoba
  - Pandemic Response Coordination Team
- First Nations and Intuit Health Manitoba Branch
- Manitoba Finance
  - Communications and Engagement Division
- Manitoba Health
  - Population and Public Health Branch
  - Epidemiology and Surveillance Unit
  - Information Management and Analytics Unit
- Manitoba Keewatinowi Okimakanak/Keewatinohk
   Inniniw Minoayawin
- Mental Health and Community Wellness
  - Health Promotion and Wellness Branch
  - Mental Health and Addictions Branch

Finally, this report was made possible through the leadership of the writing team who overcame many obstacles, including a global pandemic, during its development.

# Executive Summary

The COVID-19 pandemic delayed the release of this report by almost two years. During this time, we had an opportunity to see, first-hand, the impact of health inequities in our province. When SARS CoV-2, the virus that causes COVID-19, was first identified in humans we were all equally susceptible, but not all groups were affected to the same degree. This report will outline how this pattern can be seen in many other health outcomes.

It is important to reflect upon the idea that health disparities are not due to chance, poor life choices, genetics or some other inherent predisposition to poor health outcomes. One of the goals of this report is to emphasize the role that the social determinants of health (such as income, racism and colonialism) have on the health of Manitobans.

Measuring the gaps in health status in our province is necessary to guide actions to improve the health of all Manitobans. Having a more equitable society and improving access to education, justice, employment, housing, wealth and other social and structural determinants of health benefits us all. When it comes to improving the health of our population, every Manitoban has a role a play. However, those with the power and privilege to make decisions and set policy direction have a particular responsibility to disrupt and transform public policy, institutional practices and cultural views that further entrench these disparities. As public health practitioners, we recognize that to advance health equity, we need to continue to measure and expand our understanding of health disparities, set measurable and achievable targets and collaborate with community leadership. We must also incorporate evidence-informed remedies, such as cultural safety, decolonization and anti-racism into our work.

After providing a general health status update, this report provides a description of COVID-19 in Manitoba between March 2020 and March 2022, and concludes with a closer look at the inequitable impact by race, ethnicity and Indigeneity.

"It is important to reflect upon the idea that health disparities are not due to chance, poor life choices, genetics or some other inherent predisposition to poor health outcomes."

# Truth and Reconciliation

Governments have been called upon by the Truth and Reconciliation Commission of Canada's Call to Action #18

"to acknowledge that the current state of Aboriginal health in Canada is a direct result of previous Canadian government policies, including residential schools, and to recognize and implement the health-care rights of Aboriginal people as identified in international law, constitutional law, and under the Treaties.<sup>[2]</sup>"

The Truth and Reconciliation Commission (TRC) was established in 2008 to bear witness to the impacts of residential schools and to facilitate reconciliation among former students and their families, their communities, governments and all Canadians. Residential schools are a part of Canada's shared history, which was not widely acknowledged by non-Indigenous people before the TRC's work. Canada's relationship with Indigenous people suffered due to the profound effects of residential schools.<sup>[3]</sup>

Everyone has a role in reconciliation. Chief Robert Joseph, who was an honorary witness to the TRC, suggests that "the most important definition of reconciliation is the one that applies to an individual's own life experience" by asking

"What is it in your life that needs to be reconciled?"



Reconciliation can mean different things to different people. Chief Joseph has suggested that "what is important is that we are thinking about it now and we build from the place that we are at to create the reconciliation that has outcomes that we desire as human beings - a loving, caring, just society".<sup>[4]</sup>

The TRC defines reconciliation as "establishing and maintaining a mutually respectful relationship between Aboriginal and non-Aboriginal peoples in this country. In order for that to happen, there has to be awareness of the past, acknowledgement of the harm that has been inflicted, atonement for the causes, and action to change behaviour."<sup>[5]</sup> Reconciliation is not a destination, or something that is achieved and checked off of a to-do list. It will require continual effort and action over time. The journey of reconciliation that Canadians are embarking on involves fundamental change that is incorporated into every aspect of our society, including in our churches, educational institutions, all levels of governments and all sectors. With this change, attitudes of mutual respect are being cultivated throughout the nation.

## There are many ways for people of all ages to engage in reconciliation including:

- participating in local community events on the National Day for Truth and Reconciliation (Sept. 30) and local Indigenous cultural events open to the public throughout the year.
- reading Indigenous books and watching movies by Indigenous filmmakers.
- learning more about Indigenous arts and artists.

## **RESOURCES FOR FURTHER LEARNING:**

- Reconciliation: What does it mean?
   A short video of a panel discussion with
   Indigenous leaders and experts hosted by
   Health Canada in 2018. <u>https://www.canada.ca/en/
   health-canada/services/video/reconciliation.html</u>
- Truth and Reconciliation
   Commission of Canada: Calls to Action
   The 94 Calls to Action of the Truth and Reconciliation
   Commission. <u>https://publications.gc.ca/collections/</u>
   collection\_2015/trc/IR4-8-2015-eng.pdf
- Honoring the Truth, Reconciling for the Future
   Summary of the Final Report of the Truth and
   Reconciliation Commission of Canada.
   <u>https://publications.gc.ca/collections/collection\_2015/</u>
   trc/IR4-7-2015-eng.pdf
- What We Have Learned
   Principles of Truth and Reconciliation
   <u>https://publications.gc.ca/collections/</u>
   collection 2015/trc/IR4-6-2015-eng.pdf

## Where are the Children Buried?

This report addressed the question about where deceased Indian Residential School students are buried. Figures and illustrations to accompany the report are available at <u>https://nctr.ca/wp-content/uploads/2021/05/AAA-Hamilton-cemetery-Flnal.pdf</u>.

## TERMINOLOGY

Throughout this report we will primarily use the terms racialized people to describe historically marginalized races and ethnicities and Indigenous to describe First Nations people, Inuit and Métis Nation citizens. However, it is important to recognize that these terms refer to distinct peoples that have unique cultures between them as well as within them, such as diverse histories, geography, customs, traditions and languages. Where information presented relates to a specific group, we will be as specific as possible in recognition and respect of the diversity throughout our province and country.



# **PUBLIC HEALTH:**

Beyond Treatment of Disease

# What Is Public Health?

Public health is defined as the organized efforts to keep people healthy and prevent injury, illness and early death. It is a combination of programs, services and policies that promote and protect the health of people and the communities where we live, learn, work and play.<sup>[6]</sup>

## Supporting the Health of Population

Since the early 1900s, the average lifespan of Canadians has increased by more than 30 years.<sup>[7]</sup> Twenty-five of those years are attributable to advances in public health.<sup>[7]</sup> Various public health achievements have led to this increase, including the control of infectious disease, the decline in deaths from heart disease and stroke, improved maternal and child health, workplace safety, vaccination, motor vehicle safety, the recognition of tobacco as a health hazard, and food safety.<sup>[7]</sup>

Public health takes a population health approach to improving the health of an entire population, group or community. The population health approach looks at why some communities are healthier than others and uses that information to take action. This action includes developing programs and policies to improve the health and well-being of those populations.<sup>[8]</sup> To support the health of populations, some public health work provides direct support to people in their communities, such as free flu shot clinics, breast feeding support for parents, clientcentred advocacy (e.g., financial benefits or housing), smoking and vaping education for youth in schools and injury prevention programs for seniors. At a broader level, some examples of public health work include supporting access to safe drinking water, analyzing the epidemiology of various diseases and conditions, and managing disease outbreaks.

The main roles of public health are:

HEALTH PROMOTION

DISEASE AND INJURY PREVENTION

## EMERGENCY PREPAREDNESS

POPULATION HEALTH ASSESSMENT AND SURVEILLANCE

## PROTECTION OF THE HEALTH OF THE POPULATION AS A WHOLE

Public health is a branch of medicine that aims to prevent people from getting sick or injured in the first place. It also addresses the health of populations or groups.<sup>[9]</sup>

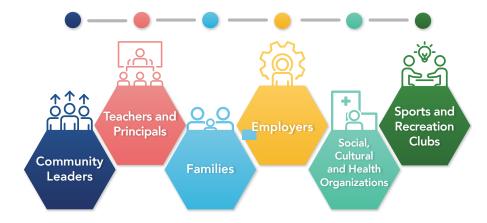
When we think about health care, we might think of doctors and nurses treating people who are sick. Public health includes a wide range of health professionals, including doctors with specialty training in community health, nurses, public health inspectors, epidemiologists, environmental health officers, laboratory scientists, policy analysts, dietitians, health promoters, tobacco control officers and mental health and addictions specialists.

## EVERYONE HAS A ROLE IN PUBLIC HEALTH

It is not just health care professionals who are involved in public health. Community leaders, teachers, principals, families, employers, social, cultural and health organizations and sports and recreation clubs all contribute to public health in Canada.<sup>[10]</sup> The actions of all Manitobans contribute to the overall health of our communities. This became very clear during the COVID-19 pandemic. Manitobans acted together to reduce the spread of COVID-19 by staying home as much as possible (especially when sick), wearing a mask in public, and practicing physical distancing and good hand hygiene.

### **EPIDEMIOLOGY**

Epidemiology is a foundational science of public health. It is the study of disease introduction and spread through a population. Epidemiology is key to understanding how healthy our province is and the differences in health between different populations.<sup>[11]</sup> Epidemiologists interpret analysis to contribute an evidence base for public health policy, health promotion and interventions.



### PUBLIC HEALTH IN CANADA

In Canada, the term "public health" is sometimes confused with our publicly-funded health care system. Publicly-funded health care means that our overall health care system (i.e. hospitals, clinics) is funded by taxpayers' dollars.<sup>[8]</sup> Public health is one important part of our publicly-funded system, working to prevent illness and keep people out of hospitals.

The Public Health Agency of Canada, which was created in 2004, is part of the federal health portfolio. Its activities focus on preventing chronic disease and injuries, responding to public health threats, promoting good physical and mental health, and providing information to support informed decision-making.<sup>[12]</sup> The federal, provincial and territorial levels of government are responsible for different aspects of public health. They work collaboratively through the Pan-Canadian Public Health Network to improve public health in Canada and meet regularly to share knowledge and information on best practices and develop and implement efficient and collaborative approaches.<sup>[10]</sup>

The Chief Medical Officers of Health across Canada are responsible for the protection and promotion of the health of the public and prevention of disease and injury within their provinces or territories.

They collaborate on the Council of Chief Medical Officers of Health. This pan-Canadian forum promotes excellence in population and public health practice through communication, collaboration and the exchange of ideas, knowledge, experience and best practices. This collaboration enables Chief Medical Officers of Health to advance public health practice across Canada, while respecting each government's jurisdiction. The council may provide direction, guidance and recommendations on technical issues relating to the Public Health Network's work, as appropriate.<sup>[13]</sup>

### PUBLIC HEALTH IN MANITOBA

The Population and Public Health Branch of Manitoba Health provides clinical public health leadership, as well as policy, planning, funding, oversight and coordination for an integrated approach to public health programs and services across Manitoba. The branch works closely with other areas within the ministry and other provincial government departments, as well as the seven service delivery organizations within the health sector, including the five regional health authorities, the cancer authority (Cancer Care Manitoba) and the provincial authority (Shared Health) to align and integrate initiatives across government.

Manitoba has had a Public Health Act since 1965. However, Manitoba's current Public Health Act came into effect on April 1, 2009.

The act provides a legislative framework that helps the province anticipate and respond to public health emergencies and creates a framework for the other provincial public health functions, such as health surveillance, disease and injury prevention, and population health assessments.<sup>[14]</sup>

In accordance with the Public Health Act, the Minister of Health must appoint a physician as chief provincial public health officer (CPPHO). The CPPHO plays a key leadership role in the Population and Public Health Branch.

## The roles of the chief and deputy chief provincial public health officers are to:

**monitor** and **report** on the health status of Manitobans;

**support** government departments and other partners to improve the overall health of Manitobans and reduce health inequities;

take appropriate **action** consistent with the powers and responsibilities described for the CPPHO in the Public Health Act; and

advance public health knowledge and capacity.<sup>[15]</sup>

In addition to the chief and deputy chief provincial public health officers, Manitoba has a team of medical officers of health (MOHs) reporting through the deputy CPPHO.

## The MOHs

contribute to **policy, strategy and program development**;

provide expert **public health consultation** and leadership;

advocate for, and communicate about, the public's health and perform their legislated requirements for **investigating and mitigating health hazards**. Medical officers of health are specialists that also act as consultants to primary care providers for the management of certain diseases and programs, such as sexually transmitted and blood-borne infections and vaccinations.

Regional health authorities (RHAs) deliver many public health programs and services throughout Manitoba. Public health nurses, community dietitians and health promoters are the front line of public health professionals, providing services such as influenza immunization clinics; prenatal, maternal and child health programs; and injury prevention programs for seniors. They work with families, communities and community organizations to understand and address their needs to achieve good health.

## MANITOBA'S CLINICAL AND PREVENTIVE SERVICES PLAN

Improving the overall health status of Manitobans cannot be achieved by public health working in isolation. Manitoba's health care system also plays an important role. Collaboration between public health and the acute care system is necessary to ensure the clinical planning of health services is based on the health needs of the population. Manitoba's clinical and preventive services plan will guide improvements to access, coordination and integration of health services in the province.

## "Better coordination will lead to better access and better quality of care for Manitobans across the province."

Updated annually, this rolling five-year plan will identify improved, innovative ways of delivering care, clear provider roles and responsibilities and easy to understand pathways for patients to ensure they are able to access appropriate care as close to home as possible, with the certainty that specialized resources are available to them if they are required. Better coordination will lead to better access and better quality of care for Manitobans across the province.

To learn more about the plan, visit <u>https://sharedhealthmb.ca/about/clinical-planning/</u>



2

# **HEALTH STATUS**

Overview

## Chapter 2: Health Status Overview

To find out what makes Manitobans healthy, we have to look beyond the treatment of disease and the health care system and need to direct our focus to our environments, the conditions of our daily lives and the systems and structures that create these.

Health is more than simply not being sick. The World Health Organization defines health as "a state of complete physical, mental and social well-being".<sup>[16]</sup>

# Health and well-being are determined outside of the health care system.

#### DETERMINANTS OF HEALTH

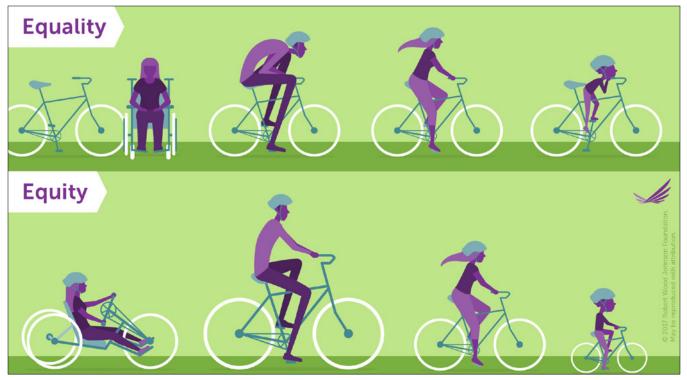
A population health approach examines what makes and keeps people healthy. Health is created by the structures and circumstances of our everyday life. We often talk of the social determinants of health, defined as "the conditions in which people are born, grow, live, work and age – conditions that together provide the freedom people need to live lives they value".<sup>[17]</sup> Only 25 per cent of overall health outcomes are influenced by the health care system and its services. The social determinants of health contribute up to 60 per cent to a population's health status.<sup>[18]</sup>

These conditions have a large impact on our health and include experiences of racism and colonialism, gender, Indigenous identity, social status and access to income, employment, housing and education. Other factors, such as cultural and family connections, language retention, and strong community networks and identity, also have important impacts on health and well-being.

Not all groups of people have the same access to the social determinants of health, access which is driven by underlying factors including political, social, cultural and economic structures; natural environment, land and climate change; and the history and legacy, of ongoing colonialism and systemic racism.<sup>[19]</sup> The health status of racialized people and 2SLGBTQQIA<sup>1</sup> people, for instance, is negatively affected by discrimination, racism and historical trauma.<sup>[20]</sup>



<sup>&</sup>lt;sup>1</sup> Two-spirit, lesbian, gay, bisexual, transgender, queer, questioning, intersex and asexual and those who self-define outside of this inexhaustive list



Source: Robert Wood Johnson Foundation<sup>[22]</sup>

We all have the ability to create the conditions in which everyone has access to opportunities for the highest standard of health.

Achieving good health isn't as simple as making the right choices. It depends on whether we have options and what those options might be. Power, privilege and resources are unequally distributed in our society. This factor impacts our opportunities for good health.

Health equity means "that all people (individuals, groups and communities) have fair access to, and can act on, opportunities to reach their full health potential and are not disadvantaged by social, economic and environmental conditions, including socially constructed factors such as race, gender, sexuality, religion and social status."<sup>[21]</sup>

Health inequity refers to "differences in health associated with structural and social disadvantage that are systemic, modifiable, avoidable and unfair."<sup>[21]</sup> Health inequalities are preventable and are often due to how people or groups are treated.

Health disparity is "a measurable difference in health outcomes between groups, communities and populations who experience relative advantage or disadvantage due to structural and social determinants of health."<sup>[21]</sup>

The equality image shows what happens when each person has the same or equal access to resources. Not everyone is able to ride the bike. The outcome for providing everyone the same bike is clearly unequal. The equity image shows what happens when people have equitable access to resources based on their needs. With equitable access, everyone is able to ride, as the bike reflects their needs. This image shows that taking the same approach to promoting health does not work for everyone.<sup>[22]</sup>

### RACISM

Racism is "the race-based allocation of value, resources, opportunities and status in cultural, political, institutional, economic and social forms" and "is reinforced by dominant white culture and practices." <sup>[21]</sup> Current systems are designed to structure opportunity along racial lines. Racism influences these systems that limits racialized populations' access to goods and services necessary for health.<sup>[23]</sup> Racism benefits those with power and privilege, while disadvantaging those without. As with other European and Westernized cultures, racism in Canada tends to favour light-skinned or white Canadians. In recent years, people of all races and backgrounds are learning more about the effects of racism, and coming together to speak out on social injustice. This movement is resulting in increased recognition that racism is a public health issue affecting the health status of racialized and Indigenous peoples. Racism results in inequities in social inclusion, economic outcomes, personal health and access to, and quality of, health and social services.<sup>[23]</sup>

Racism is embedded in our social, economic, ecological and political world and negatively affects the health of people belonging to racialized and Indigenous communities in Manitoba.<sup>[24]</sup> It silences their voices and knowledge and creates barriers to meaningful engagement with those who experience structural disadvantage. Racism is a public health issue and remains a driving factor of health inequities in Manitoba.

### **STIGMA**

Stigma is an attitude, belief or behaviour that discriminates against people.<sup>[25]</sup> Canada's Chief Public Health Officer's 2019 Report on the State of Public Health "Addressing Stigma: Towards a More Inclusive Health System" focuses on this issue. Stigma affects people's education, employment, housing options and opportunities, which can, in turn, greatly affect their health status.

Although many groups that experience racism have to deal with stigma, stigma is not limited to race. People may face stigma due to their sexual orientation, religion, age, income, physical or cognitive abilities, weight or health conditions such as mental illness, substance use disorder or HIV infection.<sup>[26]</sup>

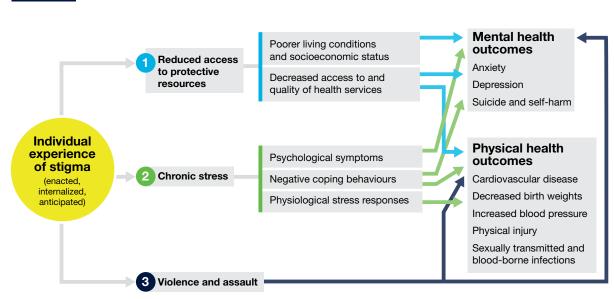
# Stigma affects health and safety by contributing to factors including:

a **reduction in access** to and/or mistrust of protective resources, such as health care and economic resources;

an increase in chronic stress; and

a higher risk of injury or assault

All three of these can affect an individual's mental and physical health outcomes.<sup>[26]</sup>



Source: Public Health Agency of Canada

### FIGURE 8: How Stigma Affects an Individual's Health

### COLONIALISM

European settlers arrived in Canada with the incorrect assumption that European culture and Christian religions were superior to Indigenous cultures, lives and ways of knowing. Colonialism involved the imposition of laws, policies and systems to occupy Indigenous lands and to dominate Indigenous Peoples.<sup>[27]</sup> Colonization by European settlers caused the forced disconnection and removal of Indigenous Peoples from land, culture and community.<sup>[28]</sup>

There is a direct link between colonialism in Canada and health inequities between Indigenous Peoples and non-Indigenous people.

### **RESIDENTIAL SCHOOLS**

Residential schools were a colonial project designed in the mid-1800's to assimilate Indigenous Peoples through forced removal of children from their families and communities. The Truth and Reconciliation Commission describes residential schools as cultural genocide due to the major disruptions of family, forced removal from supportive family networks and role models, and disconnection from culture. Cultural genocide is the destruction of those structures and practices that allow the group to continue to grow as a group.<sup>[5]</sup> Children were not allowed to speak their languages, wear traditional clothing or, in many cases, communicate with their families. Many students experienced physical, emotional, spiritual and/or sexual abuse at residential schools.<sup>[5]</sup> They were also subjected to highly unethical nutritional experiments.

## **Research has found that:**

Between 1942 and 1952, some of Canada's leading nutrition experts, in cooperation with various federal departments, **conducted an unprecedented series of nutritional studies** of Aboriginal communities and residential schools.<sup>[29]</sup>

Schools were **underfunded by design**, with poor nutrition and living conditions, which led to illness and death.<sup>[5]</sup>

In May 2021, the heartbreaking tragedy and tragic legacy of residential schools was brought to the forefront across Canada with the finding of 200 (possibly underestimated) potential unmarked araves at the former Kamloops Indian Residential School.<sup>[30]</sup> Canadians were forced to reflect on the fact that children died at these schools and were buried nearby without their families knowing where they were. In the wake of these reports, First Nations across the country are carrying out the sobering task of finding missing children who died while attending residential schools, with the hope of returning them home. From surviving and accessible death records. the Truth and Reconciliation Commission estimates that over 6,000 children died while *in the residential school system. However, the increasing number* of potential unmarked graves being identified across the country corresponds with the commission's caution that estimates are much higher than originally reported.

# The last federally-run residential school in Canada did not close until 1996.<sup>[5]</sup>

Residential schools were devastating to Indigenous cultures, languages, family ties and community networks, and created ongoing intergenerational harm and trauma. As a result, Indigenous Peoples have poorer general, and selfrated, health and increased rates of chronic and infectious diseases. In terms of overall well-being, the trauma of the residential school system manifests as increased rates of mental distress, depression, problematic substance use, stress and suicidal behaviours.<sup>[31]</sup> The effects of residential schools are collective, affecting the health and well-being of not only individual survivors, but also their families and communities.

Understanding the historical and present context outlined here is necessary to make progress on reducing health disparities in Manitoba. Improvements in the ability to measure health outcomes by race, ethnicity and Indigeneity across systems are required to better understand health inequalities in Manitoba to assess and make progress on closing health gaps. Improving the health of all Manitobans will take individuals, organizations, public health practitioners and systems working together to disrupt and transform the public policy, institutional practices and cultural views that maintain the underlying conditions that lead to inequitable health outcomes.



# MEASURING POPULATION HEALTH

in Manitoba

Understanding the disparities in health status between different regions and populations is important for the planning and delivery of health services across Manitoba.

To describe the health of a population, we use health indicators. These measures allow us to monitor and compare different aspects of health across regions, populations and times.<sup>[32]</sup> Indicators of ill health are often used when reporting on population health, as they are more readily available than measures of overall health.<sup>[33]</sup>

When we look at the overall health status of people in Manitoba, we see gradual improvements, with a longer life expectancy. However, the health of people in Manitoba is not equal, and the gap in health between First Nations and all other people in Manitoba is, in fact, widening.<sup>[33]</sup> The root causes of these health gaps have been discussed in the previous chapter. The following sections provides specific information, where available, on the health of First Nations people living in Manitoba.

## MANITOBA'S POPULATION

Overall, Manitoba's population is growing, but it is also aging. From 1997 to 2016, there has been a clear shift, with children making up a steadily decreasing percentage of the population (28.5 per cent to 25.2 per cent), while the percentage of older adults increased (13.6 per cent to 15 per cent).<sup>[35]</sup> Manitoba is also unique in that 18 per cent of the population selfreported an Aboriginal identity in 2016, the highest percentage of any province in Canada.<sup>[36]</sup> Of this group, 58.4 per cent were First Nations people, 40 per cent were Metis and 0.3 per cent were Inuit.<sup>[37]</sup>



As of June 1, 2020 Manitoba had a population of

# 2 1,386,938 residents<sup>[34]</sup>

In 2019-20, there were

**th** 16,274

babies born to Manitoba residents, for an average birth rate of 11.9 newborns per 1,000 residents.<sup>[38]</sup>

In 2016, the average age of the Aboriginal population in Manitoba was 29.3 years, compared with 40.7 years for the non-Aboriginal population. The average age was 26.8 years for First Nations people; 33 years for Métis; and 27 years for Inuit.<sup>[37]</sup>

#### **IMMIGRATION**

In 2019, Manitoba welcomed 18,905 new Immigrants, the highest number in the province's 150-year history.<sup>[39]</sup> Notably, the percentage of immigrants increased from 1.8 per cent (2001) to 5.2 per cent (2016).<sup>[40]</sup>

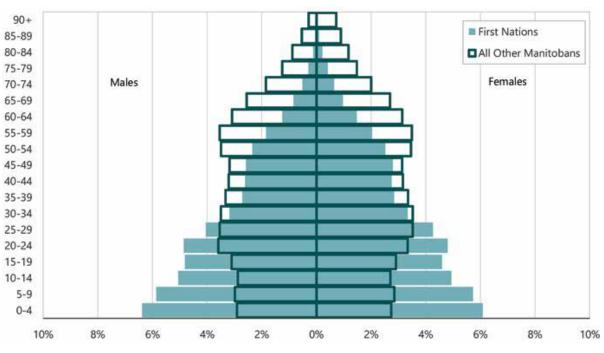
Close to 75 per cent of international newcomers who land in Manitoba are of working age and contribute significantly to Manitoba's labour force growth.<sup>[39]</sup> Immigration is shaping the future of Manitoba as a significant driver of economic and population growth.<sup>[39]</sup>

### POPULATION STRUCTURE

The age and sex of a population influence both the health status and health care use of that population. Population pyramids show the percentage of people by age and sex of a population over a one-year period and can help with planning for future needs. In general, the Aboriginal population is younger than the non-Aboriginal population.

#### AGE PROFILE OF MANITOBA, 2016

First Nations: 141,965 All Other Manitobans: 1,209,214



Source: University of Manitoba<sup>[37]</sup>



### SENSE OF BELONGING TO COMMUNITY

A strong sense of community belonging is associated with positive health outcomes. Without a strong sense of belonging, social isolation, which is harmful to health, can occur.

In 2020, 71.2 per cent of Manitobans aged 12 years and older reported their sense of belonging to their local community as being very strong or somewhat strong.<sup>[42]</sup>

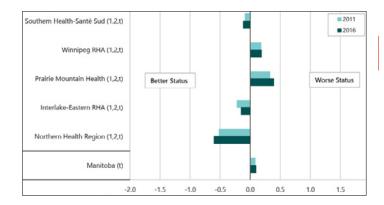


According to the Regional Health Survey, in 2015-16 78.5 per cent of First Nations people in Manitoba described their sense of belonging to local community as being very or somewhat strong. Elders, community health programs, awareness of First Nations culture, family values/ connections and use of First Nations language were the most commonly reported strengths in First Nations communities.<sup>[43]</sup> The Material and Social Deprivation indices are two parts of a story of the wellness of a community, and both have major impacts on health. In 2019, the Manitoba Centre for Health Policy assessed both measures across Manitoban regional health authorities.

### SOCIAL DEPRIVATION INDEX<sup>[44]</sup>

The social deprivation index measures the status of relationships among individuals in the family, workplace and community. It measures the percentage of the population aged 15 years and older who are separated, divorced or widowed, the proportion of the population that lives alone, and the proportion of the population that has moved at least once in the past five years.

The lower the score, the stronger the relationships and the less socially-deprived a person/persons is considered.<sup>[45]</sup>.

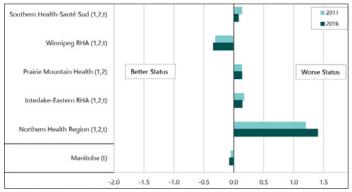


The Northern Health Region has the lowest (best) social deprivation score of all health regions, which suggests people living in the north have stronger relationships with their families, workplaces and communities.<sup>[46]</sup> The lower score, combined with a strong sense of community belonging, highlights the strength and resiliency of people and communities in the Northern Health Region.

## MATERIAL DEPRIVATION INDEX<sup>[44]</sup>

Another measure often used alongside the social deprivation index is the material deprivation index. It assesses education, employment and income status of people over the age of 15. Interestingly, despite scoring well on the social index, the Northern Health Region scores the worst (highest) on this material deprivation.

## Lower scores indicate better status, while higher scores indicate worse status.<sup>[45]</sup>



Overall, the material deprivation index in Manitoba has improved from 2011. All health regions, except the Winnipeg Health Region, had worse (higher) index scores than the provincial average in both time periods.<sup>[45]</sup>

### SELF-RATED MENTAL HEALTH

Similar to our physical health, our mental health is not constant. Anyone can experience a mental health issue, including emotional health problems, such as anxiety and depression, at any time in their life. Changing roles and responsibilities, such as starting at a new school, getting a new job or retiring from the workforce, having a baby or ending a long-term relationship can often trigger changes in mental health status. This indicator measures how residents aged 12 and older perceive their mental health.

## In 2020...

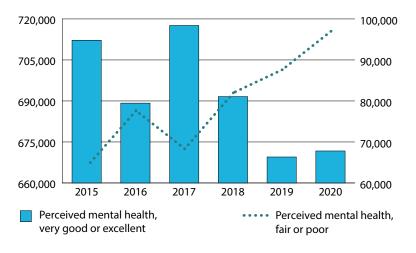
**63.1** per cent of Manitoba respondents aged **12 and older** perceived they had 'very good' or 'excellent' mental health.<sup>[47]</sup>

9.1 per cent of Manitoba respondents aged
12 and older perceived they had fair or poor mental health.<sup>[47]</sup>

### PERCEIVED LIFE STRESS

Lengthy exposure to high levels of stress can have negative impacts on health, including increased risk of illness and chronic disease. Stress is associated with social practices that can cause harm, such as substance use.<sup>[45]</sup> This indicator measures the population, aged 12 and over, who reported perceiving that most days in their life were quite a bit, or extremely, stressful.<sup>[48]</sup>

In 2020, 21.4 per cent of Manitoba respondents aged 12 or older reported most days in their life were quite a bit, or extremely, stressful.<sup>[48]</sup>



## PERCEIVED MENTAL HEALTH OF MANITOBANS AGED 12 YEARS AND OLDER.

Source: Statistics Canada



# Renters have significantly higher levels of core housing need than owners.

## In Manitoba...



5.5% of owners are in core housing need compared to **6.5% nationally** 

## CORE HOUSING NEED

Housing that is affordable, good quality and stable is essential for promoting health and preventing illness and injuries. Living in poor housing conditions can have negative impacts on health and can lead to respiratory conditions, lead poisoning, injuries and decreased mental health.<sup>[45]</sup> Having a stable address allows individuals to participate in the basics of civil society, such as securing identification, accessing benefits and services, gaining employment, as well as allowing healthier engagement in community.

## A household is said to be in "core housing need" if it meets two criteria:

A household is below one or more of the **adequacy**, **suitability** and **affordability standards**.

The household would have to spend **30 per cent or more of its total before-tax** income to pay the median rent of alternative local housing that is acceptable (meets all three housing standards).<sup>[49]</sup> 26%

26% of renters are in core housing need compared to **23% nationally**<sup>[49]</sup>

When examining the rates at which households fail housing standards (adequacy, suitability and affordability), failure of the affordability standard is predominant across Manitoba and Canada. Manitoba is above the Canadian average for the percentage of houses that fail either the suitability or adequacy standard.

## Percentage of households below...

Affordability standard only 75% Canada, 70% Manitoba

Suitability standard only 3.8% Canada, 4.3% Manitoba

Adequacy standard only 6.6 Canada, 10.2% Manitoba.<sup>[50]</sup>

### HOUSEHOLD FOOD INSECURITY

Food insecurity is the inability to acquire or consume an adequate quality diet or enough food in socially acceptable ways, or the uncertainty that one will be able to do so.<sup>[51]</sup> Having access to, and being able to buy, enough high quality and culturally acceptable food is important for achieving and maintaining good health. Household food insecurity is important to help us understand health disparities because it is often related to a household's ability to buy food.<sup>[45]</sup>



## In 2020...

Twelve per cent of Manitobans reported moderate or severe food insecurity compared to 11.2 per cent for all Canadians.<sup>[52]</sup>

Manitobans under 18 years of age, and those aged 35 to 44, reported the highest rate of food insecurity at 14.2 per cent, while those aged 65 years and older reported the lowest at 5.9 per cent.<sup>[52]</sup>

This data does not include data for the territories or for persons living on reserve.

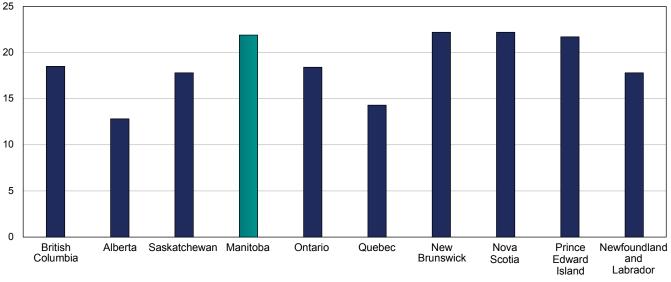
Results from the 2015-16 First Nations Regional Health Survey indicate that 43.8 per cent of adults lived in moderately food insecure households, and 16.5 per cent were experiencing severe food insecurity.<sup>[43]</sup> A significantly higher proportion of children faced severe food insecurity, compared to adults. Of adults who had one or more children or youth in the household, 12.4 per cent were moderately food insecure, and 37.5 per cent were experiencing severe good insecurity.

## PROPORTION OF CHILDREN LIVING IN LOW INCOME FAMILIES

Family income affects children's access to basic needs, such as adequate housing in safe environments, nutritious food and clothing. Living on a low income poses many challenges for child growth and development, including access to early learning and care programs, recreational/sports and art programs.<sup>[45]</sup> The proportion of children living in low income families measures the percentage of people aged 17 years and younger, who live in low income families (according to the low income measure – after tax).<sup>[45]</sup>

Low-income rates for children, by province, 2015

per cent



Province

#### Source: Statistics Canada, Census of Population, 2016

There are notable differences across Manitoba when it comes to children living in low income families. Both Winnipeg and Northern health regions have rates higher than the Manitoba average at 23 per cent<sup>[45]</sup> and 27 per cent respectively.<sup>[46]</sup> In some community areas within these regions, the percentage of children living in low income families is as high as 60 to 80 per cent.<sup>[45]</sup> 22%

In 2015, 22 per cent of Manitoba children were living in low income families,<sup>[45]</sup> which is higher than the national average of 17 per cent.<sup>[53]</sup>

### CHILDREN AND CHILD WELFARE SERVICES

The continued impact of colonization, the legacy of the residential school system and the Sixties Scoop, and the ongoing diminished access to the determinants of health have all contributed to Indigenous children being vastly over-represented in the child welfare system today. Being involved in the child welfare system makes children and youth more likely to become involved in the youth criminal justice system, and less likely to graduate from high school by age 21. These outcomes can contribute to poorer long-term health status.<sup>[54]</sup>

## As of March 31, 2021 there were

۳ **9,8501** 

children in welfare services

91 per cent of these children are **Indigenous**.<sup>[55]</sup>

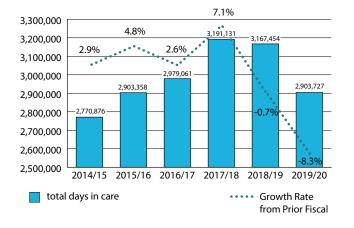


Days in care represents the total number of days for which

payments were made to support children in care, and young adults, whose care needs are financially supported by government. In the reporting period, paid days care decreased by 8.3 per cent in 2020 when compared to 2019 in the table below.

#### DAYS IN CARE

2014/15 - 2019/20 [56]



### IMMUNIZATION (VACCINATION)

Vaccines are a safe and effective way of preventing many diseases and have saved more lives in Canada in the last 50 years than any other medical practice. Vaccines help the body's immune system recognize and fight bacteria and viruses that cause disease.<sup>[57]</sup> Common infectious diseases that were once a major cause of sickness and death in Canada, mainly among children, are now preventable with vaccines.<sup>[58]</sup> As the number of people who get immunized increases, the chance of infectious disease spreading decreases. Community-level resistance to the disease (i.e. herd immunity) becomes stronger in a way that provides a protective barrier for those individuals who cannot be immunized for health reasons, such as illness, age or allergy.

Immunization is the single most important public health achievement in the past century, as infectious diseases have dropped from the leading cause of death to less than five per cent of all deaths in Canada.<sup>[46]</sup>

For additional information on vaccine eligibility and timing, see the Routine Immunization Schedules for Manitoba at: <u>https://www.gov.mb.ca/health/publichealth/cdc/div/schedules.html</u>

The following data on immunization is from 2017, the most recent information available at the time of writing. More recent immunization data will be available by fall 2022.

## ROUTINE IMMUNIZATION SCHEDULES

				RHA	RHA
Age	Vaccine target	Goal	Provincial coverage	Highest coverage	Lowest coverage
7	diphtheria, pertussis and tetanus (DPT)	5 doses	65%	Northern Health Region (76%)	Winnipeg RHA (61%)
7	Measles, mumps	2 doses	75%	Northern Health Region (85%)	Southern Health- Santé Sud (71%)
7	Rubella	2 doses	90%	Northern Health Region (95%)	Southern Health- Santé Sud (86%)

As a direct result of successful universal vaccination programs, measles was eliminated in Canada in 1998.<sup>[59]</sup> However, since then, vaccination rates have declined and there have been a number of outbreaks in Canada, including an outbreak of 678 cases in Quebec in 2011.<sup>[60]</sup> Measles is a very contagious disease that resulted in 110,000 deaths globally in 2017.<sup>[46]</sup>

				RHA	RHA
Age	Vaccine target	Goal	Provincial coverage	Highest coverage	Lowest coverage
17*	human papillomavirus (HPV)	2 doses	63%	Prairie Mountain Health (74%)	Southern Health- Santé Sud (51%)

\*Females only. Due to males becoming eligible for HPV vaccination later than females, information on the first cohort of males was not available at the time this report was produced.

HPV is estimated to be one of the most common sexually transmitted infections and can cause cells within the body to change and lead to cancer if left untreated. Many cancers that are caused by HPV, such as cervical cancer, do not have symptoms until they are quite advanced. When the HPV vaccine is given before exposure to the virus, it provides protection against nine types of HPV that cause 90 per cent of all cervical and anal cancers and 90 per cent of all genital warts.<sup>[46]</sup>



### INFLUENZA IN MANITOBA

Between Sept. 1, 2021 and March 12, 2022 402,817 Manitobans received at least one dose of influenza vaccine, corresponding to an overall uptake rate of 28.4 per cent.<sup>[62]</sup>

Seasonal influenza can cause significant disease and death.

Between Sept. 2020 and March 2021, Manitobans had 1,856 lab-confirmed cases of influenza.<sup>[63]</sup>

Between Sept. 2020 and March 2021, as a result of influenza, there were:



\*ICU admissions are included in hospitalization counts.

### LIFE EXPECTANCY

Life expectancy is the expected length of life, based on patterns of death in the population for the past five years. It is one of the most widely used indicators of a population's health status.<sup>[45]</sup>

Overall, life expectancy has been increasing for males and females in all health regions. However, the life expectancy for First Nations people is 11 years lower than average and this gap is growing. For the five years from 2012-2016, there was a seven-year gap in life expectancy between health regions.<sup>[35]</sup>

## MALE LIFE EXPECTANCY AT BIRTH





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

### FEMALE LIFE EXPECTANCY AT BIRTH

by RHA, based on mortality in 2012-2016



## In 2016, life expectancy for First Nations people<sup>[64]</sup>

Female - 72 years

Male - 68 years

## For all other Manitobans

Female - 82.8 years

Male - 78.5 years

Across Manitoba, life expectancy continues to be shorter for both males and females from lower income areas across urban and rural settings.<sup>[35]</sup> Within health regions, the gap between those living the shortest and those living the longest can be as high as 18 years.<sup>[45]</sup>

### PREMATURE MORTALITY RATE (PMR)

Premature mortality is death before the age of 75 years. The rate is calculated per 1,000 population, aged 0 to 74 years, for a five-year period. Populations with higher PMR tend to have poorer health overall, and use more health services.<sup>[45]</sup> PMR is often considered to be the best single measure to show the health status of a population.<sup>[63]</sup> In the 20 years from 1997 to 2016, the PMR declined significantly in all health regions, except the Northern Health Region, which has not had a clear time trend.<sup>[35]</sup>

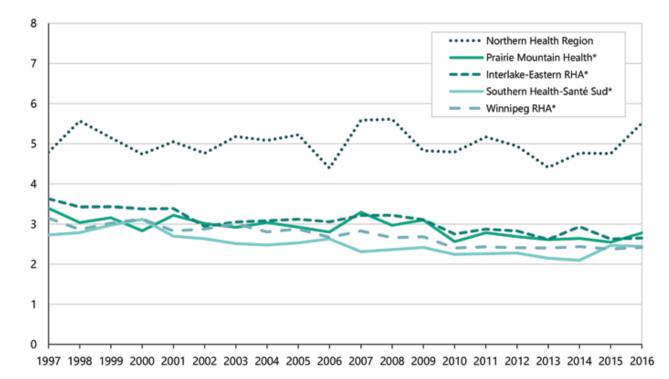
The most frequent causes of premature death were cancer (32.7 per cent) and circulatory diseases (19.9 per cent), followed by injury and poisoning (11.5 per cent).<sup>[38]</sup>

## 20,012 Manitobans died prematurely in 2016-2020.<sup>[38]</sup>

**3X** PMR for all First Nations in Manitoba is three times higher than for other Manitobans.<sup>[64]</sup> Premature deaths account for 81 per cent of all deaths among First Nations (80 per cent on-reserve and 82 per cent off-reserve) and 35 per cent for among all other Manitobans".<sup>[64]</sup>

There is a strong relationship between income and PMR. For the period of 2012 to 2016, in urban settings, residents of the lowest income areas were 2.9 times more likely to die before age 75, compared to the highest income areas. In rural settings, the difference is 2.2 times.<sup>[45]</sup>

#### PREMATURE MORTALITY RATE BY RHA, 1997-2016<sup>[44]</sup>

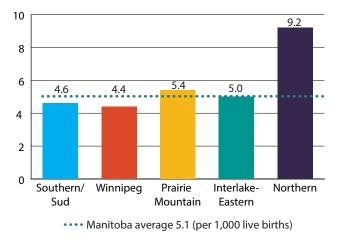


Age- and sex-adjusted, per 1,000 residents age 0-74

\* This areas rate has a statistically significant change over time. see page 38 <u>http://mchp-appserv.cpe.umanitoba.ca/reference/RHA\_Report\_web.pdf</u>

#### **INFANT MORTALITY**

Infant mortality is the number of deaths among infants, under one year of age, per 1,000 live births, over a five-year period. Many health experts see this rate as a key indicator of child health and the wellbeing of a society over time.<sup>[45]</sup>



The rates in the Northern Health Region were significantly higher than the Manitoba average.

Manitoba's infant mortality rate was 5.4/1,000 between 2015/16 – 2019/20 (total of 420 infant deaths).<sup>[38]</sup> This is higher than the national average of 4.5/1,000 in 2020.<sup>[65]</sup>

#### POTENTIAL YEARS OF LIFE LOST (PYLL)

Potential years of life lost adds the number of years "lost" when a person dies before the age of 75. For example, a person dying at age 50 has lost 25 years of life. PYLL is higher if there is a high death rate among young and middle-aged people.<sup>[64]</sup> Overall, the PYLL for Manitoba has decreased over time, however the gap between First Nations and all other Manitobans is growing.

**4** X – The First Nations PYLL is almost four times higher than for all other Manitobans.<sup>[64]</sup>

**10 years** – The increase in gap of PYLL between First Nations and all other Manitobans since 2002.<sup>[64]</sup>

#### POTENTIALLY AVOIDABLE DEATHS

This indicator measures deaths in people younger than 75 from both preventable (e.g., some cancers) and treatable (e.g., asthma) causes. Preventable deaths can be avoided through efforts such as addressing income inequality, vaccinations, or injury prevention. Treatable deaths can be avoided with effective screening and treatment for disease. This indicator tells us about the effectiveness of population health approaches, such as healthy public policies, health promotion and access to health care.<sup>[66]</sup>

### 🗄 **13,699**

Manitobans had potentially avoidable deaths in the five years from 2012-2016.<sup>[45]</sup>

**2.3 2.1 2007-2011 2012-2016** 

the rate of potentially avoidable deaths significantly decreased between time periods.

#### UNINTENTIONAL INJURY

Unintentional injuries are one of the leading causes of death in Canada and worldwide. Most accidental injuries and deaths are preventable. This indicator measures the accidental causes of death, such as road traffic injuries, drowning, falls, burns and poisonings, per 1,000 population, over a five-year time period.<sup>[45]</sup>

Evaluation of causes for unintentional injuries and deaths helps in the development of safety programs and technologies, safety laws and promotion of safe behaviours at home and in the workplace.

### Over the five years from 2012-2016, there were...



unintentional injury deaths in Manitoba.

Deaths from unintentional injuries among males were 35 per cent higher than among females.

Almost half of all unintentional injury deaths were among adults aged 65 and older.<sup>[45]</sup>

In the Northern Health Region, the rates of unintentional injury deaths are significantly higher than the Manitoba average, but rates have been declining across all regions over time.<sup>[45]</sup>

#### SUICIDE

High rates of suicide are an important indication of the mental health of communities and underlying trauma. These deaths may be prevented with safe and appropriate mental health supports for people from all different walks of life.

### la 1,075

Manitobans aged 10 and older died by suicide in the five-year period from 2015/16 to 2019/20.<sup>[38]</sup>

Similar to other indicators, there were strong relationships between income and suicide rate in both urban and rural areas. From 2012 to 2016, the rates of suicide between those from the lowest income areas versus the highest income areas were...



Suicide rates are significantly higher among all First Nations compared to other Manitobans, with the gap being the most pronounced in the rural part of the province. According to the 2015-16 First Nations Regional Survey, 24 per cent of First Nations living on-reserve identified suicide as a community challenge.<sup>[33]</sup>

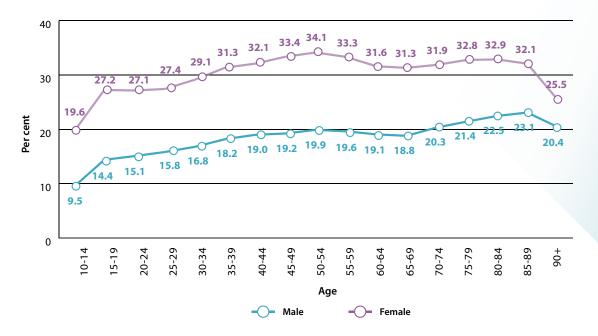
#### MOOD AND ANXIETY DISORDERS

In 2017, 14.5 per cent of Manitobans aged 12 and older reported having a diagnosed mood and/or anxiety disorder, compared to a national average of 13.4 per cent.<sup>[68]</sup>

People with mood and anxiety disorders often also have other chronic diseases and/or conditions. For example, the early onset of depressive and anxiety disorders is associated with an increased risk of developing heart disease, asthma, arthritis, chronic back pain and chronic headaches in adults.<sup>[68]</sup>

#### MOOD AND ANXIETY DISORDERS BY AGE AND SEX [41]

Crude per cent of residents, 2014/2015 to 2018/2019



In the five years from 2016/2017 to 2020/2021, there were 314,631 Manitoba residents treated for mood and anxiety disorders, representing 25.4 per cent of Manitoba residents aged 10 and older.<sup>[38]</sup>

Across the lifespan, the prevalence of mood and anxiety disorders is higher in females than in males.<sup>[41]</sup> These statistics only account for people who are treated for mood and anxiety disorders and do not fully describe the prevalence of mood and anxiety disorders in Manitoba. People with undiagnosed conditions, those with diagnosed conditions who do not seek treatment and those who do not have access to treatment are not included in this data.

#### HYPERTENSION

Hypertension, or high blood pressure, is a risk factor for a number of cardiovascular conditions, such as heart disease and stroke. It is possible to have high blood pressure and have no signs and symptoms for many years. Accurate assessment of high blood pressure can guide prevention efforts and treatment choices, which may lead to a reduction in heartrelated disease and death.<sup>[45]</sup>

#### In 2018/19

### 309,177

Manitobans aged 20 and over had hypertension



This represents **30.3 per cent** of the **total population** aged 20 and over.<sup>[38]</sup>

The percentage of people living with hypertension was significantly higher in **Northern Health Region** when compared to Manitoba overall.<sup>[38]</sup>

#### HEART ATTACK

This indicator measures the annual rate of death or hospitalization due to acute myocardial infarction (AMI or heart attack) per 1,000 population, aged 40 and older, for a five-year time period. This rate, used together with stroke and ischemic heart disease data, describes the level of heart health in the population. This measure is important for the development and maintenance of health care strategies in primary and secondary prevention, health care planning and allocation of resources.<sup>[45]</sup>

# In 2020/21 **2,083**

Manitoba residents suffered a heart attack.

#### 3.2/1,000 people<sup>[38]</sup>

Over the last 10 years, the rate of heart attacks has been decreasing for both males and females.<sup>[41]</sup>

The rate of heart attacks in the Northern Health Region is almost two times more than the Manitoba average.



In 2017/18, the age standardized rate for newly diagnosed heart attacks in those aged 20 and over was 207.7/100,000 in Manitoba, compared to 204.1/100,000 nationally.<sup>[67]</sup>

#### DIABETES

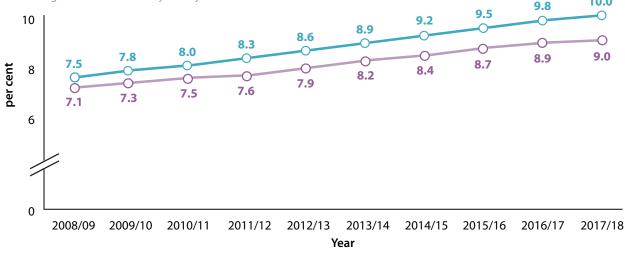
This indicator measures the per cent of residents aged 19 or older, diagnosed with diabetes (Type I and II), for a three-year time period. Diabetes can lead to serious complications (e.g., cardiovascular disease, vision loss, kidney failure, nerve damage and amputation) and premature death. However, it is possible to remain healthy with diabetes through appropriate management and health care.<sup>[45]</sup>

In 2017/18 9.5 per cent of Manitobans age of one and older have diabetes<sup>[41]</sup> compared to 8.1 per cent of all Canadians.<sup>[67]</sup>

10.0

#### **RESIDENTS WITH DIABETES**





Male

- Female

### 131,300

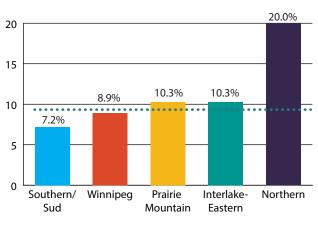
Manitobans were living with diabetes in 2018/19.[38]

Over the last 10 years, there has been a slow, steady and significant increase over time. Males have had a higher prevalence of diabetes than females. This gap has been increasing over the last few years.<sup>[68]</sup>

There is significant regional disparity in the prevalence of diabetes in Manitoba.<sup>[41]</sup> Manitoba residents from the Northern Health Region are almost two times as likely to be diagnosed with diabetes.<sup>[41]</sup>

There are certain populations at higher risk of developing type two diabetes.

In Canada, the prevalence of diabetes among South Asian and Black adults is 8.1 times and 6.6 times higher, respectively, then the prevalence among White adults.<sup>[69]</sup>



•••• Manitoba average (9.5%)

#### END STAGE KIDNEY DISEASE (ESKD)

Manitoba has the highest rate of kidney disease in Canada.<sup>[45]</sup> In 2020, Manitoba's incidence per million population was 250.9, compared to the Canadian average of 208.1 (excluding Quebec).<sup>[70]</sup>

Manitoba's rate of ESKD is 24 per cent higher than the Canadian average.<sup>[71]</sup>

Although relatively rare, ESKD is an important health problem because of the high cost of kidney replacement therapy, the related high death rate and the effect on patients' quality of life and life-long dependence on dialysis.<sup>[72]</sup> Diabetes is the most common cause of ESKD in Manitoba. Forty-three per cent of all patients with ESKD have diabetes as their primary diagnosis.<sup>[45]</sup> ESKD is based on a patient's use of renal replacement therapies (dialysis or kidney transplant).

More than 1,700 Manitobans complete dialysis treatments annually.<sup>[71]</sup>

There is a strong relationship between hypertension, diabetes, heart attack and kidney disease. People with diabetes are twice as likely to have hypertension as those who do not have diabetes.<sup>[73]</sup> People who have hypertension are more likely to develop diabetes. <sup>[73]</sup> Hypertension is also a key risk factor for the development of kidney disease.<sup>[74]</sup> Hypertension and diabetes are key risk factors for both heart attack and kidney disease. It is known that people with kidney disease are at higher risk of heart attacks than those without kidney disease.<sup>[74]</sup>

#### CANCER

Lung and bronchus, breast, colorectal and prostate are the most diagnosed cancer sites in Manitoba.<sup>[45]</sup> Understanding the rates of cancer diagnosis by specific site is important for health care planning of screening programs, access to treatment and understanding cancer risk factors.<sup>[45]</sup> This indicator measures the number of new cases of cancer for the top four diagnosed cancers per 100,000 population, for all ages, for a two-year time period.

#### Cancer diagnoses in Manitoba in 2014-16<sup>[45]</sup>

2,504 – colorectal

<b>2,530</b> – k	oreast
------------------	--------

2,778 – lung and bronchus

2,145 – prostate

#### **TEEN PREGNANCY**

The teen pregnancy rate in Manitoba has decreased across all health regions.<sup>[35]</sup> Pregnant teens are less likely to receive early prenatal care and more likely to experience anemia, eclampsia (seizures) and depressive disorders. Teenage pregnancy is often associated with social practices that may cause harm, such as problematic substance use. Teenage mothers tend to have lower socioeconomic status, as well as reduced educational opportunities, which negatively affect their access to social supports <sup>[45]</sup>.

### The provincial teen pregnancy rate decreased

, 33%

between T1 (2007/08-2011/12) and T2 (2012/13-2016/17)<sup>[45]</sup>

### Substance Use

#### ALCOHOL

Alcohol is a mind-altering, depressant substance that can affect thinking, behaviour and heart rate.<sup>[76]</sup> The effects of using alcohol can range from mild relaxation to coma and death.<sup>[77]</sup> While many people drink alcohol in moderation and do not experience associated harms, the health and social impacts of alcohol overuse are nevertheless higher than for any other substance.<sup>[78]</sup>

Alcohol is the most widely used controlled substance by Manitobans. In 2019, with **75.5 per cent of Manitobans** reporting alcohol **use in the past 12 months**.<sup>[75]</sup>

Alcohol is also the most widely used substance by Manitoba students. In 2018-19, **40.9 per cent of students** in **grades 7 to 12** reported alcohol use.<sup>[79]</sup>

Alcohol use is also responsible for **more** admissions to hospital than other substances. In 2017, the rate of hospitalizations entirely caused by alcohol was 13 times higher than for opioids.<sup>[80]</sup> The majority of Manitobans use substances in some form, ranging from unregulated drugs (e.g.,caffeine), controlled substances (e.g.,alcohol, nicotine, prescription drugs) or illegal substances (e.g.,cocaine, heroin, or diverted prescriptions).

All of these substances have effects on the human body, and not all substance use leads to harm. However, substance use can cause significant harm for individuals and communities.

#### CANNABIS

Cannabis is the second most commonly used substance in Canada, after alcohol.<sup>[81]</sup> Cannabis is a psychoactive drug that people use for medical and recreational purposes. The sale and use of cannabis has been legal in Canada since 2018.

> In 2021, 25 per cent of Manitobans the age 16 used cannabis for non-medical purposes in the past 12 months, while 17 per cent reported use in the past 30 days.<sup>[82]</sup>

#### 2018: 76 of 147 deaths (52%) 2019: 62 of 151 deaths (41%) 2020: (January – September):\* 147 of 229 deaths (64%)<sup>[85]</sup>

\* Data from October – December is still under review.

There is evidence that drug-related deaths, including those involving opioids, increased during the COVID-19 pandemic. The number of opioidrelated deaths in Manitoba increased 137 per cent from 2019 to 2020, even without the last three months of data for 2020.

In 2020, the age-adjusted rate per 100,000 population of total apparent opioid toxicity deaths in Manitoba was 13.3, compared to the Canadian average of 17.3.

Even with only nine months of data included, compared to 12 months for the other provinces, Manitoba's rate of increase between 2019 and 2020 was the highest at 289 per cent. This rate will only increase when data from the last three months of 2020 is reported. Saskatchewan had the second highest rate of increase at 223 per cent.<sup>[86]</sup>

#### **OPIOIDS**

Opioids are depressant drugs that are available over the counter, by prescription or from the illegal market. Some examples of opioid drugs or chemicals include codeine, oxycodone, morphine, fentanyl and heroin. These substances have an important role in medical care, but can sometimes lead to dependency and addiction. For example, in Canada, around 10 per cent of those who used any opioid pain medication in the past year reported problematic use.<sup>[83]</sup>

## In 2018, Canada was the second highest consumer of prescription opioids worldwide.<sup>[84]</sup>

Misuse of opioids can have significant health consequences. Opioids have been a primary or contributing cause of death in approximately half of all drug-related deaths each year prior to 2020. This proportion has significantly increased in 2020, which appears to be the driving increase in overall substance-related deaths.

### Stimulants

Stimulants are a broad category of drugs that act to increase the level of activity of the central nervous system (brain and spinal cord). Caffeine, nicotine, cocaine/crack and methamphetamine are all examples of stimulant drugs.

#### NICOTINE

Excluding caffeine, nicotine is likely the most common stimulant used by Manitobans. Found naturally in tobacco leaves, it is commonly found in cigarettes, chewing tobacco and sometimes e-cigarettes. Cigarette smoking remains a large contributor to illness and death.

### 2,100 Manitobans die each year as a result of smoking.<sup>[87]</sup>

Over the past 20 years, smoking rates have declined significantly in Manitoba. In 2019, the overall smoking rate for Manitobans aged 15 and over was 14.5 per cent.<sup>[88]</sup>

E-cigarettes have become increasingly popular in Manitoba over the last few years. In 2019, 24.3 per cent of Manitobans had ever tried vaping, compared with 16.2 per cent of Canadians.<sup>[88]</sup>

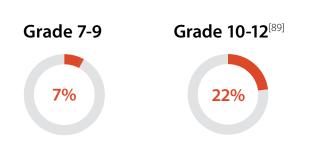


### In 2019, Manitoba had the highest rate of past 30 day vaping. MB - 8.8% Can - 4.7%.<sup>[88]</sup>

Youth vaping rates appear to be increasing more rapidly than vaping rates among other age groups.

#### Youth Vaping in Manitoba

(past 30-day use) 50% increase from 2014/15 – 2016/17 10% - 15% overall



#### COCAINE AND METHAMPHETAMINE

Both cocaine and methamphetamine are powerful stimulant drugs that are illegal to sell or possess in Canada. Cocaine is made from the leaves of the coca plant grown mainly in South America, while methamphetamine is a man-made drug, sometimes produced using a combination of household chemicals and pseudoephedrine. Both substances can be snorted through the nose, smoked or injected.<sup>[90]</sup>

In Manitoba, the use of both cocaine and methamphetamine has been increasing.

#### LIFETIME USE OF COCAINE IN MANITOBA



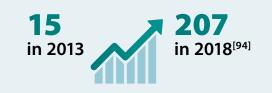
#### IN CANADA



of Canadians reported lifetime use of methamphetamine in 2017.<sup>[92]</sup>

The potential health and social consequences of methamphetamine use are substantial. According to a Manitoba Centre for Health Policy study, in 2019, methamphetamine was the most common reason (aside from alcohol) why Manitobans were seeking support for addictions and drug use.<sup>[93]</sup> From 2013-2018, there was a seven-fold increase in the number of Manitobans who used meth and then, had contact with the health care system. During each year of the study, more Manitobans used meth than in the previous year.<sup>[93]</sup>

Average monthly meth-related emergency departments visits in Winnipeg Regional Health Authority:



Manitoba has been experiencing a syndemic of substance use and sexually transmitted and bloodborne infections (STBBI's) prior to the COVID-19 pandemic. Research shows that "people who have been systemically marginalized (e.g., people who are insecurely housed, people who have experienced trauma and/or abuse, people with low income, and racialized groups) are disproportionately more likely to use methamphetamine, compared with others who have not experienced any of these circumstances.<sup>[93]</sup>" Substance use and STBBI's share these common root causes that make it necessary to address these issues together.

# Sexually Transmitted and Blood-Borne Infections (STBBIs)

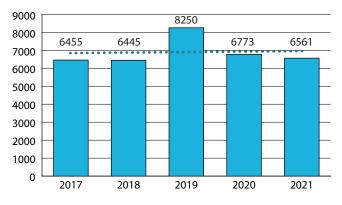
STBBIs are the most common infectious diseases of public health importance in North America. They are spread mainly through person-to-person sexual contact. Some STBBIs are also spread by bloodto-blood contact, which can occur when people who inject drugs share needles. They can also be passed from mother to child during pregnancy and childbirth.<sup>[95]</sup>

If untreated, STBBIs can cause serious health problems, including infertility and death. Chlamydia, gonorrhea and syphilis are the most common STBBIs. Chlamydia and gonorrhea may not cause any symptoms so people may not know they are infected. People who are sexually active, or who share drug paraphernalia, should be routinely tested, even if not showing symptoms.

It is particularly important to note that the COVID-19 pandemic resulted in reduced STBBI testing levels, and a decrease in the number of people tested for all STBBIs, in Manitoba. This decrease is due to reduced access to care during months with the highest COVID-19 restrictions and fear of attending health care settings due to COVID-19. Any decrease in STBBI cases reported from 2019 to 2020 may simply be due to decreased testing and therefore, decreased case identification, rather than a true decrease in incident cases.<sup>[116]</sup> The testing levels for most STBBIs, with the exception of gonorrhea and chlamydia, returned to pre-pandemic levels in 2021.

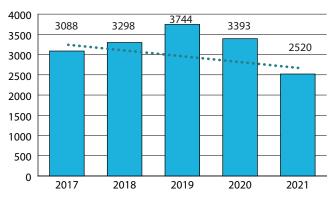
The data reported within this section include cases diagnosed up to Dec. 31, 2021 for chlamydia, gonorrhea, infectious syphilis, hepatitis B, and hepatitis C, and cases diagnosed up to Dec. 31, 2020 for HIV. These numbers are subject to change as case investigations are completed and staging is updated.

#### CHLAMYDIA



#### 6,561 cases in 2021

The rate of chlamydia in northern Manitoba (1,783.1 per 100, 0000) was four times greater than the Manitoba overall rate (473.1 per 100,000) in 2021.

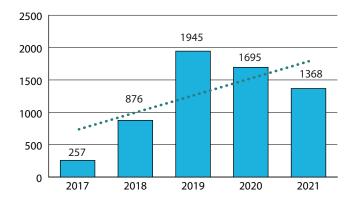


#### GONORRHEA

#### 2,520 cases in 2021

The rate of gonorrhea in northern Manitoba (753.1 per 100, 0000) was more than four times greater than the Manitoba overall rate (181.7 per 100,000) in 2021.

#### **INFECTIOUS SYPHILIS**

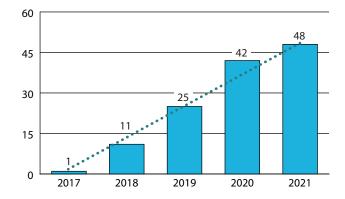


#### 1,368 cases in 2021

While the diagnosis of infectious syphilis cases has been decreasing since 2019, the amount of syphilis in Manitoba is still concerning. The number of infectious syphilis cases diagnosed in 2021 was five times higher than the number of infectious syphilis cases diagnosed in 2017. The recent decrease in diagnosed infectious syphilis cases may be partially due to the decrease in testing levels discussed above, as well as a change in how the infectious vs. noninfectious syphilis definition is being applied. As case investigations are completed and syphilis cases are staged, some cases may move from non-infectious to infectious status.

The rate of infectious syphilis in northern Manitoba (179.9 per 100, 0000) was greater than the Manitoba overall rate (100.1 per 100,000) for 2021. The rate in the north decreased almost three-fold from 2020 to 2021 (504.6 per 100,000 to 179.9 per 100,000).

#### **CONGENITAL SYPHILIS**



#### 48 cases in 2021

In 2015, for the first time in decades, Manitoba recorded a case of congenital syphilis.

Congenital syphilis occurs when a pregnant female is infected with syphilis and passes the infection to the fetus. If the mother goes untreated, the child may be born with an active syphilis infection. Congenital syphilis can cause numerous and sometimes severe medical complications to the child, including bone lesions, hearing loss and even death.<sup>[96]</sup>

Since mid 2018, there has been a surge in congenital syphilis cases, with 13 confirmed and eight probable cases occurring between June 2018 and June 2019 alone.<sup>[96]</sup> Manitoba recorded 42 congenital syphilis cases in 2020 and 48 congenital syphilis cases in 2021. Lack of prenatal care and substance use are known risk factors for congenital syphilis infections.<sup>[97]</sup>

It is strongly suspected that methamphetamine use is linked to the dramatic increase in cases of congenital syphilis in Manitoba.<sup>[93]</sup>

#### HUMAN IMMUNODEFICIENCY VIRUS (HIV)

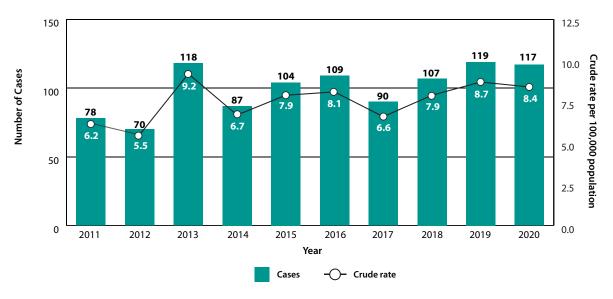


Figure 3. from 2020 ANNUAL SURVEILLANCE UPDATE: HIV IN MANITOBA (gov.mb.ca) [98]

As the figure above shows, there has been some fluctuation of HIV cases in Manitoba.

Regionally, rates of HIV started to climb in Prairie Mountain Health in 2018, and in the Northern Health Region in 2019. However, due to small numbers in these regions, a slight increase of cases can create large fluctuations in rates.

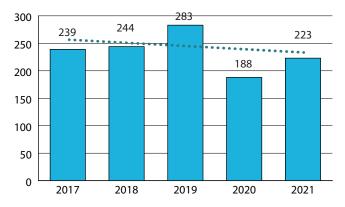
Prairie Mountain Health went from a rate of 1.2 per 100,000 in 2017, to 7 per 100,000 in 2018 and then, up to 8.7 per 100,000 in 2019.<sup>[98]</sup>

Northern Health Region's rate was stable over time until 2019, when it went to 16.8 per 100,000, from 5.2 per 100,000 in 2018. This is an increase of over 200 per cent in one year.<sup>[98]</sup>

In 2020, 58.1 per cent of cases were male and 41.9 per cent were female.<sup>[98]</sup> In recent years, the proportion of HIV cases among females has increased, but the proportion decreased slightly in 2020.<sup>[98]</sup>

2017 – 31.1% 2018 – 40.2% 2019 – 44.5% 2020 – 41.9%

#### **HEPATITIS B**

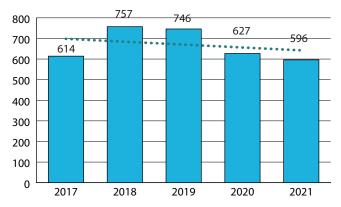


#### 223 cases in 2021

The rate of Hepatitis B in the Winnipeg Regional Health Authority (23 per 100, 0000) was one-and-ahalf times greater than the Manitoba overall rate (16.1 per 100,000) in 2021.



#### **HEPATITIS C**



#### 596 cases in 2021

The rate of Hepatitis C in northern Manitoba (94.5 per 100, 0000) was more than two times greater than the Manitoba overall rate (43 per 100,000) in 2021.

#### **TUBERCULOSIS (TB)**

Tuberculosis (TB) is a communicable disease that primarily affects the lungs and can cause significant illness and death. A person can have active or latent (sleeping) TB. People with active TB have signs and symptoms, and those with latent TB do not. Both are an important public health concern, because someone with latent TB can progress to active TB if they do not receive and follow treatment. In Canada, Manitoba has one of the highest rates of active TB.<sup>[99]</sup>

In Manitoba, the average rate of respiratory TB cases over the last five years is 138.6 cases per year.<sup>[100]</sup>

In 2019, this translated into 13.2 cases per 100,000 Manitobans. However, the impact is disproportionate by regional health authority, and significantly higher than the national average of approximately 4.9 cases per 100,000.<sup>[100]</sup>



# COVID-19

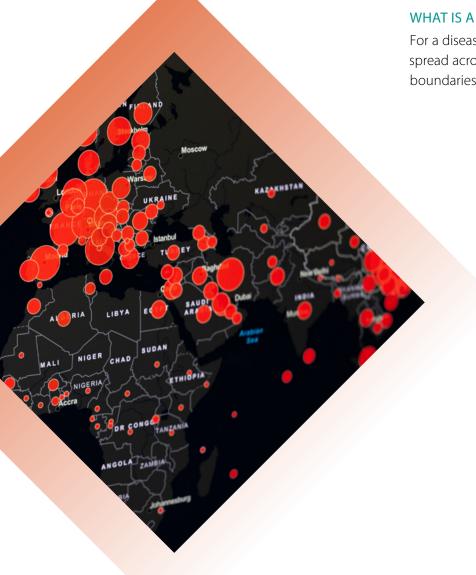
in Manitoba

#### Chapter 4: COVID-19 in Manitoba

As discussed in Chapter 1, part of the role of public health is to respond to public health emergencies, including outbreaks of disease. In early 2020, public health systems around the world were thrust into the spotlight following the detection of a cluster of cases of pneumonia with unknown etiology in Wuhan, China. Investigations revealed that the outbreak was caused by a novel (new) coronavirus. The World Health Organization (WHO) officially named this novel coronavirus disease COVID-19 (formerly 2019nCoV).<sup>[101]</sup> Despite initial control efforts, this new virus spread across Eastern Asia and eventually, across the globe. On Jan. 30 2020, it was declared a Public Health Emergency of International Concern and on March 11, 2020, the WHO declared COVID-19 a pandemic.<sup>[102, 103]</sup> Public health systems around the world jumped into action to slow and prevent the spread of COVID-19, bringing with it a new global awareness of the work of public health.

#### WHAT IS A PANDEMIC?

For a disease to be considered a pandemic, it must spread across a large region, or cross international boundaries, and affect many people.



#### Key dates early in the COVID-19 Pandemic [103]

- January 4, 2020 WHO reported on social media that there was a cluster of pneumonia cases – with no deaths – in Wuhan, Hubei province.
- January 9, 2020 WHO reported that Chinese authorities determined the outbreak was caused by a novel (new) coronavirus.
- January 13, 2020 Officials confirmed a case of COVID-19 in Thailand, the first recorded case outside of China.
- January 30, 2020 The WHO Director-General declared the novel coronavirus outbreak (2019-nCoV) a Public Health Emergency of International Concern. WHO's situation report reported 7,818 total confirmed cases worldwide, with the majority of these in China, and 82 cases reported in 18 countries outside China.
- March 11, 2020 WHO declared the novel coronavirus (COVID-19) outbreak a global pandemic.

#### **COVID-19 VARIANTS OF CONCERN**

Genetic variants of viruses are common and expected. Variants of a virus become concerning when they spread more easily, cause more severe disease or when vaccines and treatments are less effective against them.<sup>[104]</sup> Such strains are termed variants of concern (VOC). A number of COVID-19 variants of concern have been identified that continue to spread globally.<sup>[54]</sup> The emergence of the Alpha variant significantly affected COVID-19 transmission in the fall of 2020, which will be examined later in this chapter.

#### NAMING OF COVID-19 VARIANTS OF CONCERN

Pango Lineage	WHO Label
B.1.1.7	Alpha
B.1.351	Beta
P.1	Gamma
B.1.617.2	Delta
B.1.1.529	
BA.1	Omicron
BA.2	

### COVID-19 Public Health Activities

#### PREPAREDNESS AND RESPONSE

Emergency preparedness activities such as planning, training and organizing to respond to harmful events and situations, are all part of the work of public health in non-pandemic times.<sup>[92]</sup> The provincial response to COVID-19 began long before the identification of the first case in Manitoba. In Jan. 2020, a leadership committee was established to coordinate the provincial response to COVID-19. As the situation with COVID-19 developed, this committee transformed into a joint Incident Command System on Feb. 3, 2020.

Following notification of the novel coronavirus outbreak in China from the Public Health Agency of Canada, Manitoba's chief provincial public health officer issued a health alert to health care providers on Jan. 17, 2020.

The primary objectives of the response to COVID-19 were to minimize serious health outcomes and overall deaths, while minimizing societal disruption. Achieving these goals meant that managing the pandemic involved using the least restrictive means necessary to balance the risk of COVID-19 versus the risk of negative health impacts from public health restrictions. In the context of a global pandemic with a highly transmissible virus, the degree of public health restrictions enacted and the challenges in attaining a balanced approach were unprecedented.

Over 100 public health orders were issued in Manitoba between March 2020 and March 2022.

#### FIRST NATIONS LEADERSHIP DURING COVID-19

The Manitoba First Nations COVID-19 Pandemic Response Coordination Team (PRCT) is a partnership between the First Nations Health and Social Secretariat of Manitoba, Manitoba Keewatinowi Okimakanak, and the Assembly of Manitoba Chiefs. This group was empowered to make decisions to assist in responding to First Nations' needs and worked with all levels of government, service delivery organizations, tribal councils, Southern Chiefs Organization and Ongomiizwin (Rady Faculty of Health Sciences). One of the roles of the coordination team was providing First Nations with updates on cases of COVID-19. The Manitoba First Nations COVID-19 PRCT published daily and weekly bulletins, vaccination reports and tribal council reports to provide First Nations specific data.

#### PUBLIC HEALTH MEASURES AND ORDERS

Under the Public Health Act, the chief provincial public health officer has the authority to issue public health orders when they determine there is a serious and immediate threat to public health that exists because of an epidemic, or threatened epidemic, of a communicable disease, and that the threat to public health cannot be prevented, reduced or eliminated without taking special measures. These orders can be issued at any time and may be in place for a specified period, or until revoked by the chief provincial public health officer. Orders must be approved by the Minister of Health.

Public health measures changed rapidly in response to the burden of COVID-19 in the province, emerging/ changing evidence and the availability of key interventions, such as vaccination.

Key dates and public health measures in Manitoba's initial pandemic response (March –May 2020):

#### Throughout the COVID-19 pandemic, public health orders were issued that placed restrictions on numerous aspects of daily life including:

#### Use of **masks**

Travel restrictions/isolation requirements

#### **Group gatherings**

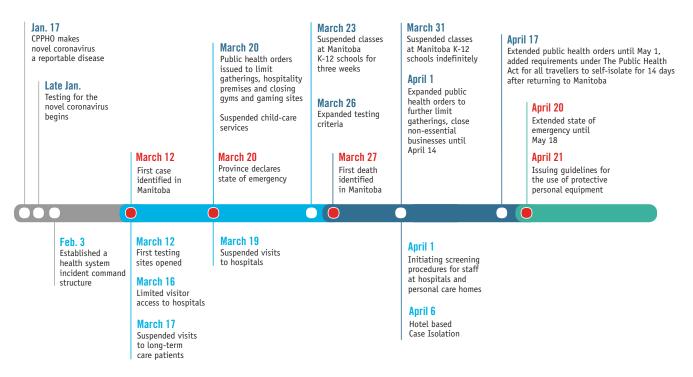
Business capacity limits and closures

#### **Recreation/sports**

#### **Schools**

Proof of vaccination requirements

#### **Public Health Measures**



#### **The Fundamentals**

Key public health recommendations, often termed "the fundamentals", included physical distancing of two meters (six feet), staying home and getting tested when sick, washing hands frequently and wearing a mask.

# The provincial response was based on key indicators being monitored by public health officials, including:

#### **Test positivity rates**

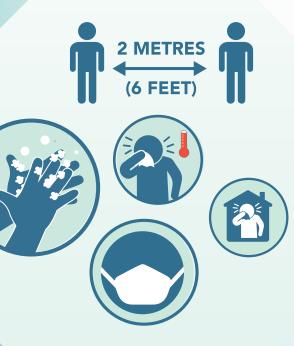
Case numbers and growth rates

The speed of disease spread, called **doubling time** (the time it takes for cases to double)

**Contact tracing** and the degree in which to cases are contained in **clusters** and **outbreaks** 

**Health system capacity** regarding hospitalization or intensive care unit admissions

**COVID-19 vaccination rates** 



### Unintended Impacts of Public Health Measures

While public health measures may have been necessary to protect Manitobans from the spread of COVID-19, a balanced approach was needed to limit any unintended harms.

Many of the negative unintended consequences of the pandemic were the result of existing inequities. Job loss and loss of income, social isolation, mental health impacts, increases in substance use and domestic and family violence, reduced access to in-person learning and supports and delayed surgical and diagnostic procedures and routine immunizations are just a few examples of potential harms.

It should be noted that many of these unintended consequences were not due to public health measures alone.

COVID-19 infections themselves also played a role due to staff redeployments in health care and increased absenteeism due to illness across sectors. People who have been re-infected or who are experiencing long COVID-19 symptoms, continue to be impacted even though public health measures were removed in spring 2022.

### A 2021 study by Sick Kids in Ontario found that between April and June 2020:



More than two thirds of children and adolescents experienced deterioration in mental health, strongly associated with stress related to social isolation.<sup>[105]</sup>

70.2% of children 6–18 years old and 66.1% of children 2–5 years old experienced a decline in at least one domain of mental health (e.g., depression, anxiety, irritability, attention, hyperactivity, and obsessions/compulsions).<sup>[105]</sup>

#### SUBSTANCE USE AND HARM

Substance-related deaths in Manitoba increased from 191 in 2019 to 372 in 2020, representing an almost 95 per cent increase.<sup>[106]</sup>

#### This sharp rise was believed to be due to:

stress caused by the COVID-19 pandemic, which has **resulted in increased mental health issues**, including feelings of anxiety, depression and suicidal thoughts;

an **increase in solitary substance use** because of COVID-19 public health orders limiting gatherings

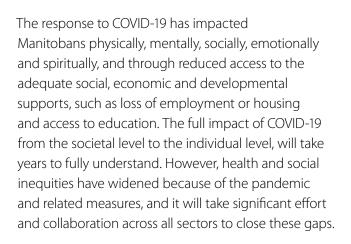
#### barriers to treatment

Between January and July 2021 alone, 236 substance toxicity deaths were reported by the Office of the Chief Medical Examiner (OCME).<sup>[107]</sup>

#### **ROUTINE IMMUNIZATIONS**

Routine immunization programs, including schoolbased programs, were postponed to prioritize COVID-19 vaccination.

The number of monthly diphtheria, tetanus, pertussis, polio, haemophilus influenza type b (DTaP-IPV-Hib) and measles, mumps, rubella, varicella (MMRV) vaccine dose provision in Manitoba decreased in April 2020 compared with February 2020, by 18 per cent and 38 per cent, respectively.<sup>[108]</sup>



### COVID-19 Vaccination

As discussed in Chapter 2, vaccination is the single most important public health achievement in the past century, as infectious diseases have dropped from the leading cause of death to less than five per cent of all deaths in Canada. COVID-19 has shown us the devastating effects an emerging infectious disease can have on a population when general immunity is low and a vaccine is not available.

The COVID-19 vaccination campaign is the largest vaccination campaign ever undertaken in Manitoba.

As of April 13, 2022...

2,871,481

doses of vaccine have been administered.





of Manitobans aged five and older have received **two doses** 



have received three doses [109]

### There are some regional differences in vaccination coverage. As of April 13, 2022...

in the Winnipeg Regional

**Health Authority** 



in Prairie Mountain Health and Interlake Eastern



in Northern Regional Health Authorities, and



in **Southern Health** have received two doses of COVID-19 vaccine.

#### For First Nations as of April 7, 2022

307,800

doses of vaccine have been administered





On-reserve Off-reserve of people aged five and older have received two doses

29%

21.5%

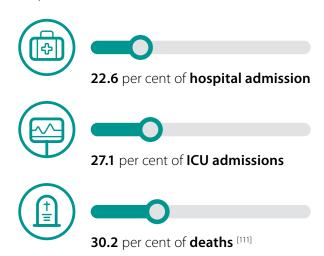
On-reserve Off-reserve of people have received three doses [110]

On Dec. 16, 2020, the first COVID-19 vaccine was given in Manitoba.

COVID-19 vaccines are highly effective at preventing severe COVID-19 disease, including the need for supplemental oxygen, hospital admission and intensive care unit (ICU) admission. No vaccine is 100 per cent effective in preventing infection, and, as a result, we expect to see breakthrough infection in fully vaccinated Manitobans. Manitobans that have received no dose of COVID-19 vaccine are more likely to be hospitalized, admitted to the ICU or die if infected with COVID-19.

### 17.3%

of the Manitoba population is not vaccinated against COVID-19, yet from March 1 – 31, 2022, they account for:



### Epidemiology of COVID-19 in Manitoba

Epidemiological analysis answers key questions about the movement of COVID-19 through the population. Interpretation of data on severe outcomes (e.g., hospitalization, ICU, death, vaccine status) helps explain how the virus spreads in different settings, and informs public health interventions and decision-making.

#### As of April 27, 2022 there were



cases of COVID-19 identified in Manitoba

#### Of these, 37,428 were identified amongst First Nations people with

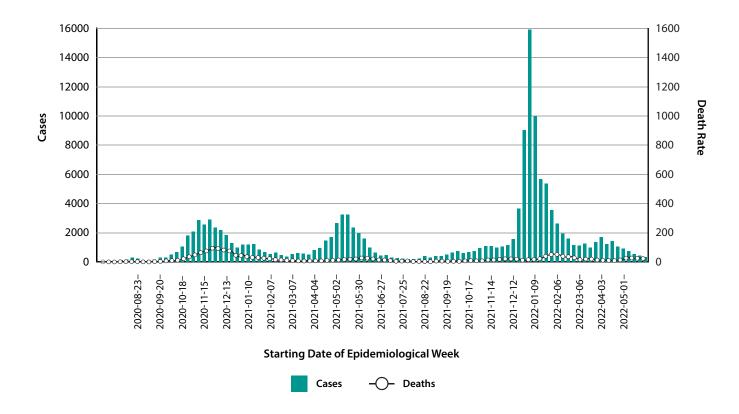
#### 22,053 on-reserve

#### 15,375 off-reserve

First Nations people have been disproportionately impacted by COVID-19 representing 26.5 per cent of all COVID-19 cases in Manitoba.<sup>[112]</sup>

Manitoba's COVID-19 experience follows the pattern of other jurisdictions, with cases rising and falling in waves, but remains unique in terms of the timing, clusters and populations that were impacted. Each wave of COVID-19 was different from the next, and the context of COVID-19 infection dynamics changed rapidly. Manitoba's first wave of COVID-19 was significantly smaller than the waves that followed. For this reason, the data in this report focuses on the impact of COVID-19 from August 2020 to March 2022. While small in magnitude, wave one was not insignificant. It happened at a time where the entire world knew very little about SARS CoV-2, the virus that causes what is now known as COVID-19, and the identification of the first case of COVID-19 in Manitoba that triggered a series of significant actions, as already noted earlier in this chapter. A combination of timing and quick action prevented a large first wave in Manitoba.

<sup>&</sup>lt;sup>2</sup> It should be noted that the number of cases reported is an undercount of the total number of Manitobans infected with COVID-19. There are many factors that contribute to the undercounting of cases, including people who do not have symptoms and do not know they are infected, changes to testing criteria and people with mild illness not seeking testing, even if they were eligible.



Cases of COVID-19 by Week of Public Health Report Date, Manitoba, August 23, 2020 – April 23, 2022 [111]

Wave Two, which began in early fall 2020, was when Manitoba experienced widespread community transmission of COVID-19 for the first time, with case counts reaching 300 to 500 new diagnoses per day. At this time, Manitoba's population was largely susceptible to COVID-19, with no vaccine and very little protection from previous infections. Despite having significant public health measures and precautions in place across the province, personal care homes were hit particularly hard, a pattern that was seen in other provinces across Canada.

### The peak daily case count in Wave Two was 593, on Nov. 22, 2020.

Between Waves Two and Three, two significant factors changed the COVID-19 landscape: vaccines became available and the alpha variant of concern (VOC) emerged, which was more transmissible and more severe than the original wild type of the virus.

While early supply of vaccine was limited, some people most at risk for severe outcomes from COVID-19 (e.g., elder residents of personal care homes) were able to be vaccinated in early 2021. As shown in the epi curve above, while cases increased notably in Wave Three, the overall number of COVID-19-related fatalities was lower than Wave Two.

#### The peak daily case count in Wave Three (Alpha) was 601 on May 19, 2021.

After the Alpha VOC emerged, new variants continued to be identified, and it was the Delta variant, with its increased transmissibility and severity compared to Alpha, that was becoming the dominant circulating variant by summer and into fall 2021.<sup>[113]</sup>

## The Delta VOC was up to 79 per cent more transmissible than Alpha.<sup>[113]</sup>

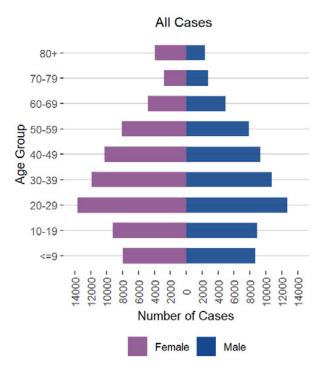
Manitoba's fourth wave began in the fall of 2021, driven by the Delta variant. Manitoba had sufficient vaccination and restrictions in place to keep cases lower than previous waves, that changed in December when the Omicron variant quickly overtook Delta as the dominant variant in Canada. The Omicron variant was more transmissible than Delta, and two doses of COVID-19 were less effective at preventing omicron infection, though they continued to offer protection against severe outcomes.<sup>[114]</sup> This combination of factors led to a steep incline in cases in the beginning of late Dec. 2021. People vaccinated with a third dose of vaccine appear to have been more protected than people with two doses only.

# The peak daily case count when Omicron overtook the Delta variant was 2,091 on Jan. 5, 2022.

It is estimated that each Omicron case infects 4.5 times more people than a case of Delta.<sup>[114]</sup>

### DEMOGRAPHICS OF COVID-19 CASES IN MANITOBA<sup>[111]</sup>

The following figure shows the breakdown of cases by age and sex. We can see that the case counts are generally balanced between males and females, but not by age group, where people aged 20 to 29 had a higher burden of infection. This is similar to what was seen across Canada.



Sex and Age Distribution of COVID-19 Cases, Manitoba, March 1, 2020 – April 23, 2022

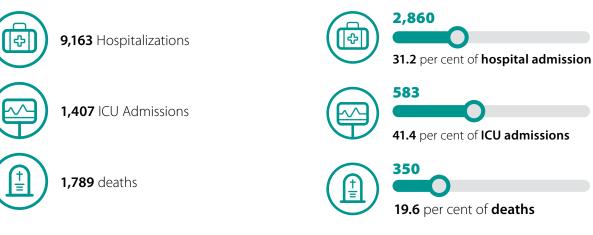
### Severe Outcomes: Hospital and Intensive Care Unit (ICU) Admissions, and Deaths



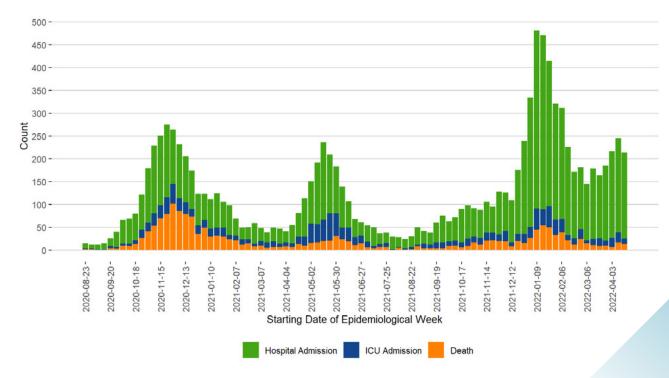
Throughout the pandemic, there was concern that health systems would become overwhelmed due to high numbers of COVID-19 positive patients needing care, combined with reduced capacity due to staff having COVID-19 themselves, or having to isolate due to exposure. In addition to significant public health measures, the hospital system also had to reduce volumes of elective surgeries and redeploy staff to ensure there was sufficient staff to care for COVID-19 positive patients. These measures, while necessary, have had unintended negative consequences that have been previously discussed.

#### As of April 21, 2022, related to COVID-19 infection THE PROVINCE SAW A TOTAL OF

#### FIRST NATIONS SEVERE OUTCOMES [115]



A disproportionate number of severe outcomes were experienced by First Nations people in each wave, except for the first wave in spring 2020.



Severe Outcomes of COVID-19 by Week of Outcome Date, Manitoba, August 23, 2020 – April 23, 2022

As you can see in the figure above, the severe outcomes in Wave Three (Alpha), are lower than in Wave Two, despite the volume of cases being higher. This decline in severe outcomes is attributed to the efficacy of vaccines for those most at risk of severe outcomes from COVID-19.

On April 28, 2021, during Wave Three (Alpha), First Nations people made up 19 per cent of new cases, 36 per cent of active cases, 38 per cent of hospitalizations and 52 per cent of ICU patients.<sup>[115]</sup> This means that First Nations people made up about half of all critically ill patients admitted to the ICU. This is a striking overrepresentation of severe COVID-19 disease in this population. Longstanding structural factors including overcrowded housing, and income and food insecurity, have contributed to this disproportionate disease burden. Higher severity of disease is also likely the result of higher rates of underlying chronic illnesses, which are also caused by structural gaps.

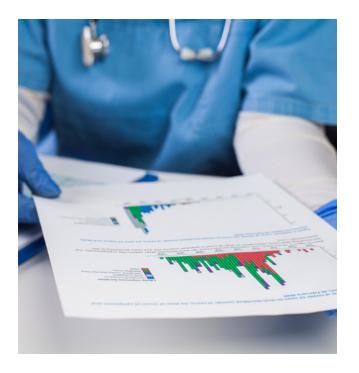
The arrival of the Omicron variant in Dec. 2021 had a significant impact on the acute care system in Manitoba. Despite early data suggesting Omicron caused more mild disease than previous variants, the spread of Omicron was so quick that there were record numbers of COVID-19 positive hospitalizations in Manitoba.<sup>[114]</sup>

#### PEOPLE WHO EXPERIENCED DISPROPORTIONATE IMPACTS OF COVID-19 IN MANITOBA

A description of how case counts, vaccination rates and acute care usage changed over time provides an overview of the COVID-19 pandemic. However, tracking the spread of a virus is more than just looking at cases. There is more to be learned by taking a closer look at the people who are affected.

Historically, race, ethnicity and Indigenous (REI) self-identity data has not been consistently captured in Manitoba, nor across Canada. As COVID-19 arrived in Manitoba, a group of representative experts supported the development of a data collection process, including the creation of scripts and training videos, and a REI question for use during case investigations. COVID-19 became the first instance of the safe and regular collection of race-based data in Manitoba.

Data about race, ethnicity and Indigenous self-identity of persons testing positive for COVID-19 and undergoing public health follow-up began being collected on May 1, 2020.<sup>[116]</sup>



Three reports and one public brief on the collection of REI information and impacts of COVID-19 on racialized communities in Manitoba have been released to the public and can be found on Manitoba Health's Epidemiology and Surveillance website at <u>https://www.gov.mb.ca/health/publichealth/</u> <u>surveillance/reports.html</u>

The collection of REI identifiers to allow for disaggregation of data is a complex balancing act of potential harms and potential benefits. Benefits are most likely to occur when diverse communities have representation in all aspects of the data cycle, including collection, analysis, reporting, recommendations and shared decision-making.

Expert analysis and recommendations requires people who are members of, and connected to, diverse communities, who hold knowledge in critical race and gender studies, public health, health care systems, human rights, and epidemiology. The data is useful when expertise, advocacy and participating in planning, policy and decision-making can occur, as well as when it is provided to support informeddecision making by the members of diverse communities that it describes.

The provision of health data and analysis to communities experiencing higher burden gives the community leadership an opportunity to provide and create pathways of care and interventions that will make real impacts for their own people. This is one example of how appropriate governance and participatory planning results in improved outcomes that can be recreated to address other health issues.

Equity in public health does not start at the intervention, but rather at the interpretation of a community's health needs through the analysis of data. Equitable practices around health data-sharing, governance and evidence-informed decision-making are fundamental requirements for achieving equitable outcomes.

#### **REI AND COVID-19 DISEASE**

Between May and Dec. 2020, 54 per cent of COVID-19 cases identified were in people who self-identified as members of a racialized community despite racialized communities making up only 36 per cent of the Manitoban population.<sup>[117]</sup>

### This finding is 1.6 times higher than expected.<sup>[116]</sup>

#### WAVE THREE (ALPHA) FINDINGS

Between March 31, 2021 and June 7, 2021, 76.6 per cent (14,408) of Manitoba's 18,808 cases of COVID-19 had REI data recorded, including those who declined to answer.<sup>[118]</sup> The data showed an over-representation of COVID-19 infection in all racialized groups, except for the Chinese community, ranging from 1.8 to more than 11 times higher when we look at the differences between diverse racialized communities, compared to what would be expected based on population size.<sup>[118]</sup> Using cases among white people in Manitoba as a reference, age standardized COVID-19 infection rates were up to 21.7 times greater for the South-East Asian community.<sup>[118]</sup>

Figure 1 shows the number of cases by REI identifiers. The data shows that there is an unequal distribution of cases in Manitoba, with members of diverse racialized communities having much higher numbers of COVID-19 infections, taking into consideration their much smaller population sizes. It is not race, ethnicity of Indigeneity that may increase the risk of COVID-19 infection, but rather the structures of society that place people at advantage or disadvantage.<sup>[116]</sup>

These numbers suggest that there is an overrepresentation of COVID-19 infections in racialized community members. (External Report, Figure 1).<sup>[116]</sup>

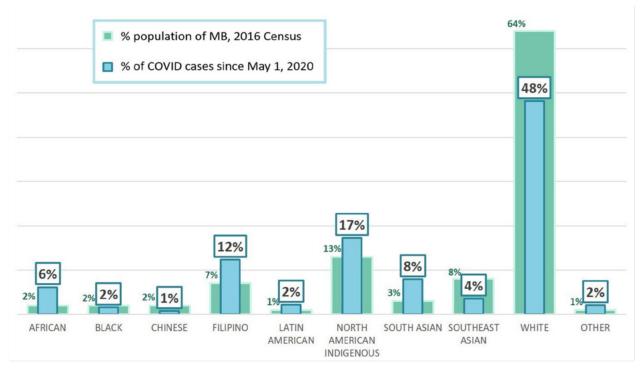


Figure 1 from COVID-19 Infections in Manitoba: Race, Ethnicity, and Indigeneity Public Brief (<u>https://www.gov.mb.ca/health/publichealth/surveillance/docs/rei\_brief.pdf</u>) <sup>[117]</sup>

Beyond examining the disproportionate burden of COVID-19 cases in Manitoba, it is also important to look at the data on severe outcomes, including hospitalizations, ICU admissions and deaths.

#### Between March 31, and June 7, 2021...

For racialized people in Manitoba, the hospitalization rate was **3.5 times** that of white people in Manitoba.

The average age of hospitalized cases was **14 years younger** for racialized people in Manitoba.<sup>[118]</sup>

In terms of ICU admissions, the rate was **4.2 times greater** among racialized people in Manitoba, compared to white Manitobans and the average patient age was **10 years younger**.<sup>[118].</sup> Between March 31 and June 7, 2021, when age was accounted for, racialized people in Manitoba were at:



3 - 10 times higher risk for infection;



2 - 7 times higher risk for hospitalization; and

2 - 6 times higher risk for ICU admission than white Manitobans.

Occupations requiring continued front-line work appear to have led to more exposure to COVID-19 among racialized people in Manitoba.<sup>[118]</sup> COVID-19 transmission risk is highest in settings where congregation and prolonged close contact between individuals occurs at a higher frequency. Lower income and racialized Manitobans are also more likely to live in overcrowded housing where more transmission may occur.<sup>[118]</sup> A higher burden of underlying chronic diseases and reduced access to health care may have also contributed to these disproportionate impacts.<sup>[118]</sup>

The data also showed a relationship between income level, race and severe COVID-19 disease. ICU admissions were higher among Manitobans in lower income quintiles (levels), with the effect being inversely proportionate to income level.<sup>[118]</sup>

A particularly striking finding is that ICU admissions were the highest among racialized community members in the lowest income quintile at just over one in every three hospitalizations.<sup>[118]</sup>

### In Manitoba, all public health measures were lifted on March 15, 2022.

Between March 2020 and March 2022, the COVID-19 pandemic required unprecedented actions by government, public health officials and all citizens to address a new and immediate threat to the health of Manitobans. Since then, much has changed, including the virus itself. The Omicron variant, while more transmissible, causes less severe disease than other variants of concern. A safe and effective vaccine is now widely available and the majority of Manitobans over the age of five are fully vaccinated. Finally, there are effective treatments available. All of these factors played an important role in transitioning from pandemic management, to managing COVID-19 with more routine practices and recommendations, similar to those used to manage influenza and other respiratory illnesses, in early spring 2022.

This pandemic has predictably affected Manitobans inequitably. The spread of COVID-19 in Manitoba has provided a real-time look at how certain groups and populations experience inequitable health outcomes. Older people, and those with underlying chronic conditions were at a higher risk of severe disease. Diverse racialized communities have also been more significantly impacted due to underlying inequitable social and structural health determinants, which itself is due to structural racism. While we can gather data about illness from COVID-19 in real time, the full physical, social and economic impact of this pandemic, including the unintended consequences of public health measures, will not be well understood for years to come.

### Final Thoughts

For many Manitobans, the time of the pandemic has been a time of much reflection. We hope that this report provides an opportunity for Manitobans to reflect further. Why is it that despite the majority of Manitobans being able to enjoy good health, certain groups persistently have poorer health outcomes? Why is it that certain groups of Manitobans experienced more negative impacts of COVID-19 infection and disease, compared to others?

For many Manitobans, these questions are not new and much great work continues to be done on further understanding the underpinnings of health disparities across the province. There is also a tremendous amount of work being undertaken by many organizations to attempt to improve gaps in care and services. For some Manitobans, this may be their first opportunity to reflect on this topic.

For those that wish to delve deeper into these issues, I suggest starting your endeavour from a common baseline of three very basic premises:

- 1. These disparities are not due to **chance**.
- 2. These disparities are not due to **genetics** or some other **inherent predisposition** to poor health outcomes.
- These disparities are not due to poor life choices.



By approaching our review from this baseline understanding, we can see that health inequities are due to, and perpetuated by, social and systemic factors, including employment opportunities, housing conditions, poverty and racism. In order to address these disparities in health outcomes, we must first address these systemic factors. Improving these long-standing factors is complex and will require community engagement and significant time and resources to implement. To move toward a reduction of health inequities, and seek to improve the overall health of Manitobans, it is necessary to:

Continue to measure and expand our understanding of **health disparities**;

Set measurable and achievable **short-**, **medium**and **long-term targets** for improving the health of all Manitobans, including targets to **reducing the gaps** outlined in this report;

Use this and other data to inform Manitoba's **clinical preventive services plan**;

Engage and work along side **community leadership** in tackling health disparities that various groups face;

**Publically report** on these indicators at regular intervals.

Continue to support **Indigenous-led responses** to health issues



### References

- Government of Canada. Treaties in Manitoba.
   2010; Available from: <u>https://publications.gc.ca/</u> <u>collections/collection\_2011/ainc-inac/R3-145-</u> <u>2011-eng.pdf</u>.
- 2. Truth and Reconciliation Commission of Canada, *Truth and Reconciliation Commission of Canada: Calls to Action.* 2015: Winnipeg, Manitoba.
- Truth and Reconciliation Commission of Canada. FAQ's. 2015; Available from: <u>https://web.archive.org/web/20200507211405/http://www.trc.ca/about-us/faqs.html</u>.
- 4. Chief Robert Joseph O.B.C., *An Interview with Chief Robert Joseph O.B.C.*, D. Douez., Editor. 2017: Vancouver.
- **5.** Truth and Reconciliation Commission of Canada, Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada. 2015.
- 6. Dictionary of Epidemiology, John M. Last, Editor. 2001, Oxford University Press.
- Canadian Public Health Association. 12 great achievements 2020; Available from: <u>https://www. cpha.ca/12-great-achievements</u>.
- 8. Province of British Columbia. For the Public: Learn more about public health through the following frequently asked questions. 2019; Available from: https://www2.gov.bc.ca/gov/content/health/ about-bc-s-health-care-system/office-of-theprovincial-health-officer/about-public-health/forthe-public.
- 9. American Public Health Association. *What is Public Health?* 2019 Available from: <u>https://www.apha.org/what-is-public-health</u>.

- Government of Canada. Frequently asked questions. Public Health Agency of Canada: About the Agency 2016; Available from: <u>https://www.canada.</u> <u>ca/en/public-health/corporate/mandate/about-</u> <u>agency/frequently-asked-questions.html</u>.
- **11.** British Columbia Office of the Provincial Health Officer, *Taking the Pulse of the Population: An Update on the Health of British Columbians*. 2019.
- 12. Government of Canada. *Health Portfolio*. 2017; Available from: <u>https://www.canada.ca/en/health-canada/corporate/health-portfolio.html</u>.
- Pan-Canadian Public Health Network. About the Pan-Canadian Public Health Network. 2020 May 20; Available from: <u>https://www.phn-rsp.ca/en/ about/index.html</u>.
- **14.** Government of Manitoba. *The Public Health Act*. Public Health 2017; Available from: <u>https://www.gov.mb.ca/health/publichealth/act.html</u>.
- **15.** Government of Manitoba. Office of the Chief Provincial Public Health Officer. 2017; Available from: <u>https://www.gov.mb.ca/health/cppho/</u>.
- World Health Organization. Constitution. 2019; Available from: <u>https://www.who.int/about/governance/constitution</u>.
- 17. World Health Organization Commission on Social Determinants of Health, *Closing the gap in a generation: Health equity through action on the social determinants of health - Final report of the Commission on Social Determinants of Health.* 2008, World Health Organization: Geneva.
- **18.** Chief Provincial Public Health Officer, *Chief Provincial Public Health Officer Position Statement on Health Equity.* 2018: Winnipeg, MB.

- **19.** Commission of the Pan American Health Organization on Equity and Health Inequalities in the Americas, Just Societies: Health Equity and Dignified Lives. Report of the Commission of the Pan American Health Organization on Equity and Health Inequalities in the Americas. 2019, Pan American Health Organization Washington, D.C.
- 20. Government of Canada. Social determinants of health and health inequalities. 2019; Available from: <u>https://www.canada.ca/en/public-health/</u> <u>services/health-promotion/population-health/</u> <u>what-determines-health.html#a2</u>.
- 21. National Collaborating Centre for Determinants of Health. *Glossary of essential health equity terms 2022*; Available from: <u>https://nccdh.ca/learn/glossary/</u>.
- 22. Robert Wood Johnson Foundation. *Visualizing Health Equity: One Size Does Not Fit All Infographic* 2017; Available from: <u>https://www.rwjf.org/en/</u> <u>library/infographics/visualizing-health-equity.</u> <u>html#/download</u>.
- **23.** Canadian Public Health Association, *Racism and Public Health*. 2018: Ottawa, Ontario.
- 24. National Collaborating Centre for Determinants of Health, *Let's Talk Racism and Health Equity (Rev. ed.)*.2018, St. Francis Xavier University: Antigonish, NS.
- **25.** Canadian Centre for Substance Use and Addictions, *Overcoming Stigma Through Language: A Primer.* 2019.
- 26. Public Health Agency of Canada, Addressing Stigma: Towards a More Inclusive Health System, in The Chief Public Health Officers' Report on the State of Public Health in Canada 2019. 2019: Ottawa, ON. p. 78.
- 27. National Inquiry into Missing and Murdered Indigenous Women and Girls, *Reclaiming Power and Place: Executive Summary of the Final Report.* 2019.

- **28.** The Canadian Research Institute for the Advancement of Women, *Colonialism and Its Impacts.* 2016.
- 29. Mosby, I., Administering Colonial Science: Nutrition Research and Human Biomedical Experimentation in Aboriginal Communities and Residential Schools, 1942-1952 Histoire sociale/Social History, 2013. XLVI, no 91.
- Sterritt, A., and Dickson, C., 'This is heavy truth': Tk'emlúps te Secwépemc chief says more to be done to identify unmarked graves, in CBC News. 2021: British Columbia.
- Wilk, P., A. Maltby, and M. Cooke, Residential schools and the effects on Indigenous health and well-being in Canada—a scoping review. Public Health Reviews, 2017. 38.
- **32.** Health Council of Canada, *A Citizen's Guide to Health Indicators*. 2011, Health Council of Canada: Toronto, Ontario.
- **33.** Katz, A., et al., *The Health Status of and Access to Healthcare by Registered First Nations Peoples in Manitoba*. Fall 2019: Winnipeg, Manitoba.
- 34. Government of Manitoba. Manitoba Health Seniors and Active Living, Population Report June 1, 2020.
  2020, Government of Manitoba: Manitoba, Canada.
- **35.** Fransoo, R., et al., *the 2019 RHA Indicators Atlas*. 2019, Manitoba Centre for Health Policy: Winnipeg, Manitoba.
- **36.** Statistics Canada. *National Indigenous Peoples Day... by the numbers*. 2018; Available from: <u>https://www.statcan.gc.ca/eng/dai/smr08/2018/</u> <u>smr08\_225\_2018</u>.
- Statistics Canada. Focus on Geography Series, 2016 Census. Statistics Canada Catalogue no. 98-404-X2016001. Data products, 2016 Census. 2017 2019-04-10.

- **38.** Government of Manitoba. *Manitoba Health, Annual Statistics 2020-2021.* 2022: Winnipeg, Manitoba.
- **39.** Government of Manitoba, *Manitoba Accepts Highest Number of Immigrants in Province's History.* 2020.
- 40. Statistics Canada. Immigration and ethnocultural diversity: Key results from the 2016 Census. . 2017; Available from: <u>https://www150.statcan.gc.ca/n1/daily-quotidien/171025/dq171025b-eng.htm</u>.
- **41.** Government of Manitoba, *Annual Statistics 2018-19*. 2020: Manitoba, Canada.
- **42.** Statistics Canada. *Table 13-10-0096-15 Sense of belonging to local community, somewhat strong or very strong, by age group.* 2020.
- **43.** First Nations Health and Social Secretariat of Manitoba, *First Nations Regional Health Survey* (*RHS*) *Phase 3 (2015-2016): Manitoba Regional Report* 2018: Winnipeg, MB.
- **44.** Fransoo, R., et al., *The 2019 RHA Indicators Atlas*. Fall 2019 Suppl., Manitoba Centre for Health Policy: Winnipeg, Manitoba.
- **45.** Cui, Y., et al., *Winnipeg Health Region Community Health Assessment 2019.* December 2019, Evaluation Platform, Centre for Healthcare Innovation (CHI) & Winnipeg Regional Health Authority: Winnipeg, Manitoba.
- **46.** Northern Health Region, *Northern Health Region Community Health Assessment 2019.* 2019, Northern Health Region: Manitoba, Canada.
- **47.** Statistics Canada. *Table 13-10-0096-03 Perceived mental health, by age group.* 2020.
- **48.** Statistics Canada. *Table 13-10-0096-04 Perceived life stress, by age group.* 2020.

- **49.** Statistics Canada, Table 46-10-0056-01 Core housing need, by tenure including first-time homebuyer and social and affordable housing status, 2018. Ottawa, Ontario.
- **50.** Statistics Canada, *Table 46-10-0037-01 Dimensions* of core housing need, by tenure including first-time homebuyer and social and affordable housing status. Ottawa, Ontario.
- 51. Government of Canada. *Household food insecurity in Canada: Overview.* 2020; Available from: <u>https://</u> <u>www.canada.ca/en/health-canada/services/</u> <u>food-nutrition/food-nutrition-surveillance/</u> <u>health-nutrition-surveys/canadian-community-</u> <u>health-survey-cchs/household-food-insecurity-</u> <u>canada-overview.html.</u>
- **52.** Statistics Canada, *Table 13-10-0835-01 Food insecurity by age group and sex*. 2022: Ottawa, Ontario.
- 53. Statistics Canada. Census in Brief Children living in low-income households. 2017 April 3, 2019; Available from: <u>https://census.gc.ca/census-</u> recensement/2016/as-sa/98-200-x/2016012/98-200-x2016012-eng.cfm.
- 54. Brownell M., N.N., Turnbull L., Au W., Ekuma O., MacWilliam L., McCulloch S., Valdivia J., Boram Lee J., Wall-Wieler E., Enns J., *The Overlap Between the Child Welfare and Youth Criminal Justice Systems: Documenting "Cross-Over Kids" in Manitoba*. Spring 2020, Manitoba Centre for Health Policy: Winnipeg, Manitoba.
- **55.** Government of Manitoba. *Manitoba Families, Annual Report 2020-21.* 2021: Winnipeg, Manitoba.
- **56.** Government of Manitoba. *Annual Report 2019-20.* 2020: Winnipeg, Manitoba.

- **57.** Government of Manitoba. Manitoba Health. *Immunization (Vaccination)*. 2019; Available from: <u>https://www.gov.mb.ca/health/publichealth/cdc/</u> <u>div/index.html</u>.
- **58.** Public Health Agency of Canada. *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2013: Infectious Disease—The Neverending Threat.* 2013, Public Health Agency of Canada: Ottawa, Ontario.
- 59. Government of Canada. *Measles in Canada*. 2019 April 2, 2019; Available from: <u>https://www.canada.</u> <u>ca/en/public-health/services/diseases/measles/</u> <u>measles-in-canada.html</u>.
- 60. Public Health Agency of Canada. *Guidelines for measles outbreak in Canada*, Canada Communicable Disease Report Monthly (CCDR), Editor. 2013: Ottawa, Ontario.
- United Nations. UN News. Measles cases hit 23-year high last year, killing 200,000 as vaccination stalls, WHO says. 2020; Available from: <u>https://news.</u> <u>un.org/en/story/2020/11/1077482</u>.
- 62. Government of Manitoba. Manitoba Health. Seasonal Influenza Reports. 2022; Available from: <u>https://www.gov.mb.ca/health/publichealth/</u> <u>surveillance/influenza/index.html</u>.
- **63.** Government of Manitoba. Manitoba Health Seniors and Active Living, *Influenza Surveillance Report 2019–2020*. 2020: Winnipeg, MB.
- 64. Katz A, K.K., Star L, Taylor C, Koseva I, Lavoie J, Burchill C, Urquia ML, Basham A, Rajotte L, Ramayanam V, Jarmasz J, Burchill S., *The Health Status of and Access to Healthcare by First Nation Peoples in Manitoba*. Fall 2019, Manitoba Centre for Health Policy: Winnipeg, Manitoba.
- **65.** Statistics Canada. *Table 13-10-0713-01 Infant deaths and mortality rates, by age group.* April 4, 2022.

- 66. Canadian Institute for Health Information. Your Health System - Avoidable Deaths. 2019; Available from: <u>https://yourhealthsystem.cihi.ca/hsp/</u> inbrief?lang=en#!/indicators/012/avoidabledeaths/;mapC1;mapLevel2;/.
- 67. Centre for Surveillance and Applied Research Public Health Agency of Canada. *Canadian Chronic Disease Indicators Data Tool, 2021 Edition.* Public Health Infobase 2021; Available from: <u>https://health-infobase.canada.ca/ccdi/data-tool/?</u> <u>edi=2021&Dom=6&Ind=31&MS=42</u>.
- 68. Public Health Agency of Canada. *Report from the Canadian Chronic Disease Surveillance System: Mood and Anxiety Disorders in Canada*, 2016. 2016, Public Health Agency of Canada.
- **69.** Diabetes Canada. *Diabetes in Canada: Backgrounder.* 2020: Ottawa.
- **70.** Canadian Institute for Health Information. *Treatment of End-Stage Organ Failure in Canada, Canadian Organ Replacement Register, 2011 to 2020: End-Stage Kidney Disease and Kidney Transplants* — *Data Tables.*, CIHI, Editor. 2021: Ottawa, ON.
- 71. Manitoba Renal Program. Manitoba has the Highest Rates of Kidney Disease in Canada. 2018 December 2018; Available from: www. kidneyhealth.ca/manitoba-has-the-highest-ratesof-kidney-disease-in-canada/.
- 72. Schaubel, D.E., et. al., *End-stage renal disease in Canada: prevalence projections to 2005.* CMAJ, 1999(160): p. 1557-63.
- **73.** Petrie, J.R., T.J. Guzik, and R.M. Touyz, Diabetes, *Hypertension and Cardiovascular Disease: Clinical Insights and Vascular Mechanisms*. Canadian Journal of Cardiology, May 2018(8): p. 575-584.

- **74.** Sarmad, S. and T.H. German, *The link between chronic kidney disease and cardio vascular disease.* Journal of Nephropathology, 2018. 3(3): p. 99-104.
- 75. Government of Canada. *Canadian Alcohol and Drugs Survey (CADS): 2019 detailed tables*. 2021 December 20, 2021; Available from: <u>https://www.</u> <u>canada.ca/en/health-canada/services/canadian-</u> <u>alcohol-drugs-survey/2019-summary/detailed-</u> <u>tables.html</u>.
- 76. Centre for Addiction and Mental Health. Alcohol. 2012; Available from: <u>https://www.camh.ca/en/ health-info/mental-illness-and-addiction-index/ alcohol</u>.
- **77.** Beyond the Basics Alcohol. N.D., Addictions Foundation of Manitoba: Winnipeg, Manitoba.
- **78.** Canadian substance use cost and harms (2014-2017). 2018, Prepared by the Canadian Institute for Substance Use Research and the Canadian Centre on Substance Use and Addiction: Ottawa, Ontario.
- 79. Detailed tables for the Canadian Student Tobacco, Alcohol and Drugs Survey 2018-2019. 2019 2019-12-31; Available from: <u>https://www.canada.ca/</u> en/health-canada/services/canadian-studenttobacco-alcohol-drugs-survey/2018-2019detailed-tables.html.
- 80. Alcohol (Canadian Drug Summary). 2019, Canadian Centre on Substance Use and Addiction: Ottawa, Ontario.
- 81. Canadian Centre on Substance Use and Addiction. *Cannabis*. 2020; Available from: <u>https://www.ccsa.ca/cannabis</u>.
- 82. Government of Canada. Cannabis Use For Nonmedical Purposes Among Canadians (Aged 16+).
  2021 December 23, 2021; Available from: <u>https://</u> health-infobase.canada.ca/cannabis/#fn3.
- **83.** *Canadian Community Health Survey, 2018.* 2019, Statistics Canada: Ottawa, Ontario.

- 84. Care Not Corrections Relieving the Opioid Crisis in Canada. 2018, Canadian Mental Health Association: Ontario, Canada.
- **85.** Government of Manitoba. *Drug Related Deaths*. 2022: Winnipeg, Manitoba.
- **86.** Special Advisory Committee on the Epidemic of Opioid Overdoses, *Opioid and Stimulant-related Harms in Canada*. March 2022: Ottawa.
- 87. Martens P, N.N., Forget E, Li, L., Turner D, Prior H, Walld R, Soodeeen RA, Rajotte L, Ekuma O, *The Cost of Smoking: A Manitoba Study.* May 2015, Manitoba Centre for Health Policy: Winnipeg, Manitoba.
- 88. Government of Canada. *Canadian Tobacco and Nicotine Survey (CTNS): summary of results for 2019* 2020 July 7, 2020 July 13]; Available from: <u>https://</u> <u>www.canada.ca/en/health-canada/services/</u> <u>canadian-tobacco-nicotine-survey/2019-summary.</u> <u>html</u>.
- 89. Thompson-Haile, A., Burkhalter, R., Mackenzie, A., Nickel, N., & Cooke, M., Provincial Patterns and Trends in E-Cigarette use from the Canadian Student Tobacco, Alcohol and Drugs Survey (CSTADS): Manitoba. 2018, Propel Centre for Population Health Impact, University of Waterloo: Waterloo, Ontario.
- **90.** *Canadian Drug Summary Cocaine*. 2019, Canadian Centre of Substance Use and Addiction: Ontario, Canada.
- **91.** Illicit Drug Task Force. *Recommendations to reduce the use and effects of illicit drugs within Manitoba's communities.* 2019: Winnipeg, Manitoba.
- **92.** Canadian Public Health Association. *Public Health: A conceptual framework, in Canadian Public Health Association Working Paper.* 2017, Canadian Public Health Assocation: Ottawa, Ontario.

- **93.** Nickel NC, C.M., McDonald N, Sarkar J, Dragan R, McCulloch S, Burchill C, Reimer J, Green C, Jones J, Sanguins J., *Methamphetamine Use in Manitoba: A Linked Administrative Data Study.*, Manitoba Centre for Health Policy, Editor. Autumn 2020: Winnipeg, Manitoba.
- **94.** Brohman, E., *1,200% surge in meth-related hospital visits tied to increased violence: Manitoba Nurses Union*. 2018, CBC News: Winnipeg, Manitoba.
- **95.** Government of Manitoba. *Sexually Transmitted and Blood-Borne Infections*. n.d.; Available from: <u>http://www.manitoba.ca/health/publichealth/</u> <u>cdc/sti/index.html</u>.
- **96.** Government of Manitoba. Manitoba Health Seniors and Active Living, *Updates to Syphilis Protocol.* 2019: Winnipeg, Manitoba.
- 97. Government of Manitoba. Health Seniors and Active Living, *Letter to Healthcare Providers -Congenital HIV and Congenital Syphilis in Manitoba.* 2019: Winnipeg, Manitoba.
- **98.** Government of Manitoba. Manitoba Health, 2020 Annual Surveillance Update: HIV in Manitoba. 2021.
- **99.** Lix, L.M., et al., *Exploring Tuberculosis Treatment, Management, and Prevention in Manitoba's Administrative Health Data.* Autumn 2018, Manitoba Centre for Health Policy: Winnipeg, Manitoba.
- **100.** Government of Manitoba. Manitoba Health, *Manitoba TB Registry.* 2022.
- 101. Government of Manitoba. About Covid-19. 2020; Available from: <u>https://www.gov.mb.ca/covid19/</u> <u>about/index.html</u>
- 102. World Health Organization. *Timeline: WHO's COVID-19 response*. 2022; Available from: <u>https://www.who.int/emergencies/diseases/</u> <u>novel-coronavirus-2019/interactive-timeline</u>.

- 103. World Health Organization. WHO Timeline Covid-19. 2020; Available from: <u>https://www. who.int/news-room/detail/27-04-2020-whotimeline---covid-19</u>.
- 104. Government of Canada. Coronavirus disease (COVID-19): Outbreak update. 2021 January
  18, 2021; Available from: <u>https://www.canada.</u> ca/en/public-health/services/diseases/2019novel-coronavirus-infection.html?utm campaign=gc-hc-sc-coronavirus2021-ao-2021-0005-396055227&utm\_medium=search&utm source=bing-ads-1242448631827600&utm content=text-en-&utm\_term=%2Bcovid%20 %2B19%20%2Bcanada#a8.
- **105.** Cost, K.T., Crosbie, J., Anagnostou, E. et al., *Mostly* worse, occasionally better: impact of COVID-19 pandemic on the mental health of Canadian children and adolescents. Eur Child Adolesc Psychiatry, 2021
- **106.** Government of Manitoba. *Province Invests More Than \$819,000 in Winnipeg Rapid Access to Addictions Medicine Clinics* 2021: Winnipeg, Manitoba.
- 107. Government of Manitoba. Manitoba Health Epidemiology and Surveillance, *MB Substance Related Harms during the COVID-19 pandemic -Key Points*. 2021.
- 108. Government of Manitoba. Short-term Impacts of COVID-19 Public Health Measures in Manitoba: January 1, 2019 – April 30, 2020. 2020: Winnipeg, Manitoba.
- 109. Government of Manitoba. Vaccination Data and Reports 2022 March 24, 2022; Available from: https://www.gov.mb.ca/covid19/vaccine/ reports.html.

- Manitoba First Nations Pandemic Response Coordination Team. COVID-19 Vaccination Report. 2022 April 21, 2022; Available from: <u>https://www.fnhssm.com/\_files/ ugd/38252a\_15cc137557174ea4bfec07b2cd8bd22c.</u> <u>pdf</u>.
- 111. Government of Manitoba. Manitoba Health. Provincial Respiratory Surveillance Report. 2022; Available from: <u>https://www.gov.mb.ca/health/ publichealth/surveillance/covid-19/index.html</u>.
- 112. Manitoba First Nations COVID-19 Pandemic Response Coordination Team. *PRCT Daily Bulletin*. 2022 April 27, 2022; Available from: <u>https://www.fnhssm.com/\_files/ugd/38252a</u> <u>c1747d9cd5a0496e89881ca30b6fed71.</u> <u>pdf?index=true</u>.
- 113. Ontario Agency for Health Protection and Promotion (Public Health Ontario), COVID-19 Delta Variant: Risk Assessment and Implications for Practice.
   2021, Ontario Public Health: Toronto, Ontario.
- 114. Ontario Agency for Health Protection and Promotion (Public Health Ontario), COVID-19 variant of concern Omicron (B.1.1.529): risk assessment. 2021: Toronto, Ontario.
- 115. Manitoba First Nations COVID-19 Pandemic Response Coordination Team. Manitoba First Nations COVID-19 Pandemic Response Coordination Team Weekly Bulletin. 2022 April 21, 2022; Available from: https://www.fnhssm.com/\_files/ ugd/38252a\_54c2f70d76f9460e857388d3eaa201ec. pdf.
- **116.** Government of Manitoba. *COVID-19 Infections in Manitoba: Race, Ethnicity, and Indigeneity External Report.* 2021 Winnipeg, Manitoba.

- 117. Government of Manitoba. COVID-19 Infections in Manitoba: Race, Ethnicity, and Indigeneity Public Brief March 1, 2021. 2021: Winnipeg, Manitoba.
- **118.** Government of Manitoba. *COVID-19 Novel Coronavirus - Race, Ethnicity and Indigeneity (REI) Analysis Wave Three.* 2021: Winnipeg, Manitoba.