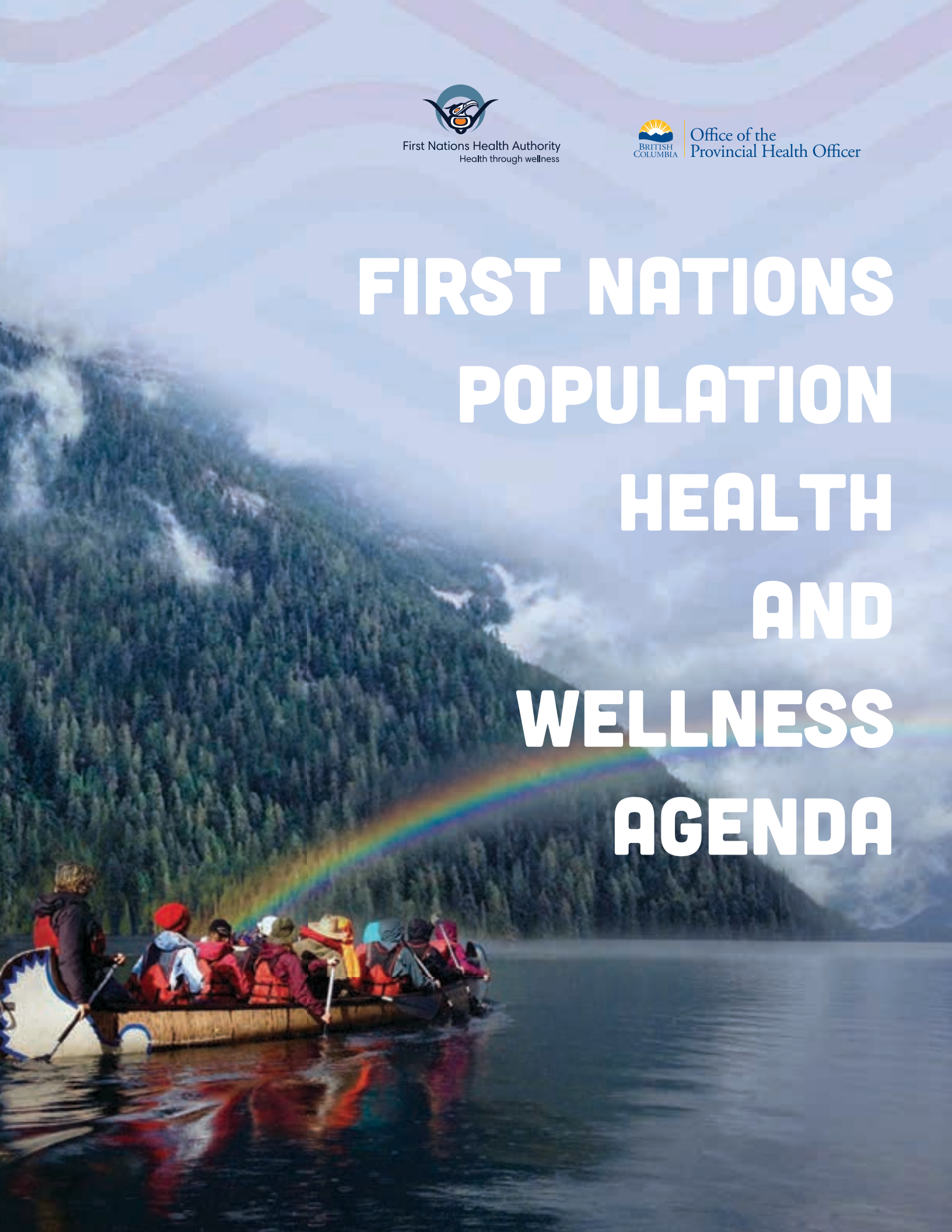
First Nations Health Authority
Health through wellness

BRITISH COLUMBIA
Office of the Provincial Health Officer

# FIRST NATIONS POPULATION HEALTH AND WELLNESS AGENDA



We acknowledge with respect the territories on which much of this work took place, including that of the Esquimalt and Songhees Nations (Lekwungen peoples) and WSÁNEĆ peoples in Victoria, BC, as well as the Squamish, Musqueam, and Tsleil-Waututh Nations in Vancouver, BC. We also gratefully recognize Métis Chartered Communities and all Indigenous peoples in British Columbia.

**First Nations Population Health and Wellness Agenda**

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First Nations Health Authority
Health through wellness

BRITISH COLUMBIA Office of the Provincial Health Officer

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Cover image taken in Chilliwack, BC.

# MESSAGE FROM FNHA'S CHIEF MEDICAL OFFICER AND THE PROVINCIAL HEALTH OFFICER OF BC

First Nations have known for millennia that self-determination, culture, language, connection to land, and supportive systems are the foundation of their health and wellness. We have grounded the First Nations Population Health and Wellness Agenda in these teachings. We offer this agenda as an evolving way to monitor population health, and a step that supports reconciliation and relationship building.

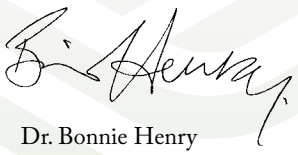
The indicators presented in this report provide an eagle-eye view of First Nations health and wellness in BC. We come to this work with a deep respect for First Nations who remain strong, resilient, and revitalized, despite centuries of disruption, destruction, and dislocation. We see this agenda as an opportunity to illuminate the pathway we are on in BC, and offer seven calls to action to inspire discussion to help catalyze and guide the next steps of our journey.

Our Offices have formed a unique partnership—a partnership that reflects reconciliation in action, and a space to work in mutual respect and true collaboration. Together, we will monitor and report on these indicators until 2030, with public-facing reports every two–and–a–half years. Throughout this journey, we commit to finding new and better ways to honour and integrate First Nations teachings and ways of knowing into our work.

Achieving the vision of healthy, vibrant, self-determining children, families, and communities requires paddling together with one heart and one mind, through true collaboration, integrated efforts, and intersectoral action. We hope that you will embark on this journey with us.

In wellness,

Dr. Evan Adams
Chief Medical Officer
First Nations Health Authority



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The First Nations Population Health and Wellness Agenda (PHWA) has been a large-scale undertaking spanning more than three years that we achieved through a genuine partnership between the offices of the Chief Medical Officer (CMO) and the Provincial Health Officer (PHO).

We acknowledge with gratitude the input and guidance provided by First Nations across BC through the various engagements that have heavily informed this work. We also respectfully acknowledge our Elders and ancestors from around the province; they are the ones who have held and transmitted knowledge orally for generations. Also foundational for the writing of this report was capturing First Nations stories; for this aspect, we thank each individual who agreed to share their story within the pages of this report.

The CMO **Dr. Evan Adams**, PHO **Dr. Bonnie Henry,** Deputy CMO **Dr. Shannon McDonald,** and Indigenous Health Physician Advisor **Dr. Daniele Behn-Smith**, would like to thank all the people who made this work possible.

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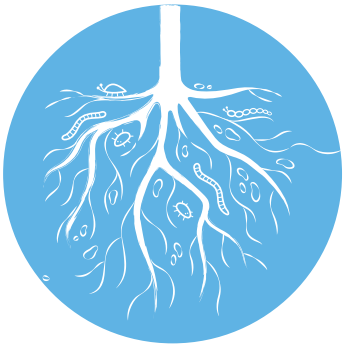

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VISION: HEALTHY, SELF-DETERMINING and VIBRANT BC FIRST NATIONS CHILDREN, FAMILIES and COMMUNITIES
PHYSICAL, MENTAL, SPIRITUAL, EMOTIONAL
WISDOM, RESPECT, RESPONSIBILITY, RELATIONSHIPS
education
healthy collectives
healthcare
food
justice
HEALTHY SYSTEMS
housing
CULTURE and LANGUAGE
ENVIRONMENTAL, SOCIAL, CULTURAL, ECONOMIC
THINGS WE NEED to be HEALTHY, SELF-DETERMINING + VIBRANT
FAMILY,
LAND. COMMUNITY,
NATIONS

# SUMMARY OF FINDINGS

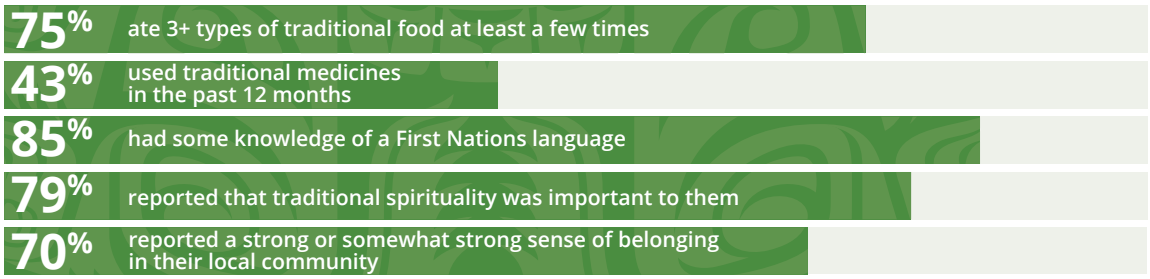
The First Nations Population Health and Wellness Agenda (PHWA) is a partnership initiative between the offices of the Chief Medical Officer (CMO) at the First Nations Health Authority (FNHA) and the Provincial Health Officer (PHO) at the Ministry of Health. It presents an eagle-eye view of First Nations health and wellness in BC that is grounded in First Nations teachings and guided by reconciliation and relationship-building. It uses a strengths-based approach to focus on wellness and resilience, and two-eyed seeing to bring together First Nations and Western ways of knowing. The overarching goal of this work is to support First Nations to achieve the vision of healthy, vibrant, self-determining children, families, and communities.

The PHWA is also the next evolution of how the CMO and PHO are fulfilling reporting commitments made within the *Transformative Change Accord: First Nations Health Plan* (TCA: FNHP). This is the baseline report for the PHWA, and it identifies the expanded suite of 22 indicators that will be monitored for the next 10 years. It describes the process to identify indicators and to set their respective targets. The discussions presented in this report recognize that achieving a healthy, self-determining, and vibrant BC First Nations population means that the roots of wellness, like self-determination and connection to land, are well nourished. It also requires supportive systems that are free of racism and discrimination. Systems must recognize and uphold the inherent rights of First Nations individuals and communities to lead their health and wellness journeys. Ultimately, roots of wellness and supportive systems are reflected in health outcomes experienced by First Nations people in BC.

This report tells the journey through stories and data, organized into three themes: healthy, self-determining Nations and communities; supportive systems; and healthy children and families. Each data point is honoured as representing a strong, resilient First Nations individual who is a member of a family, community, and a proud Nation.

## Healthy, Self-Determining Nations and Communities

Self-determination, connection to land, and cultural wellness are deeply interconnected, and form the core roots of First Nations health and wellness. Connection to land forms the basis of culture, language, and identity for First Nations. A strong sense of culture and identity is linked to resiliency and healing and reduces negative health impacts for First Nations. Self-determination at Nation and individual levels is central to maintaining and revitalizing connections to land, language, culture and identity as well as health and wellness.




**High levels of reported cultural wellness among First Nations adults.**

### *Self-Determination*

The health and wellness of First Nations people is dependent upon connection to the land. The strength of culture and identity comes from that connection. Self-determination, the right to freely determine political status and pursue economic, social, and cultural development, is central to maintaining and revitalizing these crucial connections. First Nations cannot exercise self-determination without jurisdiction, access, and continuity of their relationship with the land. Self-determination is also critical at an individual level and includes having or reclaiming the right of an individual to speak as the expert on their own body and health and wellness journey.

- Despite the substantial importance of this indicator, it has many challenges for monitoring and reporting.

**The target for this indicator is to create space within the PHWA to explore and honour self-determination, to establish an appropriate way to measure it, and to begin monitoring.**

### *Connection to Land*

For First Nations, land reflects a connection to ancestors, a resource for living and healing, a link to identity, language, culture, knowledge, and stories, and a gift for future generations. Land, water, and territory and the animals that live there are integral to all aspects of First Nations living and wellness. Access to healthy lands is required to exercise inherent rights as First Nations—they are stewards of the land and have a sacred responsibility to protect it.

- Connection to territory, land, and water is a key determinant of health for Indigenous peoples, while dispossession, displacement, and disconnection from land has devastating impacts.

**The target is to create a space within the PHWA to explore the relationship between land, health and wellness among First Nations in BC, and to establish a meaningful way to explore it and begin monitoring.**

### *Cultural Wellness*

A strong sense of culture and identity is linked to resiliency and reduces negative health impacts for First Nations. Cultural wellness is complex and multi-dimensional and is a challenging concept to measure or monitor. It is measured in the PHWA through a composite measure of five key aspects of cultural connectedness: language, traditional food, spirituality, medicine, and participation in cultural community events.

- Less than half of First Nations adults used traditional medicine in the previous year.
- A high percentage of First Nations adults place importance on traditional spirituality and have some knowledge of a First Nations language.
- Analyses showed that First Nations adults in BC reported a high level of cultural wellness (3.5 out of 5) in 2015–17. (SOURCE: RHS, 2015-17)

**The target is to increase the reported level of cultural wellness by 20 per cent in the next 10 years.**

## Supportive Systems

Systemic roots serve to support the health and wellness of First Nations. This includes determinants of health and structures within BC, such as housing, education, food, and health care. Colonialism dismantled sophisticated and time-honoured First Nations systems and replaced them with systems grounded in social exclusion and discrimination. This produces substantial inequities in health outcomes. However, when the roots (systems and structures) are well nourished (e.g., through cultural safety) and the barriers have been removed (e.g., discriminatory policies and practices), the result is environments in which First Nations individuals, families, and communities can own and reclaim their health and wellness journeys.

### *Food Insecurity*

**FOOD INSECURITY IS DECREASING FOR ON-RESERVE FIRST NATIONS HOUSEHOLDS**

BETWEEN 2008-10 AND 2015-17, THE % FIRST NATIONS HOUSEHOLDS WHO COULD NOT AFFORD TO EAT BALANCED MEALS IN THE PAST 12 MONTHS DECREASED FROM **46.7%** TO **43.5%**. (SOURCE: RHS, 2015-17)

Food is a source of sustenance and healing for First Nations people, and is respected as medicine and as an integral part of emotional, mental, and spiritual needs. Food security for First Nations people means that all people in a community have physical and economic access to sufficient, safe, and nutritious food that is culturally relevant and includes traditional foods. This indicator is monitored using the proportion of First Nations individuals living on reserve who report that over the past 12 months their household could not afford to eat balanced meals "sometimes" or "often."

- Since 2008–10, there has been a decline in the percentage of households on reserve who reported food insecurity. In 2008–10, 46.7 per cent experienced food insecurity, and this dropped to 43.5 per cent in 2015–17.

**The target is to reduce food insecurity by 20 per cent in the next 10 years.**

### *Acceptable Housing*

In addition to providing a safe shelter, houses for First Nations have been expressions of social and cultural values and spiritual beliefs. First Nations in BC and beyond experience housing inequities and disproportionate risks of homelessness. Acceptable housing is measured in the PHWA with the proportion of First Nations living off reserve who report that they have acceptable housing, where "acceptable" is defined as adequate, suitable, and affordable.

- The proportion of Status First Nations living off reserve with acceptable housing has been improving. In 2006, 47.2 per cent had acceptable housing, and this increased to 54.3 per cent in 2016 (Source: Statistics Canada, 2016).

- Adequacy of housing is a greater challenge for Status First Nations living on reserve, and about one-third live in homes that require major repairs.

**The target is to increase the proportion of First Nations living off reserve who report acceptable housing by 20 per cent in the next 10 years.**

## *Education*

**THERE ARE STEADY INCREASES IN INDIGENOUS STUDENT GRADUATIONS**

% INDIGENOUS STUDENTS GRADUATING WITHIN EIGHT YEARS OF ENTRY INTO GRADE 8 HAS BEEN STEADILY INCREASING OVER TIME, REACHING A HIGH OF **69.4%** IN 2016/17

(SOURCE: BC MINISTRY OF EDUCATION, 2016/17).

A supportive educational environment is one in which First Nations are actively leading, where curriculum and learning approaches reflect Indigenous ways of knowing, and where children and youth are successful in educational attainment. Education is being monitored in the PHWA using the proportion of Indigenous students in BC who complete high school within eight years of starting grade 8.

- This proportion has been improving steadily—it was 69.4 per cent by 2016/17—but there is still a substantial gap with non-Indigenous students.

**The target is to increase the proportion of students who complete high school within eight years of starting grade 8 by 20 per cent in the next 10 years.**

## *Avoidable Hospitalizations*

When it is provided effectively, equitably, and in a culturally safe manner, primary health care improves population health outcomes. Avoidable hospitalizations (admissions to hospital related to disease or conditions that can usually be well managed at home and in communities and should not require hospitalization) are used as a measure of access to primary care. When people have adequate primary care, rates of avoidable hospitalizations are low.

- The rate of avoidable hospitalizations for Status First Nations has decreased slightly. In 2005, the rate was 89.1 per 10,000 population, and this dropped to 78.0 per 10,000 population in 2017. Despite this improvement, this rate is still almost twice the rate for Other Residents in BC (Source: FNCF, 2017).

**The target is to reduce the rate of avoidable hospitalizations by 15 per cent in the next 10 years.**

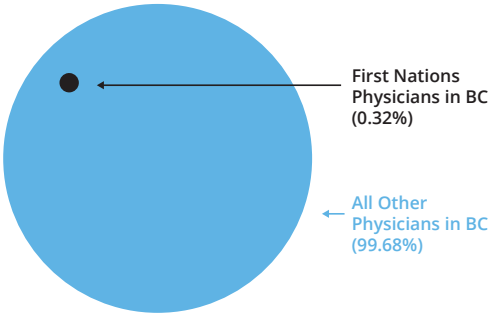
### *Cultural Safety and Humility in Receiving Health Services*

Feelings of trust, safety, and respect are essential for a healthy relationship between a person and a health care provider, and for the effective functioning of the health care system. Cultural safety and humility in the health system is measured in the PHWA using the percentage of Status First Nations people who report that their care provider was respectful of their culture and traditions.

- Over two-thirds of Status First Nations reported receiving care that was respectful of their culture and traditions in both acute care facilities and the emergency department (Source: FNCF, 2016/17, 2018).

**The target is to increase this by 25 per cent in the next 10 years.**

### *First Nations Health Care Providers*




**FIRST NATIONS REPRESENT LESS THAN 1% (0.32%) OF LICENSED PHYSICIANS IN BC.**

(Source: College of Physicians and Surgeons of BC, 2019)

The number of certified, practicing First Nations health care providers in BC was one of the original indicators in the TCA: FNHP, but was not reported on during the first 10 years due to a lack of data. FNHA is working with the regulatory colleges in BC to add an Indigenous self-identifier to the annual BC licence renewal process, and the College of Physicians and Surgeons in BC was the first to add this identifier.

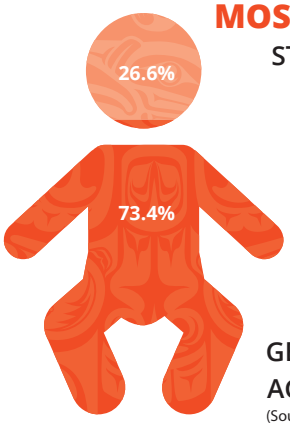
- There were 43 practicing, certified First Nations physicians in BC in 2019. This is less than 1 per cent (0.32 per cent) of licensed physicians in BC.

**While a longer-term goal is to increase this proportion to reflect the proportion of First Nations people in the BC population, the target is to increase this by 100 per cent in the next 10 years.**

## Healthy, Vibrant Children and Families – Physical, Mental, Spiritual, and Emotional Wellness

The PHWA has been created to illuminate the complex factors that create health and wellness outcomes. When the roots are strong (self-determination is realized, supportive systems and structures are in place) the vision of healthy, vibrant, self-determining individuals, families, and communities can be achieved.

## *Infants Born at a Healthy Birth Weight*




**MOST (73.4%)** STATUS FIRST NATIONS INFANTS ARE BORN AT A **HEALTHY WEIGHT** FOR GESTATIONAL AGE AND SEX. (Source: FNCF, 2017)

The health of a newborn baby reflects the health and wellness of both the infant and its mother, and a healthy infant can indicate a mother has been well supported during her pregnancy. Infants who are born large or small for gestational age can have increased risks in health outcomes.

- Overall, most Status First Nations singleton infants are born at a healthy weight for gestational age and sex, but they are not experiencing the same increase in this percentage over time that Other Residents have. Status First Nations singleton infants are less likely to be born small for gestational age in comparison to Other Resident singleton infants, but they are more likely to be born large for gestational age.

**The target for this indicator is to increase the percentage of Status First Nations singleton infants born at a healthy birth weight for sex and gestational age by 10 per cent in the next 10 years.**

## *Infant Mortality Rate*

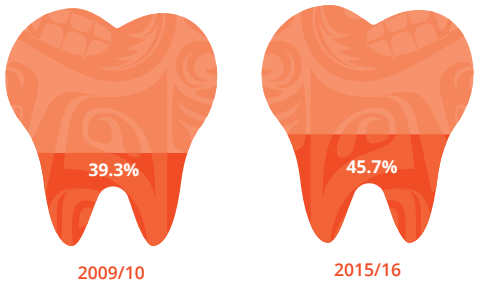
Infants in First Nations cultures in BC are gifts. The death of any infant is devastating for families and communities. This indicator attempts to track one of the deepest tragedies for parents, families, and communities.

- In 2013–17, there were 5.8 Status First Nations infant deaths per 1,000 live births (61 deaths in total) within their first year of life (Source: FNCF, 2013-17).

- Infant mortality rate varied considerably by region, with a low of 2.1 per 1,000 live births in the Interior region, and a high of 9.0 per 1,000 in the Island region.

**The target is to reduce this rate by 30 per cent in the next 10 years.**

## *Children with Healthy Teeth*




**THE SHARE OF INDIGENOUS KINDERGARTENERS WITH NO CAVITIES ROSE FROM 39.3% IN 2009/10 TO 45.7% IN 2015/16.**

(SOURCE: BC MINISTRY OF HEALTH, 2015/16)

Children with healthy teeth can fully engage in all aspects of everyday living without oral pain, embarrassment, sleep disruption, or discomfort. This indicator is measured by monitoring the percentage of Indigenous children who had healthy teeth (had no treated or untreated dental cavities) upon visual inspection during the kindergarten dental survey.

- Just under half (45.7 per cent) of Indigenous kindergarten children were found to have healthy teeth in 2015/16, which was an improvement from 2009/10 (39.3 per cent).

**The target is to increase the percentage of Indigenous kindergarten children who have healthy teeth by 40 per cent in the next 10 years.**

## *Children with a Healthy Body Mass Index (BMI)*

Childhood weight reflects many factors affecting growth and development, including individual and interpersonal, environmental (land, community, home, sociocultural, and built), societal, and historical factors, which all play important roles in weight and well-being. In addition, food sovereignty and food (in)security continue to influence the ability of First Nations to access healthy and culturally appropriate foods.

- This indicator includes the percentage of First Nations children age 2–11 on reserve who have a healthy/moderate body mass index, as calculated by their height and weight. Less than one-third (30.5%) of First Nations children on reserve had a healthy BMI in 2015–17 (Source: RHS, 2015-17).

**The target is to increase this percentage by 30 per cent in the next 10 years.**

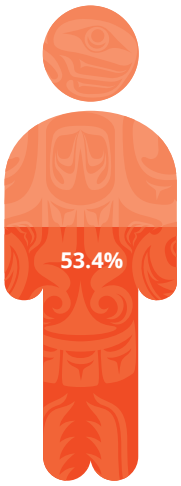
## *Youth/Young Adult Death by Suicide*

Every death by suicide of a First Nations individual is understood as a tragic loss and reflects a dark and sad time for families and communities. Death by suicide suggests that there are much deeper, underlying issues of collective suffering and injustice related to intergenerational and contemporary trauma. This indicator is measured as the suicide mortality rate of Status First Nations youth/young adults age 15–24.

- While there has been an overall decline in this rate over the last 20 years, it has started to increase since 2011–15. In 2013–17 there were 45 deaths by suicide among Status First Nations youth/young adults, which is a rate of 3.3 per 10,000 population, and this rate is four times higher than the rate for Other Residents youth/young adults (Source: FNCF, 2013-17).

**The target is to reduce Status First Nations youth/young adult deaths by suicide by 40 per cent in the next 10 years.**

## *Mental and Emotional Well-being*




**JUST OVER HALF (53.4%)**

OF FIRST NATIONS ADULTS ON RESERVE REPORTED **FEELING IN BALANCE PHYSICALLY, EMOTIONALLY, MENTALLY, AND SPIRITUALLY.**

(Source: RHS, 2015-17)

Within First Nations perspectives, dimensions of mental, emotional, physical, and spiritual health are interconnected and interdependent, and a sense of balance between them is important. This indicator monitors mental and emotional well-being with the percentage of First Nations adults on reserve who report feeling balanced physically, emotionally, mentally, and spiritually.

- In 2015–17, just over half of First Nations adults on reserve reported feeling in balance physically, emotionally, mentally, and spiritually. This varied by sex and age.

**The target is to increase the percentage of First Nations adults on reserve who report feeling balanced by 20 per cent in the next 10 years.**

## *Physical Activity*

**MOST FIRST NATIONS CHILDREN AND ADULTS ARE GETTING RECOMMENDED AMOUNTS OF REGULAR PHYSICAL ACTIVITY.**

IN 2015-17, OVER HALF (**55.3%**) OF FIRST NATIONS CHILDREN AND YOUTH, AND MORE THAN THREE QUARTERS (**77.2%**) OF ADULTS LIVING ON RESERVE MET THE NATIONAL GUIDELINES FOR PHYSICAL ACTIVITY. (SOURCE: RHS, 2015-17)

Connection to land and culture through the teachings and wisdom of Elders is the foundation of physical strength and resilience. Cultural activities such as hunting, dancing, canoeing, fishing, tanning hides, and berry picking represent how physical activity has been a longstanding part of First Nations ways of life. Physical activity can be an act of Nation-building. This indicator measures the percentage of First Nations on reserve who report meeting the Canadian Physical Activity Guidelines.

- In 2015–17, more than three quarters of First Nations adults and over half of children and youth living on reserve reported meeting the recommended guidelines, although this varied by sex, age, and region.

**The target is to increase this percentage by 30 per cent for on-reserve First Nations children and youth and by 10 per cent for on-reserve adults in the next 10 years.**

## *Diabetes Incidence*

Determinants of health such as poverty, isolation, poor access to care, and food insecurity, play a role in the development of chronic diseases such as diabetes. Diabetes was one of the original TCA:FNHP indicators and is an important chronic condition to monitor because of its impacts on health and wellness, and because it is a sentinel chronic condition that can help to assess the overall burden of chronic disease in a population.

- In 2017/18, Status First Nations people had an age-standardized diabetes incidence rate of 7.7 per 1,000 population and a prevalence rate of 106.4 per 1,000 population (Source: FNCF, 2017/18).

**The target is to reduce the diabetes incidence rate among Status First Nations by 20 per cent in the next 10 years.**

## *Smoking Rates of Commercial Tobacco*

The tobacco plant has long been considered sacred, medicinal, and beneficial for promoting spiritual balance and wholistic wellness, and continues to be used by some First Nations as medicine. Unfortunately, as with many other traditional medicines and practices, colonialism led to the exploitation and commercialization of the tobacco plant. There is a disproportionately high rate of commercial tobacco use among First Nations people, which is attributable in part to historical and ongoing effects of colonialism, land dispossession, and loss of traditional practices. It is important to monitor smoking of commercial tobacco because of the dangers and health detriments related to smoking and exposure to second-hand smoke. This indicator monitors the percentage of First Nations youth and adults on reserve who report smoking commercial tobacco.

- There has been a steady decline in commercial tobacco smoking among First Nations youth and adults living on reserve, down to 40.5 per cent of adults and 12.9 per cent of youth on reserve in 2015–17 from 48.5 per cent of adults and 27.2 per cent of youth in 2002–03 (Source: RHS, 2015-17).

**The target for this indicator is to reduce the percentage of First Nations youth and adults on reserve who smoke commercial tobacco by 30 per cent in the next 10 years.**

## *Serious Injuries*

The impacts of colonialism undermine First Nations roots of wellness and can lead to decreased physical health outcomes, including high rates of injury. Within the First Nations population, lower income, lower educational level, poor housing conditions, and more hazardous types of employment are all associated with increased risk of hospitalization due to injuries. This indicator uses hospitalization rates to monitor the rate of serious injuries among Status First Nations people in BC.

- There has been no marked change in the rate of serious injuries requiring hospitalization for Status First Nations over the last 12 years. The rate in 2017 was 59.3 per 10,000 population, although this varied by age and region (Source: FNCF, 2017).

**The target for this indicator is to reduce the rate of serious injuries requiring hospitalization by 25 per cent in the next 10 years.**

### *Life Expectancy at Birth*

The ability for BC First Nations to live long lives is important for current and future generations, including providing more opportunities for transmission of knowledge, language, and culture to the next generations. Life expectancy is the number of years of life a person could expect to live, based on the overall current conditions of the population. It is a common indicator of the general health status of a population and was one of the original seven indicators monitored in the TCA:FNHP.

- Life expectancy for Status First Nations decreased from 75.9 years in 2011 to 73.4 years in 2017.This decrease is due in part to the ongoing overdose crisis in BC, which is disproportionately affecting Status First Nations (Source: FNCF, 2017).

**The target for this indicator is to increase life expectancy at birth by two per cent in the next 10 years.**

### *Age-Standardized Mortality Rate (Deaths due to all causes)*

Death and dying are considered a process of life and to some, death means that a person is going home; however, for families and Nations to be healthy and vibrant, individuals need to be supported to live well until it is time to take this next step in their life journey. Deaths were monitored in the TCA: FNHP by tracking the all-cause age-standardized mortality rate (ASMR) among Status First Nations. The PHWA will continue to monitor this, as well as monitoring the potential years of life lost (PYLL) among Status First Nations.

- The all-cause ASMR and PYLL for Status First Nations have been increasing since 2013, up to 116.2 per 10,000 population for ASMR and 244.8 years lost per 1,000 population in 2017. Some of this increase is due to the ongoing overdose crisis in BC (Source: FNCF, 2017).

**The target for this indicator is to reduce ASMR among Status First Nations by 15 per cent in the next 10 years.**

### *Alcohol-Attributable Deaths*

To catalyze change at systemic and structural levels, it is important to continue to draw attention to the far-reaching impacts of alcohol on First Nations families, communities, and Nations, due to the legacy of systematic oppression, racism, and separation from land and culture. Alcohol-attributable deaths are very "downstream" results of the suffering caused by Canadian colonial policies and processes, where individuals have been without their own healing traditions, turned to alcohol as a source of relief from that pain and as a result, lost their lives.

- The rate of deaths attributed to alcohol among Status First Nations has been increasing since 2011, up to 14.2 per 10,000 in 2015, a rate that is three times higher than the rate for Other Residents (Source: FNCF, 2015).

**The target for this indicator is to reduce the alcohol-attributable mortality rate among Status First Nations by 30 per cent in the next 10 years.**

## Paddling Together with One Heart and One Mind

It is our hope that this agenda presents compelling First Nations and Western evidence to further support the recognition of the need to work collaboratively across many systems and silos to achieve health, wellness, and reconciliation.

We believe that the key factors that will determine our success from 2020–2030 will be our ability to come together to paddle with one heart and one mind to restore First Nations self-determination. As we take off on the next 10 years of this journey, we see exciting opportunities on the horizon to do just that.

## ACTIONS TO NOURISH FIRST NATIONS ROOTS OF WELLNESS

FNHA's Chief Medical Officer and the Provincial Health Officer call on systems partners and institutions to work with First Nations organizations and collectives to make advancements in the following areas:

**1**

ADVANCE AND SUPPORT FIRST NATIONS SELF-DETERMINATION.

**2**

ADVANCE FIRST NATIONS DATA GOVERNANCE.

**3**

CATALYZE INTERSECTORAL ACTIONS TO BUILD SUPPORTIVE, CULTURALLY SAFE SYSTEMS, WITH PARTICULAR ATTENTION GIVEN TO CONNECTION TO LAND.

**4**

ADVANCE THE ROOTS OF HEALTH AND WELLNESS OF THE NEXT GENERATION: FIRST NATIONS BABIES, CHILDREN, AND YOUTH.

**5**

EMBED FIRST NATIONS WELLNESS APPROACHES IN POLICIES, PROGRAMS, AND SERVICES.

**6**

COMMIT TO CULTURAL SAFETY AND HUMILITY ACROSS SYSTEMS.

**7**

INCREASE ACCESS AND ATTACHMENT TO CULTURALLY SAFE PRIMARY HEALTH CARE.

LONGHOUSE AT ‘KSAN HISTORICAL VILLAGE, GITXSAN TERRITORY.

# CHAPTER 1

# INTRODUCTION

Healthy, self-determining, and vibrant First Nations individuals, families, and communities have thrived throughout what is now known as British Columbia for thousands of years. While there are many different First Nations groups throughout BC and Canada, each with their own unique language and culture, a common thread among them is a wholistic health perspective that reflects the interconnectedness of mental, physical, emotional, and spiritual facets of life and connection to land and water.

This chapter summarizes a select history of First Nations health and wellness and describes the process for developing the Population Health and Wellness Agenda (PHWA) indicators and this baseline report, including the visual and guiding principles.

Elders Gathering 2018, Cowichan Tribes.

First Nations ways of life are underpinned by core values of relationality and respect, giving rise to sophisticated and effective systems of justice, education, health, and governance. First Nations knowledges and practices promote healthy families and collectives through environmental stewardship, sustainable food harvesting, strong kinship ties, and complex healing practices.

The arrival of Europeans marked a difficult change of course in the **First Nations**[a] wellness journey. First Nations health and wellness was disrupted through a process of colonialism, including aggressive tactics and policy initiatives such as the **Indian Residential School System**, the ***Indian Act***, and **Indian Hospitals**. Decisions about health and wellness were made for the First Nations population without their input and without regard for First Nations philosophies, cultures, and traditions. These policies and institutions were part of an oppressive colonial agenda designed to systematically eliminate First Nations **self-determination** and resulted in the degradation of First Nations health and wellness, creating a legacy of health and social inequities that are still embedded in many provincial and national institutions and legislation today.

Despite continuing to be impacted by colonialism and oppression, the First Nations population in BC has demonstrated remarkable resilience and strength. First Nations peoples have been reclaiming self-determination through leadership, shared strategic vision, and multi-sectoral partnerships. Working alongside federal and provincial governments, First Nations in BC have developed a series of political, legal, and operational agreements outlining tripartite commitments to improve First Nations health. This includes an examination of policies and practices that undermine First Nations wellness and efforts to improve access to quality, safe, and respectful health services.

a Bolded text throughout this report indicates glossary terms, which are defined in Appendix A.

## FIRST NATIONS HEALTH AUTHORITY AND THE OFFICE OF THE CHIEF MEDICAL OFFICER

The First Nations Health Authority (FNHA) occupies a unique space as a provincial-level First Nations-led health and wellness institution. FNHA seeks to improve the health and well-being of BC First Nations people living both at home and **away from home**, through effective health system partnership and integration. Success is marked by how well First Nations values, perspectives, and principles are "hardwired" into the provincial health system, and how firmly this systems transformation is grounded in the voices and priorities of BC First Nations. To undertake this work, FNHA supports engagement and decision-making processes among BC First Nations, collaborates with the First Nations Health Council and the First Nations Health Directors Association, and partners with federal and provincial governments to support the broad health system transformation envisioned in the tripartite health plans and agreements.[1] For more information about FNHA, see www.fnha.ca and Appendix B.

When the Office of the Chief Medical Officer (CMO) was created, one of the key mandates of the office was to serve as the Watchmon for BC First Nations. The Watchmon is the keeper of the story of the health of the First Nations population, integrating various forms of data—including First Nations knowledge and stories—to prioritize, monitor, and report on First Nations health and wellness. The Watchmon produces reports that provide evidence-informed analyses to support, inform, and inspire action at various levels throughout the system, in order to monitor and improve the health of the First Nations population.

## THE OFFICE OF THE PROVINCIAL HEALTH OFFICER

The Provincial Health Officer is the senior public health official for BC, and is responsible for monitoring the health of the population of BC and providing independent advice to the ministers and public officials on public health issues. The PHO is required under the Public Health Act to report on the health status of British Columbians, and on the need for policies and programs that will improve their health. The PHO is also responsible for upholding commitments made in the 2005 *Transformative Change Accord* (TCA) and 2006 *Transformative Change Accord: First Nations Health Plan* (TCA: FNHP).

The PHO entered into the partnership with FNHA with **cultural humility**, and with the aim of exemplifying a new relationship between government and the First Nations population, and advocating for respect and alignment with First Nations ways of knowing and **Indigenous** data governance principles within government and beyond.

# THE PARTNERSHIP AND THE PHWA STEERING COMMITTEE

Together, the two offices form a strong reporting relationship that reflects **reconciliation** and **reciprocal accountability**. The partnership is focused on using **two-eyed seeing** to support and improve the health and wellness journeys of the First Nations population of BC in the best way possible. Representatives from both organizations formed a Steering Committee to produce the PHWA based on a model of true collaboration. The committee includes two executive members from each office, as well as a project manager and data lead from each office. The production of this report reflected a true and equal partnership, mutual trust, reciprocal accountability, and sincere collaboration from beginning to end.

# ESTABLISHING THE POPULATION HEALTH AND WELLNESS AGENDA

There are multiple teachings woven together in the PHWA. Four of them were central to developing the PHWA, including: 1) guiding partnership principles of the Offices of the Provincial Health Officer (PHO) and the FNHA Chief Medical Officer (CMO); 2) the **First Nations Perspective on Health and Wellness** (the Perspective); 3) a **wellness-based approach**; and 4) two-eyed seeing.

## Guiding Partnership Principles

The guiding principles of the partnership are reflected in both the way this report has been developed and in the content of the report itself. The principles identified by the PHO-CMO team that guide all joint endeavors include reciprocal accountability, wisdom, partnership, responsibility, respect, and action-orientation. Principles identified to guide the work products include wellness focus, **strengths-based approach**, **life course approach**, and **population health approach**. By solidifying these principles, the project team built a lens founded on respect and accountability and focused on the strengths, wellness, and resilience of First Nations people, while representing life experiences of all ages of the population.

## First Nations Perspective on Health and Wellness

The PHWA prioritizes a First Nations lens and explores health and wellness from a **wholistic health** perspective. It incorporates **Indigenous determinants of health**, which can be understood as three main layers: structural contributors to health, which are mainstream ideologies and beliefs (e.g., colonialism, racism, self-determination); systemic elements, which reflect the systems with which people interact (e.g., health, social, and justice systems); and proximal influences, which are more immediate determinants of health (e.g., **food security**, educational attainment).[2] The FNHA Perspective of Health and Wellness (see Figure 1.1) reflects these determinants of health. This perspective honours the complexities of Indigenous teachings and current socio-cultural and institutional contexts, and guides FNHA and the health system's understanding of health and wellness. It was created through significant engagement with First Nations in BC, including healers, **Elders** and **Knowledge Keepers**. In the Perspective, everything is connected. It

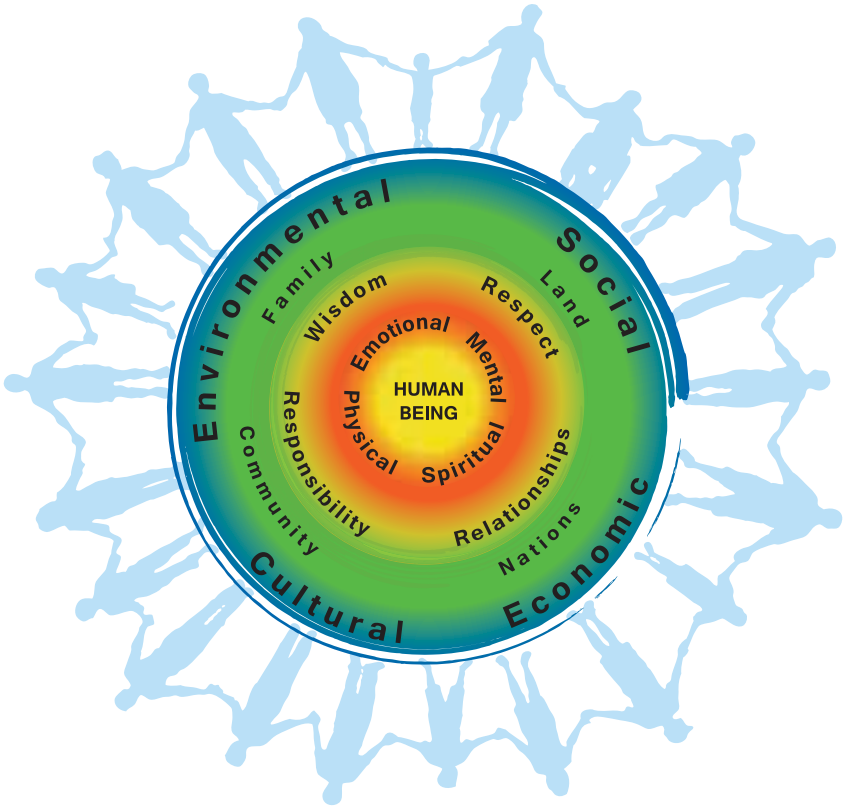



**Figure 1.1**
**The First Nations Perspective on Health and Wellness**

underscores the importance of understanding that the health and wellness journeys of human beings are owned by a self-determining individual, with the recognition that an individual is connected to and influenced by the contexts and settings in which they live, including their relationships, families, communities, Nations, and **land**. The Perspective acknowledges that wellness is intergenerational, and that the wellness of a population is shaped by that of their ancestors, and in turn, shapes the wellness of descendants and future generations.

As shown in this graphic, wellness includes connection and balance within oneself and between humans and their ecological communities. Wellness is directly influenced by cultures, teachings, and values; the contexts and settings in which individuals live; relationships, families, communities, and Nations; the systems an individual interacts with; and the places and lands surrounding them. The Perspective appears as a circle, which represents the many cycles in the natural world, the importance of wellness across the life course, and intergenerational wellness. It may be used by individuals, families, and communities in different ways at different stages (throughout the life cycle) of their wellness journey, at times needing more focus in one area of health (emotional, spiritual, physical, mental) to achieve balance. Brushed lines of the circle indicate that health and wellness do not have discrete or disconnected elements; instead, these elements interact and interrelate.

*“So really all data is, is enabling our First Nations to tell our own stories on our own terms.”*

**– Gwen Phillips, Ktunaxa Nation**

## A Wellness-based Approach

The wellness-based approach is a departure from typical health data analyses and reports, which widely focus on health deficits, such as illness, injury, and other poor health outcomes. Reporting about the health of First Nations people typically focuses on the “gaps” in health status between the First Nations population and other residents. Conversely, a wellness-based approach focuses on examining what makes people well and conceptualizes health more wholistically to explore how to support individuals and populations to advance their health and wellness journey. In addition, a wellness-based system illuminates structural and systemic barriers that may undermine an individual’s wellness journey.

This report attempts to balance monitoring both the health disparities resulting from colonial practices and policies and the strengths of First Nations individuals and communities. In practice, adopting a strengths-based approach informs the way that topics and indicators are selected and written about.

This report contributes to the shift from a sickness-based system to a wellness-based system by

- Using indicators that measure what keeps people well.
- Using strengths-based and culturally safe language and methodologies.
- Recognizing and upholding the value of relationships and the importance of family and community.
- Acknowledging the roots of wellness, including socio-cultural, economic, and institutional determinants of health, and supportive systems (e.g., self-determination, strong culture, healthy lands).

*"It is the sharing of story, the witnessing of story, and the learning from story that the Indigenous Elders know hold the potential for shifts in consciousness."*

**– Margaret Kovach, Pasqua First Nation** [3]

## Two-eyed Seeing

The fourth key teaching and component of the PHWA visualization is the embodiment of the concept and key principle of two-eyed seeing. Two-eyed seeing refers to learning to see from one eye of Indigenous ways of knowing and from the other eye of Western ways of knowing, and using the strengths, gifts, and insights from both together to gain a more well-rounded perspective.[6]

This report embodies this principle in two main ways. First, during the development of the report this concept was built into the inter-office partnership of the Offices of the PHO and the CMO, recognizing and respecting the different strengths that the two offices bring to the work. Second, stories of First Nations are offered throughout this report, and these voices are viewed and integrated as an equally important, qualitative source of data, alongside the quantitative work. Stories are an important means of teaching and guidance for First Nations,[4] and First Nations have collected and shared data about themselves in this way for thousands of years, using narratives and telling stories as a method of health monitoring and evaluation.[5]

Where possible, most of the stories in the report have been gathered from First Nations throughout BC. In order to reflect a diversity of perspectives, the PHWA project team sought out narratives from people of different ages, genders, Nations, regions, and language groups. Some were offered directly from individuals, and others were derived from a variety of secondary sources, such as published articles, books, interviews, and videos. In the case of quotes not officially published, permission to include a story was sought and granted from the original storyteller. It is an honour to include these voices in this report. The Steering Committee commits to building upon and improving our process for respectfully collecting and sharing stories within the PHWA over the next 10 years.


**Figure 1.2**
**The First Nations Population Health and Wellness Agenda Visual**

## Visualizing the Agenda

These four key teachings and concepts (partnership principles, First Nations Perspective on Health and Wellness, wellness-based approach, and two-eyed seeing) have been incorporated into the depiction of the PHWA provided in Figure 1.2. This visualization and the project have evolved alongside one another. The visualization shows how the key concepts are woven together with the sacred, life-giving properties of First Nations territories, lands, and waters, and draws upon the metaphor of plants and medicines growing within a complex and vibrant ecosystem. It recognizes that achieving the vision of healthy and vibrant BC First Nations children, families, and communities requires the strong foundations of self-determination, culture, language, and connection to land. Embedded within the roots of this ecosystem metaphor are social, cultural, economic, and environmental systems that—when well-nourished—result in environments where children, youth, adults, and Elders can own and reclaim their health and wellness journeys. The people at the centre of the diagram represent the spiritual, mental, emotional, and physical aspects of health and wellness. Wisdom, respect, responsibility, and relationships are principles that permeate throughout the ecosystem and represent the overarching values that support and uphold wellness and the work that is done to ensure wellness. Developing the visualization also enabled the project team to identify gaps in the key roots of wellness, such as justice, family unity, and community.

# FIRST NATIONS POPULATION HEALTH AND WELLNESS AGENDA INDICATORS

## Indicator and Target Selection

This report expands on the original seven indicators that were monitored over the past 10 years, in accordance with the TCA: FNHP, to create a more wholistic suite of indicators that reflects the visual and principles that guide this report. The selection of indicators for this report involved an extensive, collaborative effort that spanned one year, and the selection of targets spanned another six months. This new expanded suite of indicators reflects another step forward in how the health and wellness of First Nations is monitored, assessed, and reported on in BC. The PHWA Steering Committee sees this work as part of a continuous, long-term journey toward new and better ways of exploring and monitoring the health and wellness of First Nations, with the aim of improving health and wellness of all First Nations peoples in BC.

## The TCA:FNHP Indicators

The original seven TCA:FNHP indicators are incorporated into the new suite of indicators presented in this report. These original indicators are 1) **life expectancy** at birth; 2) **age-standardized mortality rate**; 3) youth/young adult rates of death due to suicide; 4) infant mortality rate; 5) **diabetes prevalence**; 6) childhood obesity; and 7) practicing, certified First Nations health care professionals. During the previous 10 years of reporting, indicators 6 and 7 were never successfully reported on due to a lack of data sources capturing this information. For the five that were monitored, only one indicator met the TCA:FNHP target before the end of the 10-year period. The final report for the first 10 years found the following:

- Life expectancy at birth among Status First Nations has improved since the baseline year, but the gap between First Nations and other residents in BC has widened; as a result, this indicator did not meet the TCA:FNHP target.
- The age-standardized mortality rate of Status First Nations has improved somewhat since the baseline year, but the gap has increased; as a result, this indicator did not meet the TCA:FNHP target.
- The youth suicide mortality rate of Status First Nations has decreased since the baseline year. While the gap has been reduced, this indicator did not meet the TCA:FNHP target.
- The infant mortality rate among Status First Nations decreased in some years, but overall did not improve since the baseline year, and the gap has increased; as a result, this indicator did not meet the TCA:FNHP target.
- Diabetes prevalence among Status First Nations has continued to increase, but the rate of increase has decelerated, resulting in a reduction in the gap. Therefore, this indicator met (and exceeded) the TCA:FNHP target.

## New Indicator Development and Selection

The 15 additional indicators in the PHWA reflect the First Nations Perspective on Health and Wellness, Indigenous determinants of health, indicators for specific life stages, and each sphere of wellness from the visualization in Figure 1.2. The indicators were selected through an iterative process that spanned over one year, and was guided by the PHWA Steering Committee. The PHWA Steering Committee is made up of the CMO and Deputy CMO of FNHA, the PHO, and the PHO Indigenous Physician Advisor, among other members (see Forwarding Message for more information on the Steering Committee). Indicator selection was informed by a review of the literature, and by data gathered from regional engagement sessions hosted in 2015, which explored wellness indicators with over 70 First Nations representatives per health authority region.

A sub-committee, the Indicator Working Group, led much of this work. This Working Group was established by the Offices of the CMO and PHO, and included representatives from several areas within FNHA, the Ministry of Health, and the Office of the PHO. The group completed an extensive consultation process with experts that led to the initial development of a list of over 150 potential indicators. The Working Group reduced this list through investigation into potential data sources and leveraging of the FNHA community engagement work. Indicators were prioritized if they reflected Indigenous ways of knowing, had an available data source, and were key indicators that were identified by communities during the 2015 regional engagement sessions. The Working Group strived to represent the First Nations Perspective of Wellness as opposed to over-representing **biomedical perspectives** and their typical focus on the physical body, illness, and disease. The Working Group presented a final shortlist of 30 indicators to the PHWA Steering Committee, and executives of the committee agreed upon a final draft list of 15 new indicators to complement the original seven TCA:FNHP indicators. The new draft suite of 22 indicators was presented by the CMO of FNHA, in collaboration with the PHO, at the Gathering Wisdom forum in November 2016. Feedback was solicited at Gathering Wisdom and other key First Nations partnership events to refine the draft list, allowing the Steering Committee to establish a final indicator list for the baseline report.

## Target Setting

The original seven TCA:FNHP indicators had targets based on reducing the gap between First Nations and other residents in BC. Targets identified for the PHWA reflect a transition away from that approach, to one that reflects First Nations meeting their own maximal potential, as opposed to comparing them to others. Instead of gap reductions, the targets are set as a percentage increase or decrease from the baseline year. Focusing on gaps can create a false sense that indigeneity is the risk factor, when in fact the risk factor is being subject to external forces, including Canadian colonial policies and processes. To bring more depth to the topic, other resident data are provided in the charts and discussed in the chapter when possible.

The targets are meant to be aspirational but also achievable. The process to establish the targets involved five distinct phases that spanned three months. Step 1 involved identifying target-setting criteria and rationale and then establishing a draft target for discussion. The rationale for developing the targets included the following:

- Health and wellness outcomes driven by broader structural and system changes (e.g., food security, housing) will take longer to influence.
- Population-level indicators will take longer to change (e.g., life expectancy) than individual behavioural indicators (e.g., **physical activity**, smoking).
- The targets for indicators with related programs/initiatives currently in place can be more ambitious than those without those existing supports.
- Indicators that are related to socio-economic and structural determinants should have targets that are more ambitious because they will support successes in all the health outcome indicators.
- Previous trends, including rate of change, lowest years, and highest years, can inform the rate of change that is achievable over the next 10 years.
- Projection lines temporarily imposed on the charts showed where trends are currently heading.
- Consideration of the size of the gap between First Nations and other residents of BC. Though gaps are not the focus or the targets, indicators with larger gaps convey urgency and a need for greater attention and more ambitious targets.

Step 2 in this process was to present these criteria, rationale, and resulting targets to the data leads and epidemiology teams supporting this project. The focus of that consultation was to establish whether each target was hypothetically feasible through epidemiological assessment, literature reviews, and jurisdictional comparisons. Step 3 was to present the criteria, rationale, and resulting targets, as well as feedback gained from data leads, to the Steering Committee. The Committee assessed the targets from a strategic organizational perspective in line with First Nations priorities and evaluated whether the balance between feasibility and ambition was reached. Step 4 was to present all of the work to date, including logic, feedback, and resulting targets, to a panel of representatives from the BC Ministry of Health, BC Ministry of Mental Health and Addictions, and FNHA. Step 5 was to socialize the targets with First Nations organizations and provincial partners.

# POPULATION HEALTH AND WELLNESS AGENDA REPORTS

This report is the baseline report for the PHWA. It identifies the 22 indicators selected for the next 10 years and presents data and targets for 20 of them. Two of the 22 indicators are qualitative in nature and so have not been given a target. These two indicators are also more complex and will be introduced in this baseline report, but more fully examined in subsequent PHWA reports. This report also offers seven calls to action to support achieving those targets. The final PHWA report will be released in 2030 and will examine whether targets have been met. The PHWA Steering Committee will release three interim reports between 2020 and 2030 to monitor progress.

## Terminology

The term "**Status Indian**", is problematic and harmful, but still reflects the legal term for those who are eligible to receive the provisions in the *Indian Act*. Therefore, the term Status Indian is used in many datasets, including Ministry of Health administrative datasets. **Métis** and **Inuit** people are distinct Indigenous peoples, but are not the focus for this report. An upcoming joint report between the Office of the PHO and Métis Nation BC will focus on the Métis population of BC. The "Other Resident" population includes residents who do not identify as a member of any Indigenous group. Non-Status First Nations are also included in the "Other Resident" population in these analyses. "Indigenous" is a collective term used to describe the peoples who originally occupied the land now known Canada, including Status and Non-Status First Nations, Métis, and Inuit. Indigenous self-identification is not currently captured in datasets and can lead to non-representative data if individuals are reluctant to self-identify on surveys.

The project team acknowledges that meaningful solutions to these issues would include changing the terminology in legislation, as well as changing how First Nations, Inuit, and Métis individuals are identified systemically, within databases, and during data collection by self-identification. For the purposes of this report, the team has chosen terminology that accurately reflects data sources, with recognition that this is a short-term and imperfect solution. This report will use the term "Status First Nations" in place of "Status Indian" for data derived from a Status flag in the Indigenous and Northern Affairs Canada Indian Registry.[b] Data derived from on-reserve communities will be noted specifically as "First Nations on reserve," and data from only off-reserve communities will be specifically noted as "First Nations off reserve"; if not noted then it reflects both on- and off-reserve populations. The term "Indigenous" will be used in discussions applying to broader groups and understandings of more than one Indigenous group, including First Nations, Inuit, and Métis. See Appendix B: Data Sources and Methodology for more information about data sources, including terminology, strengths, and limitations.

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b While this federal body has changed names and structure, during the time of production of this report it was referred to as Indigenous and Northern Affairs Canada.

FNHA staff members celebrate Pride weekend in the shared territory of the Squamish, Musqueam and Tsleil-Waututh peoples.

## Data Limitations

There are three main limitations to the data presented in this report. The first limitation is that it is not possible for a suite of indicators to truly capture the complexities of health across all First Nations communities nor reflect the range of individual experiences within a community. The PHWA does not seek to do this; instead, the goal of the PHWA is to establish these indicators, which are simple by design, to allow for the identification of trends, patterns, and signals.

The second limitation is the incomplete picture of the First Nations, Inuit, and Métis population of BC based on the legal distinctions identified in the previous section. For example, a person who identifies as First Nations but is not registered as a "Status Indian" is captured in health administrative datasets—like those used for this report— as Other Residents.

The third limitation relates to the difficulties in making meaningful comparisons within BC due to how data are collected. For example, the BC First Nations Regional Health Survey, administered by FNHA, is only inclusive of First Nations living on reserve, while the Canadian Community Health Survey does not capture data from individuals living on reserve. None of these datasets capture individuals currently incarcerated, which in many cases reflect the most underserved sub-population in the province. Despite these limitations, the project team has worked with many knowledgeable stakeholders to generate data that reflect the most meaningful, accurate, and useful analyses available.

## Data Analyses

The original suite of seven TCA:FNHP indicators presented provincial-level data, providing comparisons between Status First Nations and other residents of BC. This baseline report provides additional analyses, with the aim of identifying additional successes that may be celebrated and leveraged. Current limitations in health administrative data mean that analyses are not available by First Nation community and do not reflect a full spectrum of gender identifications. Therefore, this report presents provincial-level comparison data, with additional analyses by sex (male/female) and by regional health authority area. Additionally, although we work at a population health level, we acknowledge that behind all the data and charts are vibrant individuals thriving within their families, communities, and Nations.

## Data Governance

For years, First Nations have been working toward more decision-making and control over their data.[7] The First Nations principles of OCAP® (ownership, control, access, and possession) were developed in 1998 to summarize this advocacy and communicate the concept of community collective ownership of information.[8] These principles are intended to be used as a tool to facilitate conversations between First Nations and those who hold First Nations data, about how that information is collected, managed and shared.

**The First Nations principles of OCAP®[8]**

| | |
|---|---|
| **OWNERSHIP** | A community or group owns their information collectively like an individual owns their personal information. |
| **CONTROL** | First Nations are within their rights to seek control over any aspects of research or information gathering that impacts them. |
| **ACCESS** | First Nations must have access to information and data about themselves and their communities regardless of where it is held. |
| **POSSESSION** | Ownership is asserted and protected by the physical control of data. This may be implemented with stewardship agreements if physical possession is too costly or unwanted by the First Nation. |

The PHWA partners are currently working towards more fulsome implementation of the First Nations principles of OCAP® for this report. The governance of the data used to inform this report is complicated by two conditions; the PHWA partners do not hold the data for most sources included in this report, and the data sets are population-level and thus not clearly governed by any one Nation. An update on data governance will be included in PHWA interim reports.

### Report Organization

This report is organized according to the PHWA visual presented earlier in this chapter. It begins by describing elements of healthy and self-determining Nations and communities by presenting indicators that explore self-determination; connections to land, water, and territories; and cultural wellness. Next, it focuses on supportive systems, including food, housing, education, and the health care system. The last grouping of indicators focuses on healthy children, families, and Elders. Indicators include healthy birth weights, **infant mortality**, **oral health**, healthy child weights, youth/young adult rates of death by suicide, mental and emotional well-being, physical activity, smoking commercial tobacco, diabetes, serious injuries, alcohol-related deaths, life expectancy, and mortality. The report concludes by offering seven calls to action to make further strides toward achieving the vision of healthy, self-determining, and vibrant BC First Nations children, families, and communities.

## CONCLUSION

This chapter provided some historical context for the health of the First Nations population in BC and introduced a new suite of indicators for monitoring health and wellness in the province. It provided an overview of the process to develop a new way to monitor health and wellness through two-eyed seeing, a wellness-based approach, and the incorporation of the First Nations Perspective on Health and Wellness. It also reviewed the process for selecting the final indicators and targets that make up the Population Health and Wellness Agenda. In its structure, processes, and content, this report is offered as a new way of joint reporting, in the spirit of true reconciliation and partnership.

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T'SASAŁA DANCE GROUP, 'NAMGIS TERRITORY.

## CHAPTER 2

# HEALTHY, SELF-DETERMINING NATIONS AND COMMUNITIES

*"And I always say, once again we will sing and dance and speak our language and it will echo mountain to mountain up and down the coast of BC."*

**– Andrew Johnson, Wuikinuxv Nation; *We Walk Together* gathering - Vancouver Coastal Region**

This chapter discusses three components of the visualization of the Population Health and Wellness Agenda (PHWA) described in Chapter 1: self-determination, connection to land, and cultural wellness. While each one is described in turn, they are interrelated, and together, form Indigenous concepts that are central to health and wellness. As illustrated in the words at the beginning of this chapter, the health of Indigenous people is connected to the land and the strength of culture and identity that comes from that connection. Self-determination, the right to freely determine political status and pursue economic, social, and cultural development,[1] is central to maintaining and revitalizing these crucial connections. This chapter illuminates the importance of self-determination, connection to land, and cultural strength for First Nations as well as the need for systems and structures to support revitalization efforts.

# SELF-DETERMINATION

| | | | |
|---|---|---|---|
| **INDICATOR** | Self-determination | | |
| **MEASURE** | *Under development* | | |
| **SOURCE** | N/A | **TARGET** | Explore how to measure and monitor, and implement the strategy |
| **BASELINE** | N/A | | |

Elders and Knowledge Keepers have long asserted that self-determination is foundational to health. It influences all other determinants of health including education, housing, and safety.[2] The ability for First Nations to be self-determining was restricted through colonialism, as settlers took away lands and control from First Nations, and First Nations were subjected to laws, policies, and practices based on domination and assimilation. The *United Nations Declaration on the Rights of Indigenous Peoples* (2008) acknowledges that Indigenous people have the right to self-determination and states that by virtue of that right, they freely determine their political status and freely pursue their economic, social, and cultural development.[1]

Academics and institutions are contributing to a growing body of evidence to support what Indigenous peoples have always known–that self-determination is essential to their health and wellness. Research shows that Indigenous communities that have secured a degree of self-government and local control over community services, and that were actively engaged in the defense of their land rights and the revitalization of culture, experienced low to nonexistent rates of youth suicide. Conversely, it found that communities that had achieved little progress in these areas had considerably higher levels of youth suicide.[3] Similarly, a large body of evidence is emerging from the field of social epidemiology that finds that control over one's life (the capability of a person to lead the life they most want to lead) is fundamental to health.[4] Low perceived life control or autonomy is linked to various health issues, including chronic diseases, accidents, mental illness, and suicide.[4, 5]

There is work underway to secure self-determination for First Nations land and governance at a macro level. This includes formal international and national government and intergovernmental structures (e.g., Assembly of First Nations, the United Nations). It also includes processes for granting recognition of the title and rights within the unceded territories of what is now BC, which is being done through self-government and economic development initiatives, and land claims.[6]

Self-determination is also critical at an individual level. The process of colonialism was disempowering not only to Nations, but also to individuals and families, through aggressive tactics and policies that took away individuals' control over their own lives, such as the Indian Residential School System, Indian Hospitals, the reserve pass system, and sudden introduction of relief foods. Individual people and families are

thinking about and living self-determination outside of institutions and their boundaries,[c] including everyday practices of First Nations ways of knowing and being such as practicing stewardship, language, arts, storytelling, spiritual ceremonies, community gatherings, and harvesting and sharing of local food.[7] Within the health system, individual self-determination includes having or reclaiming the right of an individual to speak as the expert on their own body and journey.

Given that self-determination is the foundation for achieving the vision of healthy, self-determining, and vibrant BC First Nations, children, families, and communities, it was identified as one of the key indicators for the PHWA. The project team explored ways to quantify and monitor self-determination; however, due to the complexity of the concept, there have been many challenges to defining a single or set of measurable, quantifiable variable(s) to reflect self-determination. Two main options were explored: replicating a previous study linking self-determination to health outcomes,[3] and creating a composite indicator using societal/structural domains from the First Nations Regional Health Survey – Community Survey (e.g., self-determination in education, health, social services). A final solution was not in place at the time of publication of this report, so an agreed-upon measure will be included in PHWA interim reports.

While a measure is not currently in place for this indicator, there are many concrete, measurable ways to see self-determination in action in BC. For example, the creation of the First Nations Health Authority (FNHA), has enabled health programs for First Nations across BC to be planned, designed, managed, and delivered by a First Nations-led organization.[8] FNHA is committed to self-determination at individual and Nation levels by being a partner to BC First Nations children, families, and communities on their own health and wellness journeys. They also support sustainable and effective processes that enable First Nations to make their own decisions about their health and well-being.[9]

Another example of self-determination in action is reflected in the work related to the Memorandum of Understanding: Tripartite Partnership to Improve Mental Health and Wellness Services and Achieve Progress on the Determinants of Health and Wellness. This ground-breaking agreement outlines the intention of the First Nations Health Council, Province of BC and the Government of Canada to work together and with First Nations over a period of two years to develop a 10-year tripartite strategy that facilitates a whole-of-government approach for addressing the social determinants of health and wellness.[37]

[c] First Nations responsibility and relationships to the land extend far beyond the artificial boundaries of reserves and treaty territories.

# CONNECTION TO LAND

| | | | |
|---|---|---|---|
| **INDICATOR** | Ecological wellness and connection to land | | |
| **MEASURE** | Under development through *We Walk Together* gatherings. | | |
| **SOURCE** | *We Walk Together* gatherings | **TARGET** | Explore how to measure and monitor, and implement the strategy |
| **BASELINE** | N/A | | |

For First Nations, land reflects a connection to ancestors, a resource for living, a link to culture and teachings, and a gift for future generations. Connection to and health of the land[d] and water are essential to health and wellness. Thus, connection to territory, land, and water is a key determinant of health for Indigenous peoples, while dispossession, displacement, and disconnection from land has devastating impacts for First Nations people.[10] First Nations cannot exercise self-determination without jurisdiction, access, and continuity of their relationship with the land. First Nations territories define, sustain, and promote identities, food security, languages, ceremonies, cultures, and teachings.

Many First Nations people see all places and objects as having a spirit, including land, animals, and inanimate objects. This is reflected in the phrase and teachings of "all my relations", which is used to acknowledge the relationship with all things in creation. Land, water, and territory permeate all aspects of First Nations wellness, as they are sources of healing, and of mental, physical, spiritual, and emotional health and wellness. They form the basis of First Nations languages, systems of governance, and identities. The land holds stories, and guides for how to live a good, healthy life. First Nations people draw sustenance, healing, and medicines from the land. Animals that co-exist on the land and in the water provide teachings, food, clothing, and regalia. Access to healthy lands is required to exercise inherent rights as First Nations—they are stewards of the land and have a sacred responsibility to protect the land. See story about the Guardian Watchmen, as an example of land stewardship, connection to land, and cultural revitalization in action.

Many population health reports include a measure of environmental health, but they tend to be reductionist measures that focus on human risks from environmental hazards (e.g., water pollution, soil contamination) and environmental deficits (e.g., fishery declines, deforestation). Those measures are useful to monitor risks to human health resulting from human contaminants or development, but they do not reflect a First Nations perspective of the land.

d The term "land" throughout the PHWA is an all-encompassing concept that includes land, water, and the animals and plants and other beings that live on this earth.

*"Our tree of life, the cedar tree, gave us our travelling canoes. That's how we had transportation, how our ancestors had transportation. We couldn't go anywhere without the cedar tree. Our homes were built with the cedar, gave us shelter, our tools were made with the cedar, our medicine, the boughs cleansed us. The roots gave us containers to store our food."*

– Wendy Ritchie, Skowkale First Nation; ***We Walk Together*** gathering - Fraser Salish region

SHANNON FALLS, BC.

The PHWA team wanted to establish a measure for monitoring ecological health that reflects a First Nations perspective. A method of achieving this has not yet been identified in accessible research and literature, as it is an incredibly complex concept. While one common element in First Nations perspectives is the fundamental connection to land, how land is valued, used, and accessed varies between individuals, families, and communities.

In response to this challenge in finding a measure for this concept, the PHWA team designed an exploratory study to help inform the ecological indicator. The project is called We Walk Together: Exploring Connections to Land, Water, and Territory, and its goals are to better understand First Nations connection to land, and to explore the possibility of developing a BC First Nations-led ecological indicator. To do this, the PHWA team has organized a series of gatherings in each region of BC with Elders and/or Knowledge Keepers and youth. At these gatherings, the group explores the following questions:

1. How does connection to land, water, and territory influence health and wellness (mental, physical, spiritual, and emotional)?
2. What facilitates, strengthen, or improves connections to land, water, and territory?
3. What is preventing, inhibiting, or reducing connection to land, water, and territory?
4. How is this knowledge passed on to youth and future generations?
5. What signs or signals do you look to, to know or understand the strength of connection to land, water, and territory as an individual or as a community?

To date, two gatherings have been held in the Fraser-Salish and Vancouver Coastal regions. Additional gatherings are planned for the winter and spring of 2020 in the Northern, Interior, and Island regions. The First Nations stories, knowledge, and teachings gained from these gatherings will be integrated into future PHWA reports.

Purification Lodge, Cross River Wilderness Centre, BC.

*"And that's our land. How do we teach that? Nobody's gonna love and care for it the way that we do, nobody's ever gonna be as passionate about it as we are. Because we're connected. That connection has been there since birth. How do we teach that respect to somebody that's coming in and tearing up the mountains? Shootin' all the female deer?"*

**– Chief Ashley Joseph (Kúkwpi7 Gélpcal), Líl̓wat Nation; *We Walk Together* gathering - Vancouver Coastal Region**

## GUARDIAN WATCHMEN – EYES AND EARS ON THE LAND AND SEA

*"In 1973 I paddled on my own all the way down to SGang Gwaay. All my life I had always heard it is a very strong spiritual place. There was so much brush and debris all over when I got there it was just totally overgrown. So, I took about myself to start clearing the village, just trying to show the ancestors that somebody cared…"*

**– Captain Gold, Haida Nation; one of the first modern Watchmen**[11]

*"We're the eyes and the ears… [the importance of which] feels beyond what words can describe, because of what we're working for, who we're working for and why we're working."*

**– Chantal Pronteau, Kitasoo/Xai'Xais Nation; a 22-year old Coastal Guardian Watchman**[12]

First Nations have been stewards of their lands for thousands of years. Utilizing the Traditional Ecological Knowledge developed and passed down over countless generations, First Nations managed the rich resources of their territories and planned for the future of their communities and natural surroundings. However, increasing pressure from industry, high-impact tourism, resource extraction, and climate change has threatened the balance that First Nations had maintained with nature[13] resulting in the degradation of natural ecosystems and reduced opportunities for First Nations livelihoods in fishing and forestry.

Following from the Sparrow decision in 1990 that recognized First Nations' right to fish for food, social, and ceremonial purposes,[14] people from a handful of First Nations along the BC coast and Haida Gwaii were hired to observe, record, and report possible violations of environmental regulations in their traditional territories.[13] Since this time, Guardian Watchmen have been the "eyes and ears" of communities along the BC Coastline,[15] working to uphold and enforce traditional and contemporary Indigenous laws[16] and ensure that the cultural natural resources of the coast are protected and safeguarded so that Coastal First Nations "can continue to sustain healthy communities for generations to come".[17] Over 40 Indigenous Nations and communities in Canada have launched Guardian programs.

The programs enable community members to:

- Engage in meaningful in-community employment,
- Share Indigenous knowledge and lifeways,
- Connect with other First Nation communities,
- Strengthen Indigenous economies,
- Open up new opportunities for sustainable businesses,
- Bring financial inflows into the community,
- Allow Nations to assert their rights and title,
- Develop more responsive and responsible stewardship capacity, and
- Build confidence and hope for current and future generations.

Guardian Watchmen programs provide a broad range of benefits that all contribute to the roots of wellness described in this report and the goals of various sectors including public health, resource industry, tourism and the environment.[17]

# CULTURAL WELLNESS

| | | | |
|---|---|---|---|
| **INDICATOR** | Cultural Wellness | | |
| **MEASURE** | Cultural wellness reported by on-reserve First Nations adults, as a composite index of language, traditional foods, traditional medicines, traditional spirituality, and participation in community cultural events. | | |
| **SOURCE** | First Nations Regional Health Survey | | |
| **BASELINE** | 3.5 | **TARGET** | ↑ 20 per cent |

A strong sense of culture and identity is linked to resiliency and has been shown to reduce negative health impacts for First Nations.[3] Cultural wellness is complex and multi-dimensional, and attempting to measure and monitor it is equally as complex. It is linked to an individual's connection to current and ancestral family, community, spirit, culture, and land.

*"The entire world must do everything possible to keep these languages, songs, dances, and stories alive. If they die, our people and our children—and the human race—will lose something that no one can ever recover. Our languages, celebrations, and traditions define who we are, and they keep our heritages alive."*

**– Elder, 'Namgis First Nation[18]**

For the purposes of this project, a cultural wellness index was created, drawing on five key aspects of cultural connectedness: having knowledge of a First Nations language, participating in community cultural events, placing importance on traditional spirituality, using or practicing traditional medicines, and eating traditional foods.[e] These five components of culture are in no way meant to represent all aspects of First Nations culture. Each component reflects a survey question administered to First Nations on reserve in BC that asked about the last 12 months (for more information on the First Nations Regional Health Survey (RHS), see Appendix B: Data Sources). Each question was given a score of one (affirmative) or zero (negative), with a maximum total of five. A survey respondent who indicates that they had knowledge of a First Nations language, ate traditional foods, used traditional medicines, took part in community cultural events, and saw traditional spirituality as important, would score five on the survey.

[e] The draft PHWA indicators were presented to Elders and community members at Gathering Wisdom in 2016. At that time, this indicator had four components: language, foods, medicine, and community events/participation. Community and Elder feedback led to the inclusion of the fifth component of spirituality.

## Language

*"Learning my language has been an amazing journey that I wouldn't trade for any monetary value because it is priceless. My identity is slowly emerging and I'm beginning to feel whole and powerful as a woman of my Nation!"*

**– Yvonne Joe, Nłeʔkepmxcín language apprentice[19]**

BC is home to 34 unique First Nations languages, representing over 50 per cent of First Nations languages across Canada.[36] First Nations languages are rooted in cultural knowledge and values, and hold relationships to the Creator, the land, identity, roles, family, and community. Knowledge Keepers and Elders say that working to revitalize First Nations languages is one of the most important ways to promote healthy and self-determining Nations, communities, and people.[18]

There is also evidence of a link between knowledge of First Nations languages and improved health and wellness, such as lower rates of diabetes, lower rates of drug and alcohol use, and other improved health outcomes.[20,21,22] Many Nations across BC are revitalizing their languages within their own lives and communities and are experiencing many positive benefits.[23]

Artisans share their work at the Victoria Aboriginal Cultural Festival, 2016.

## Participation in Community Cultural Activities

First Nations health is relational and integrated with social processes and connections between individuals, families, and communities.[25] Social support among individuals and communities is strongly linked to improved health and wellness.[25] Social support can involve a variety of behaviours and actions from others, such as guidance, feedback, affection, intimacy, empathy, and love. The care and support received through connections with community have been linked to a sense of satisfaction and wellness, which acts as a protective factor for health.[26] Research has shown that the health benefits of social relationships may be just as important as avoiding risk factors such as smoking, obesity, and high blood pressure.[27] One way for individuals to form connections and community is through participation in cultural community events. These events allow connections to others through a shared experience while also fostering connectivity to culture, traditional teachings, and values.

*"Our temples, our spiritual places, the places that we believe are the strongest places for healing and for vision quests, would be equivalent to places like the Vatican. And that's our Vatican. As Tsilhqot'in people, we believe the higher the elevation the more spiritual a place is. So, our spiritual places are always on mountains."*

**– Chief Joe Alphonse, Tl'etinqox, Tsilhqot'in Nation[24]**

Cultural sharing by Takaya Tours, Vancouver Coastal Region.

## Traditional Spirituality

Spirituality is expressed in different ways according to context, culture, and individual experience. For example, some First Nations have integrated both traditional spirituality and other faiths such as Christianity.[28] Broadly speaking, spirituality relates to "personal beliefs or values that provide a sense of meaning and unity with self, people, nature and the universe."[29] It is related, but not limited to, religion or theology. The link between spirituality, traditional rituals, and health and healing for Indigenous people is widely recognized,[30] and there have been calls for the integration of spirituality into health programs and services to establish better quality, **cultural safety**, and cultural relevance in health care provision.[30]

## Traditional Medicines

First Nations Elders and healers hold honoured places in a community, and are looked to, to heal a broken spirit or ill body. Cultural healing, or healing through traditional wellness, includes First Nations cultural practices and teachings such as ceremony, prayer, traditional medicines and foods, songs, sacred spaces, language, stories, dance, smudging, brushings, hunting, gathering, fasting, running, sweats, and baths, among others. Cultural healing is inherently relational because it looks past an individual's body to aid in healing with connections to the Creator, the land, and other human beings.

## Traditional Foods

Traditional First Nations foods include a wide variety of seasonal plant and animal species that combine to create a diverse, nutritious, and complete diet.[32] However, for many First Nations, the role of food extends beyond the physical needs of the body and cannot be separated from culture, ceremony, place, land, relationships, and community.[33] Food is also connected to First Nations economies and complex trade networks, First Nations knowledge, and land stewardship roles; these are all woven together into a sustainable food system.[32, 34]

*"The land nourishes us in all ways; physical, spiritual, mental, and emotional. The health and security of our people is vitally dependent on continued and improved access to sufficient amounts of healthy Indigenous foods and medicines on the land and in the forests and waterways."*

**– Dawn Morrison, Secwépemc Nation[31]**

## Measuring Cultural Wellness

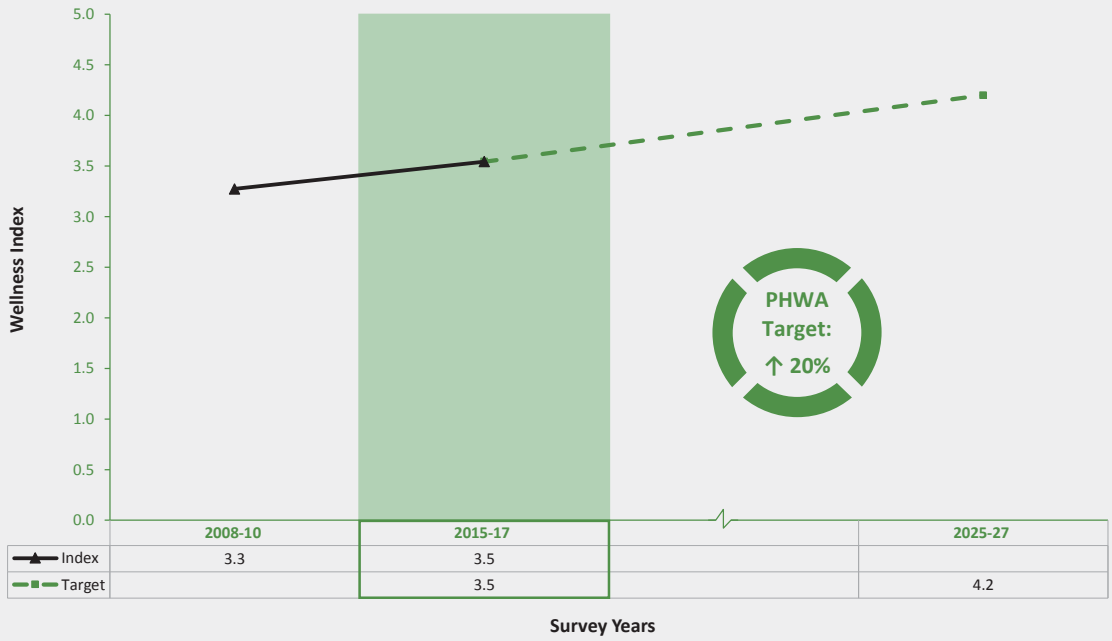
Cultural wellness is critical to overall health and wellness; however, it is a very subjective, dynamic and complex phenomenon. Combining the five aspects of First Nations culture described in this section creates a very high-level perspective on how actively these areas are being revitalized. It is important to note that these data represent First Nations who live "at home" (on-reserve), and opportunities to experience First Nations language, cultural activities, and traditional foods and medicines may be more accessible to this group. First Nations who live "away from home" or in cities may face more challenges with revitalization efforts. Data for First Nations living away from home were not available for this measure.

As shown in Figure 2.1, First Nations adults in BC report a high level of cultural wellness according to the five cultural elements in the cultural wellness index. From 2008–10 to 2015–17, the cultural wellness index score increased from 3.3 to 3.5, suggesting that cultural wellness is increasing. ***The target set for the next 10 years is to increase cultural wellness for First Nations adults by 20 per cent.***

Additional analyses of these data show that the cultural wellness index for males and females were similar, but that there was regional variation by health authority. See Appendix D for additional analyses.

FIGURE 2.1

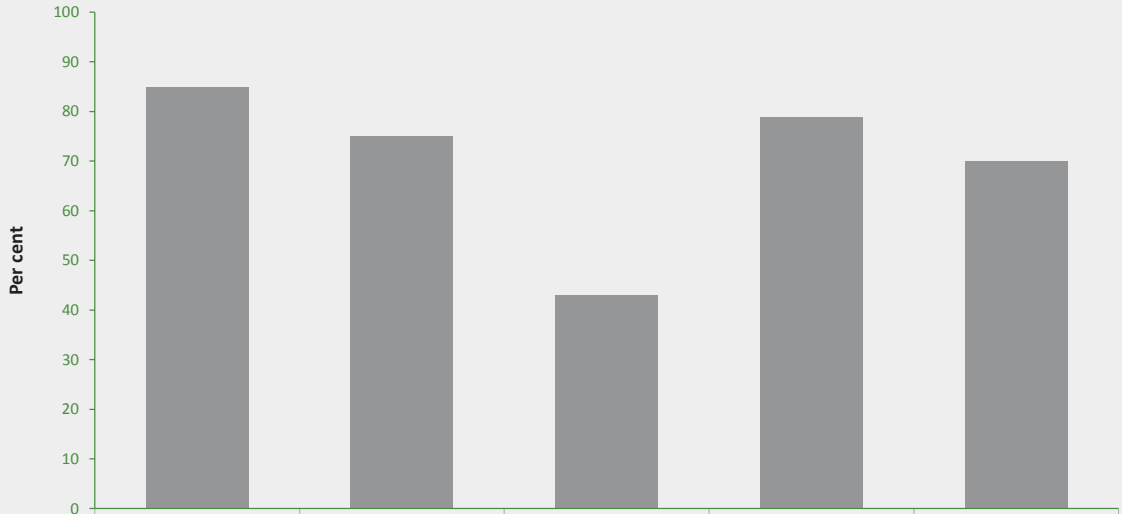
**Cultural Wellness Index, First Nations Adults On Reserve, BC, 2008-10 to 2025-27**




**Notes:** "Cultural wellness index" combines five domains of wellness into a single composite number with a scale of 0 to 5: having knowledge of a First Nations language; eating traditional foods; using/practicing traditional medicines; participating in community cultural events; and placing importance on traditional spirituality. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 2 (2008-10) and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

FIGURE 2.2

**Cultural Wellness Index, First Nations Adults On Reserve, Percentage of Affirmative Responses, by Dimension, BC, 2015-17**




| Language | Food | Traditional Medicine | Traditional Spirituality | Participating in Community Events |
|---|---|---|---|---|
| 84.9 | 75.0 | 42.9 | 79.0 | 69.9 |

Cultural Wellness Dimension

**Notes:** "Cultural wellness index" combines five domains of wellness into a single composite number with a scale of 0 to 5: having knowledge of a First Nations language; eating traditional foods; using/practicing traditional medicines; participating in community cultural events; and placing importance on traditional spirituality. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

Figure 2.2 shows the levels of each of the five components of cultural wellness examined in these analyses. It demonstrates that in 2015–17, a high proportion (approximately 85 per cent) of adults surveyed had some knowledge of a First Nations language, and 79.0 per cent reported that traditional spirituality was important to them. However, only 42.9 per cent of respondents had used traditional medicines in the past 12 months. These findings may suggest that efforts to revitalize First Nations languages are having success, and that increased efforts may be needed to enable teachings about traditional medicines and healing to thrive. Opportunities to experience First Nations languages, cultural activities, traditional foods and medicine, may be more accessible for First Nations who live "at home" (on reserve), than for First Nations who live away from home or in cities.

Git Hayetsk Dancers member, Victoria Aboriginal Cultural Festival, 2016.

## CONCLUSION

This chapter has discussed three key aspects of the roots of wellness for First Nations people in BC: self-determination, connection to land, and cultural wellness. These concepts are interrelated, and together, form a foundation for First Nations people to achieve the vision of healthy, vibrant, and self-determining individuals, families, and communities. For First Nations, self-determination cannot be achieved without jurisdiction, access, and continuity of their relationship with the land. Creating space and opportunities for First Nations peoples to foster and promote cultural teachings, connect to land, and practice individual self-determination can begin to reverse the health disparities caused by colonialism.[35] Future reports of the First Nations Population Health and Wellness Agenda will provide more information about a self-determination indicator, and will provide results from the We Walk Together project that is currently underway to better understand and monitor the connections between land and health for First Nations in BC. Analyses of cultural wellness of adults surveyed on reserve over the last 10 years showed that levels across the province are high and increasing, but that more can be done to increase use of traditional medicines in BC. The next chapter will explore the foundations for health and wellness at a population level by examining societal and structural systems in BC.

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## CHAPTER 3

# SUPPORTIVE SYSTEMS

This chapter explores social and structural determinants of health that can work to either promote or undermine the health and wellness of First Nations people. Through the legacy of colonialism, longstanding First Nations systems and jurisdiction over education, housing, food acquisition, and healing have been eroded. In addition, First Nations are socially excluded from Western systems, resulting in disparities compared to other residents both in determinants of health and in health outcomes.

This chapter examines structural determinants of health through the indicators of food security, housing, and education. It then presents indicators that help to illuminate the effectiveness and appropriateness of the health system, including patient-reported experiences of cultural safety and humility in health services, **avoidable hospitalizations** (i.e., ambulatory care sensitive conditions), and the number of practicing, certified First Nations health care providers in BC.

# FOOD INSECURITY

| | | | |
|---|---|---|---|
| **INDICATOR** | Food insecurity | | |
| **MEASURE** | Proportion of First Nations households on reserve who reported that over the past 12 months, they could not afford to eat balanced meals. | | |
| **SOURCE** | First Nations Regional Health Survey | | |
| **BASELINE** | 43.5 per cent | **TARGET** | ↓ 20 per cent |

*"Food is our medicine. Our medicines are our medicines too, but really, it's what we put in our bodies. That's what we're going to get out of life."*

**– Janine Luggi, Stellat'en First Nation**[1]

For centuries, food has been a source of sustenance and healing for First Nations people. Many believe that "food is medicine".[2] In addition to being necessary for physical needs, food is seen as an integral part of emotional, mental, and spiritual needs.[3] Food is a central element of many traditional ceremonies, as well as traditional First Nations economies and complex trade networks.[4] For many First Nations people, food is also an essential component of their identity, linking them to their community, the land, their culture, and the ancestors, and it is one way in which cultural values such as sharing and cooperation were practiced on a daily basis.[5]

Traditionally, communities used their knowledge and understanding of wholistic food systems to have diverse, nutritious, and complete diets while maintaining a balance with the availability of food and resources from the lands and waters.[6] The harvesting, processing, preparing, and sharing of food engaged people in physical activity and brought communities together, helped to maintain social relationships, facilitated knowledge transfer, and sustained spiritual connections to the land.[7]

While these traditions are still practiced today, colonialism and the forced dislocation of Indigenous peoples from their territories disrupted access to traditional foods and food practices.[8] Since contact, First Nations have become more exposed to less nutritious, processed, store-bought foods, which has contributed to disproportionate rates of chronic conditions such as diabetes and cardiovascular disease.[8] First Nations living in northern, rural, and remote regions of the province face additional challenges associated with the availability, quality, and cost of fresh, nutritious, store-bought foods. Families with lower income levels experience even further challenges.

The ability for First Nations to source food from the land is further impeded by ongoing threats of resource extraction and encroaching development, and traditional hunting and gathering areas have been contaminated. Many First Nations have also suffered the loss of food stocks through overharvesting, competition, and environmental destruction related to industry.[9] The impacts of climate change—such as sea level rise and extreme weather events, temperature, and rainfall variability—are now creating added challenges to food systems.[10]

First Nations are working to revitalize traditional food practices and reintegrate traditional foods into their diets. Progress is being made by communities to reclaim access to their traditional territories and harvesting grounds as well as to assert their rights to define their own agricultural, labour, fishing, and food and land policies, based on what they determine is ecologically, socially, spiritually, economically, and culturally appropriate.[11] In BC, there is also a growing First Nations food sovereignty movement, which is actively working to re-establish traditional cultural values related to the sacredness of food teachings about nurturing healthy, interdependent relationships with the land, water, plants, and animals that provide food.[12]

Food security means that all people in a population have their dietary needs met because they have physical and economic access to sufficient, safe, and nutritious food to meet their needs and food preferences for healthy, active living.[13] It also means that the food is culturally relevant and that traditional foods are available.[12] For the purposes of the Population Health and Wellness Agenda (PHWA), the prevalence of food insecurity among First Nations peoples in BC is being measured and tracked based on the proportion of individuals who reported that over the past 12 months, their household either "often" or "sometimes" could not afford to eat balanced meals. A "balanced meal" was defined in the data source as containing a selection of protein, grain, vegetables, fruits, and dairy products. This indicator was chosen to represent an economic measure, alternative to income, and represents a key impact of income challenges.

# GARDENING AS HAÍŁZAQV RESURGENCE (EXCERPT)[14]

## ‘Cúagilákv (Jess Housty), Heiltsuk Nation

Haíłzaqv community partners have built gardens in Bella Bella and at our seasonal community spaces out on the land. We've mapped community fruit trees and sold or distributed dozens of raised beds made from local wood for community members to start their own gardens at home. We are rebuilding the kind of intimate, place-based knowledge of our territory that helped my grandmother's grandmother know where to harvest what she needed and how to tend those places into abundance—but we are learning and practicing by developing an intimate knowledge of our own little gardens.

Each post-contact generation of Haíłzaqv people has endured assaults on our land-based identity. Colonialism has attempted to legislate us off our territories and away from many of the resources that we depend on for food, social, and ceremonial purposes. It's the driving force behind systemic oppressions that have sought to separate us from our homelands and our Haíłzaqv identity. While this has clawed away at our access to our homelands and the intimate knowledge our ancestors held of all 35,553 square kilometres of our territory, we have survived, and we will thrive again.

That bone-deep impulse to thrive manifests as many pairs of Haíłzaqv hands digging in the dirt, calling up the little green promises of abundance, as the weight of the kale and the carrots and the aromatic herbs we grow is equal to the weight of the full hearts swelling over the meals we share and good food we give away to the people we love. That love and generosity is Haíłzaqv to the core.

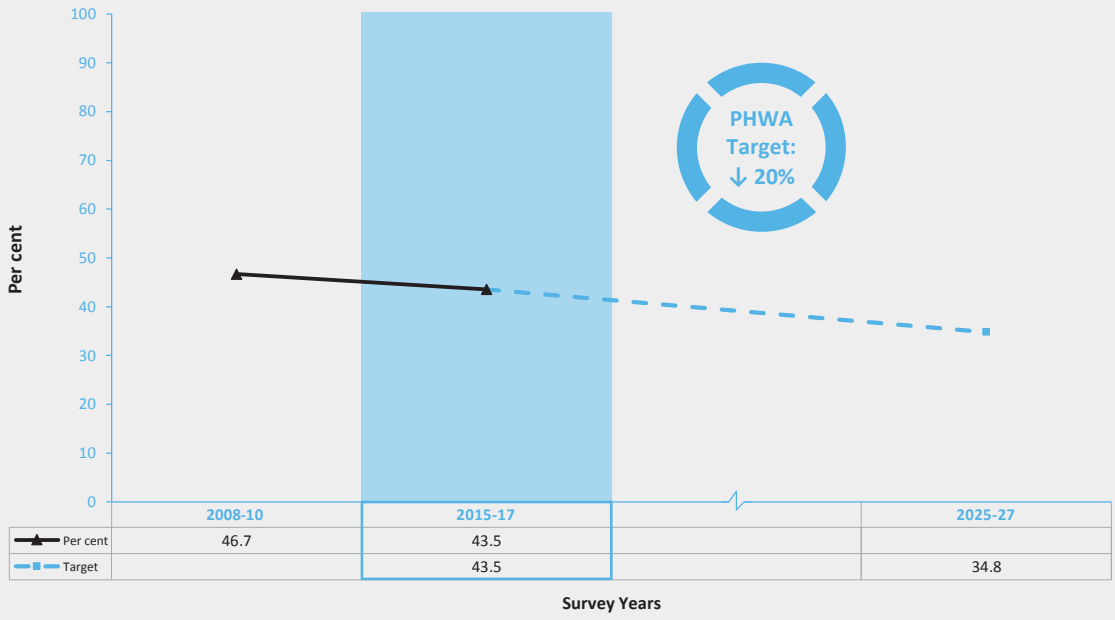
Of course, gardening in isolation will not solve everything. But food is medicine, and food is community building. In gardening, we express food sovereignty. We take responsibility for nourishing ourselves and our loved ones with good food that will make our bodies strong. We reinforce the social and spiritual bonds that hold our people together when we work side by side and share our harvests with one another. And we become more giving, more autonomous, and more attuned to the natural cycles and rhythms that help us—and our gardens—to grow. In my garden, I feel at peace and in control. This is an act of resistance in a world that seeks to marginalize me, and in that peace, I feel a stronger connection to my ancestors.

In the face of generations of colonial oppression, gardening is one more way to say that we're still here. We're taking care of our bodies and our people. We're planting seeds as a promise to our future selves. And in this way, to me, growing deep-red tomatoes and hefty zucchinis is a creative way of doing the work our ancestors set out for us because it is a tangible commitment to our own resilience.

For a Nation keenly focused on asserting and building up its identity, growing a garden is planting a seed of Haíłzaqv resurgence.

FIGURE 3.1

## Proportion of First Nations Individuals On Reserve Who Reported That Their Household Could Not Afford to Eat Balanced Meals in the Past 12 Months, BC, 2008-10 to 2025-27



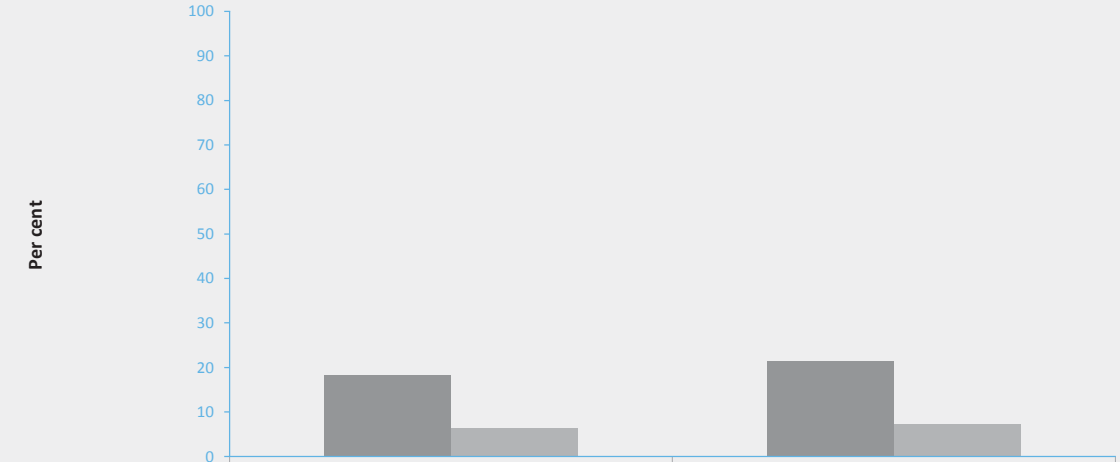

**Notes:** A "balanced meal" contains a variety of food groups (e.g., a selection of protein, grain, vegetables, fruit, and dairy products). Includes responses of survey participants who reported that their household "sometimes" or "often" could not afford to eat balanced meals in the past 12 months. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 2 (2008-10) and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

As shown in Figure 3.1, the proportion of First Nations households who could not afford to eat balanced meals in the past 12 months decreased from 46.7 per cent in 2008-10 to 43.5 per cent in 2015-17. ***The target for this indicator for the next 10 years is to reduce the proportion of First Nations households on reserve experiencing food insecurity by 20 per cent.***

Preparing salmon in 'Namgis Territory.

FIGURE 3.2

## Percentage of Individuals Who Reported That Their Household Could Not Afford to Eat Balanced Meals in the Past 12 Months, Status First Nations Off Reserve and Other Residents, BC, 2008-10 to 2015-17




| | 2008-10 | 2015-17 |
|---|---|---|
| Status First Nations (Off reserve) | 18.3 | 21.4 |
| Other Residents | 6.3 | 7.4 |

Survey Years

**Notes:** A "balanced meal" contains a variety of food groups (e.g., a selection of protein, grain, vegetables, fruit, and dairy products). Includes responses of survey participants who reported that it was "often true" or "sometimes true" that they or their household members could not afford to eat balanced meals in the past 12 months. Weighted values for persons aged 18 years and over. See Appendix B for more information about this data source.
**Source:** Canadian Community Health Survey (2008-10 and 2015-17). Prepared by First Nations Health Authority, September 2019.

As shown in Figure 3.2, the percentage of individuals living off reserve who reported that their households could not afford to eat balanced meals in the past 12 months was nearly three times higher than Other Residents. While comparisons between Figure 3.1 and 3.2 should be made with caution due to different data sources and methodologies, they do suggest a disparity between households on and off reserve.

Figure 3.3 shows that in 2015-17, nearly half of the on-reserve households surveyed in Interior and Northern were "sometimes" or "often" unable to afford balanced meals in the past 12 months. The lowest proportion of households reporting this was 37.1 per cent in Vancouver Coastal, which was still more than one-third of the households surveyed.

Figure 3.4 indicates that among households with no children or youth, 44.5 per cent reported that they could not afford to eat balanced meals "sometimes" or "often" in the past 12 months. Those with one or two children were similar to one another, reporting that 42.2 and 42.6 per cent, respectively, had this difficulty in the past 12 months.

Together, these figures show that despite efforts to revitalize traditional food systems, many First Nations in BC currently do not have food security. They also show that while this challenge is greater in some regions and for some households, a large proportion of households across the province are affected.

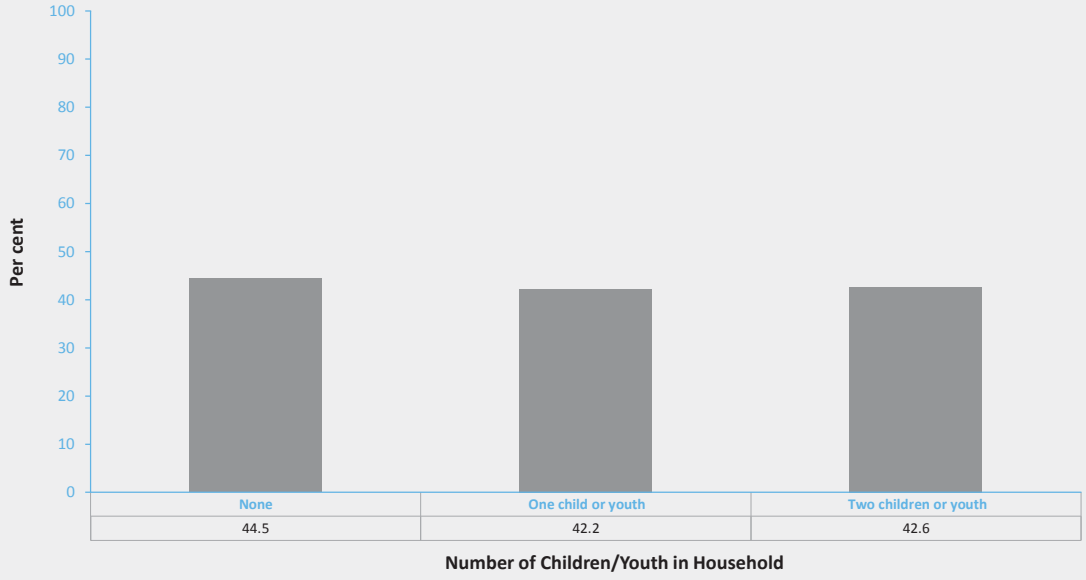
FIGURE 3.3

## Percentage of First Nations Individuals On Reserve Who Reported That Their Household Could Not Afford to Eat Balanced Meals in the Past 12 Months, by Health Authority, BC, 2015-17


**Notes:** A "balanced meal" contains a variety of food groups (e.g., a selection of protein, grain, vegetables, fruit, and dairy products). Includes responses of survey participants who reported that their household "sometimes" or "often" could not afford to eat balanced meals in the past 12 months. Health authority is based on the location of the respondent's community. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

FIGURE 3.4

## Percentage of First Nations Individuals On Reserve Who Reported That Their Household Could Not Afford to Eat Balanced Meals in the Past 12 Months, by Number of Children/Youth in the Household, BC, 2015-17




**Notes:** A "balanced meal" contains a variety of food groups (e.g., a selection of protein, grain, vegetables, fruits, and dairy products). Includes responses of survey participants who reported that their household "sometimes" or "often" could not afford to eat balanced meals. "Number of children in the household" is based on how many children or youth under the age of 18 were reported as living in the household the majority of the time at the time of the survey. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

# HOUSING

| | | | |
|---|---|---|---|
| **INDICATOR** | Acceptable housing | | |
| **MEASURE** | Proportion of First Nations living off reserve who reported that they have acceptable housing, where "acceptable" is defined as adequate, suitable, and affordable. | | |
| **SOURCE** | Statistics Canada | | |
| **BASELINE** | 54.3 per cent | **TARGET** | ↑ 20 per cent |

First Nations have housing and building traditions that have developed over thousands of years. Prior to contact with Europeans, Nations across BC lived in distinct traditional housing, and the designs and materials reflected the climatic, ecological, and geographical characteristics of their territories. Beyond providing a safe shelter, houses were integral expressions of residents' social and cultural values as well as their spiritual beliefs.

The creation of First Nations reserves and the displacement of First Nations from their traditional territories led to critical disruption of traditional housing systems and processes. Eurocentric housing and tenure systems were imposed on communities, established from designs and materials that did not consider traditional family and kinship networks, how people lived together, their relationships with the lands and waters, the diversity of cultural activities, or the climates where they resided.[16] In many First Nations communities, highly unsuitable government-constructed houses became symbols of colonial and assimilative policies.[16]

According to Statistics Canada, in Canada 18 per cent of home owners and 40 per cent of renters had housing affordability issues in 2006.[17] This housing issue has been worsening, particularly in large cities such as Vancouver and Victoria, which were ranked the 2nd and 15th least affordable cities in the world in 2018.[18]

*"My grandfather's house was eighty feet long. It was called a smoke house, and it stood down by the beach along the inlet. All my grandfather's sons and their families lived in this dwelling. Their sleeping apartments were separated by blankets made of bulrush weeds, but one open fire in the middle served the cooking needs of all. In houses like these, throughout the tribe, people learned to live with one another, learned to respect the rights of one another."*

**– Chief Dan George, Tsleil-Waututh Nation[15]**

Adequate housing is considered a basic human right[19] and is also a key socio-economic determinant of health. The quality, adequacy, affordability, appropriateness, location, and accessibility of housing all influence our physical, mental, and emotional wellness.[20] The United Nations Special Rapporteur on Adequate Housing,[21] the Royal Commission on Aboriginal Peoples (1996),[22] the Standing Senate Committee on Aboriginal Peoples (2015),[23] and the Truth and Reconciliation Commission[24] are among many that have highlighted the persistent housing inequities and disproportionate risks of homelessness that First Nations communities face both on and off reserve, as a direct consequence of colonial systems and systemic racism. The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls (MMIWG) similarly included several Calls to Justice aimed at addressing substandard and unsafe housing conditions that place Indigenous women, girls, and 2SLGBTQQIA (two-spirit, lesbian, gay, bisexual, trans, queer, questioning, intersex and asexual) peoples at increased risk of marginalization, violence, and abuse.[25]

> *"For Indigenous women, girls, and 2SLGBTQQIA people, the denial of the right to housing or adequate health care can place people in even more vulnerable situations, making them targets for predators. Further, the failure to protect a woman's or child's right to adequate housing, for example, can make people stay in abusive situations, in order to avoid becoming homeless."*
>
> **– National Inquiry into Missing and Murdered Indigenous Women and Girls[26]**

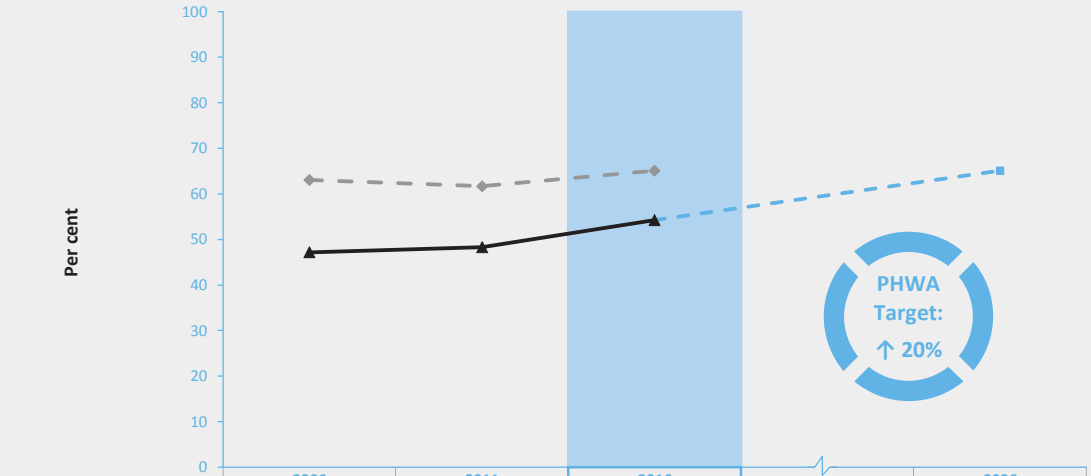
Monitoring households with acceptable housing enables the PHWA to track progress on the reclamation of safe and secure homes for First Nations as a socio-economic determinant of heath and wellness. The indicator centers on three aspects of housing as defined by the Canada Housing and Mortgage Corporation:

- Adequacy – housing that does not require any major repairs.
- Affordability – housing that costs less than 30 per cent of the household's income.
- Suitability – the number of bedrooms is acceptable for the composition and number of people who live there.

Acceptable housing is therefore affordable, requires no major repairs, and is not overcrowded.

FIGURE 3.5

## Percentage of Households Living Off Reserve with Acceptable Housing, Status First Nations and Non-Aboriginal, BC, 2006 to 2026




| | 2006 | 2011 | 2016 | | 2026 |
|---|---|---|---|---|---|
| Status First Nations | 47.2 | 48.3 | 54.3 | | |
| Non-Aboriginal | 63.0 | 61.7 | 65.1 | | |
| Target | | | 54.3 | | 65.2 |

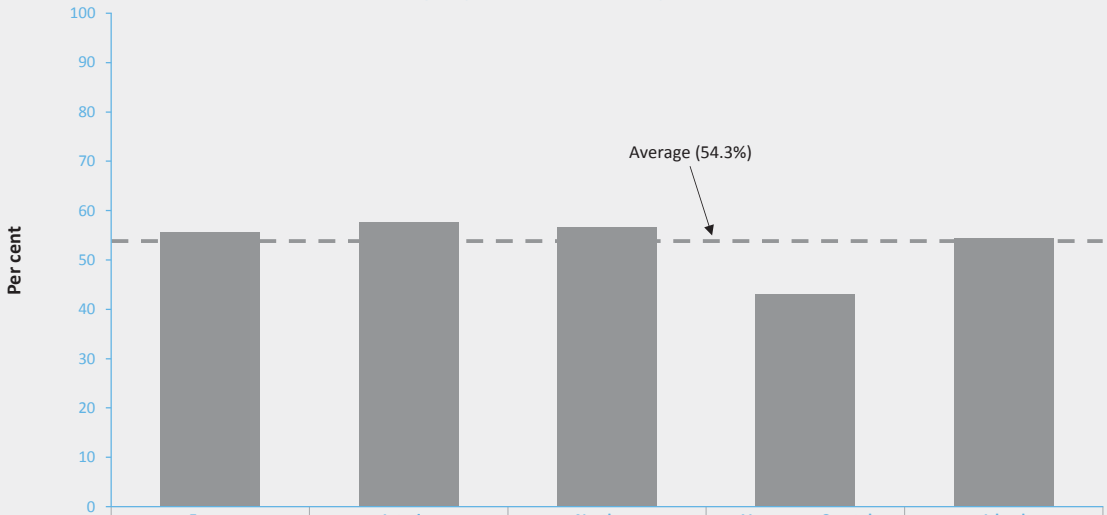
Survey Year

**Notes**: "Acceptable housing" means housing that meets three standards: adequacy, suitability, and affordability. Data only include households living off reserve, since it is not possible to assess housing affordability for farm and band households living on reserve. See Appendix B for more information about this data source.

**Source:** Statistics Canada. 2018. Special tabulation, based on 2006, 2011, and 2016 Census. Prepared by First Nations Health Authority, September 2019.

FIGURE 3.6

## Percentage of Status First Nations Households Living Off Reserve with Acceptable Housing, by Health Authority, BC, 2016




| Fraser | Interior | Northern | Vancouver Coastal | Island |
|---|---|---|---|---|
| 55.6 | 57.7 | 56.6 | 43.1 | 54.4 |

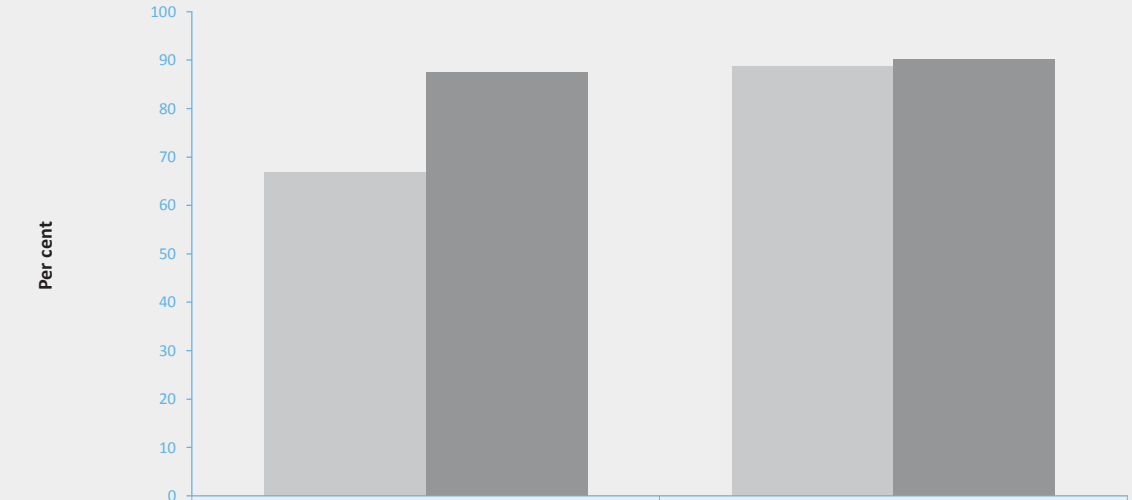
Health Authority

**Notes**: "Acceptable housing" means housing that meets three standards: adequacy, suitability, and affordability. Data only include households living off reserve, since it is reserve, since it is not possible to assess housing affordability for farm and band households living on reserve. Health authority is based on the location of the respondent's community. See Appendix B for more information about this data source.

**Source:** Statistics Canada. 2018. Special tabulation, based on 2016 Census. Prepared by First Nations Health Authority, September 2019.

FIGURE 3.7

## Percentage of Status First Nations Households with Adequate or Suitable Housing, by Location, BC, 2016




| | Adequate | Suitable |
|---|---|---|
| On-reserve (n = 17,830) | 66.9 | 88.8 |
| Off-reserve (n = 45,285) | 87.4 | 90.3 |

Housing Standard

**Notes**: "Adequate housing" means minor repairs are needed and regular maintenance only is required. "Suitable housing" means the dwelling has enough bedrooms for the size and composition of the household. See Appendix B for more information about this data source.
**Source:** Statistics Canada. 2018. Special tabulation, based on 2016 Census. Prepared by First Nations Health Authority, September 2019.

As shown in Figure 3.5, the proportion of status First Nations households living off reserve with acceptable housing increased from 47.2 per cent in 2006 to 54.3 per cent in 2016 (the baseline year for this report). ***The target set for this indicator for the next 10 years is to increase the percentage of First Nations living off reserve with acceptable housing by 20 per cent.***

Figure 3.6 shows that in 2016, just over half of the First Nations living off reserve in four of the five regional health authority areas reported having acceptable housing. The proportion of households reporting this in the Vancouver Coastal region was lower, at 43.1 per cent.

Figure 3.7 indicates that the proportion of households reporting suitable housing was similar for both on- and off-reserve Status First Nations in 2016. This means that almost 90 per cent of both on- and off-reserve households have enough space for everyone in the household. However, there was a notable difference between the percentage of on- and off-reserve Status First Nations reporting that their housing was adequate: 87.4 per cent of off-reserve households surveyed versus 66.9 per cent of on-reserve households.

These results indicate that Status First Nations households living off reserve face greater challenges with affordability of housing than Other Residents, while those living on reserve have greater challenges with adequacy of housing.

# EDUCATION

| | | | |
|---|---|---|---|
| **INDICATOR** | Education | | |
| **MEASURE** | The proportion of students who complete high school within eight years of starting grade 8. | | |
| **SOURCE** | BC Ministry of Education | | |
| **BASELINE** | 69.4 per cent | **TARGET** | ↑ 20 per cent |

> *"The educational system, fostered by government and society, is the basis of Canadian cultural transmission. However, for children whose languages and cultures are different from mainstream immigrant expectations, this education system is a form of cognitive imperialism."*
>
> – **Marie Battiste, Mi'kmaq, Potlo'tek First Nations**[27]

Another fundamental determinant of health included in the PHWA is education. The level of education that a person achieves can substantially impact their career options, income, and employment opportunities, as well as other socio-economic factors (e.g., housing, food security), which in turn can influence health outcomes. For many First Nations children and youth and their families, their perceptions of the Eurocentric education system are inseparable from the inter-generational trauma and legacy of residential schools, which were tools of cultural genocide and assimilation. Trauma-informed and safe education is an essential part of reconciliation and can also promote cultural connectedness and continuity.[28] A supportive educational environment is one in which First Nations are actively leading, where curriculum and learning approaches reflect Indigenous ways of knowing, and where children and youth are successful in educational attainment.

First Nations approaches to education differ from those typically used in the Eurocentric mainstream school system. The mainstream school system in BC focuses on core academic curricula learned in classrooms with quantifiably assessed grade levels, with students progressing from a distinct school entry (kindergarten) to exit (graduation). In contrast, in First Nations cultures, education is generally understood as a lifelong process in which knowledge is passed on experientially through observing, listening, and participating.[29]

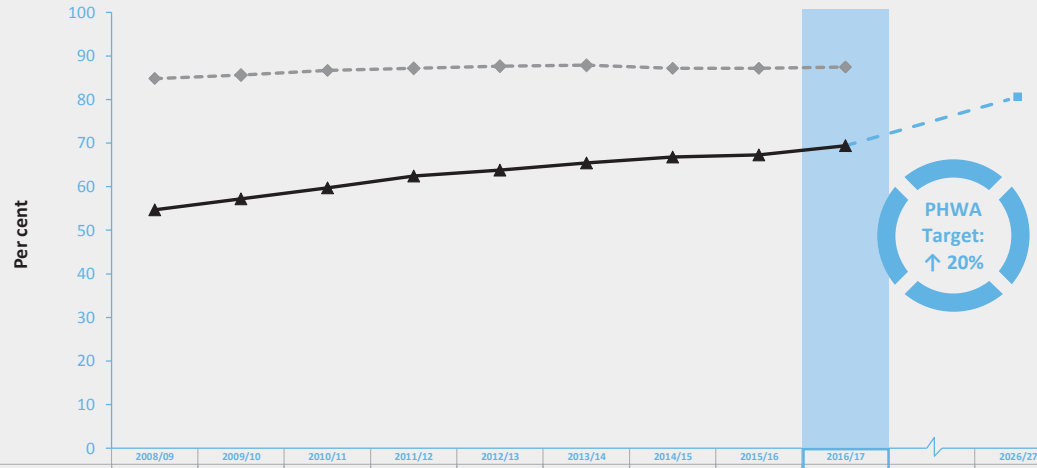
Indigenous students in BC attend public schools, independent or private schools, and First Nations schools. In 2017/18, 12 per cent of BC's public school students self-identified as Aboriginal, and among those students, approximately 7,800 (11.5 per cent) identified as First Nations students living on reserve.[30] There are also 140 First Nations schools located on reserves in BC, with nearly 6,000 Status First Nations students attending them.[30] First Nations schools are operated by local First Nations with funding from the federal government department of Indigenous Services Canada (ISC).[31]These schools do not fall under provincial jurisdiction unless they become BC-certified independent schools.

There are currently efforts underway within the public-school system to improve the learning experiences and outcomes of First Nations people within the education system. For example, the new BC curriculum introduced by the BC Ministry of Education in 2015/16 focuses on integrating Indigenous perspectives into all parts of the social studies curriculum across grade levels,[33] including programming for language revitalization.[34] The BC Ministry of Education is also working to ensure that all students learn about appropriate content regarding the history of residential schools, in response to the Truth and Reconciliation Commission's Calls to Action.[32]

For the purposes of the PHWA, education is measured through the percentage of self-identified Indigenous students who achieve a certificate of graduation or adult diploma within eight years of beginning grade 8. The measure includes public, private, and First Nations schools located off reserve. While high school completion is only one aspect of education, and does not always proportionately reflect First Nations ways of learning or knowing or the success of the school system in appropriately supporting First Nations learners, it has been demonstrated to have a fundamental influence on socio-economic status and health outcomes later in life.[28,35] These data do not include students who attend school on reserve, or students who do not enter grade 8.

FIGURE 3.8

## Percentage of Students Who Completed High School within Eight Years, Indigenous and Non-Indigenous Students, BC, 2008/09 to 2026/27




| | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | | 2026/27 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Indigenous - Per cent | 54.7 | 57.2 | 59.7 | 62.5 | 63.8 | 65.5 | 66.8 | 67.3 | 69.4 | | |
| Non-Indigenous - Per cent | 84.8 | 85.6 | 86.7 | 87.2 | 87.7 | 87.9 | 87.2 | 87.2 | 87.5 | | |
| Indigenous - Count | 2,939 | 3,169 | 3,223 | 3,361 | 3,470 | 3,575 | 3,614 | 3,585 | 3,658 | | |
| Target | | | | | | | | | 69.4 | | 83.3 |

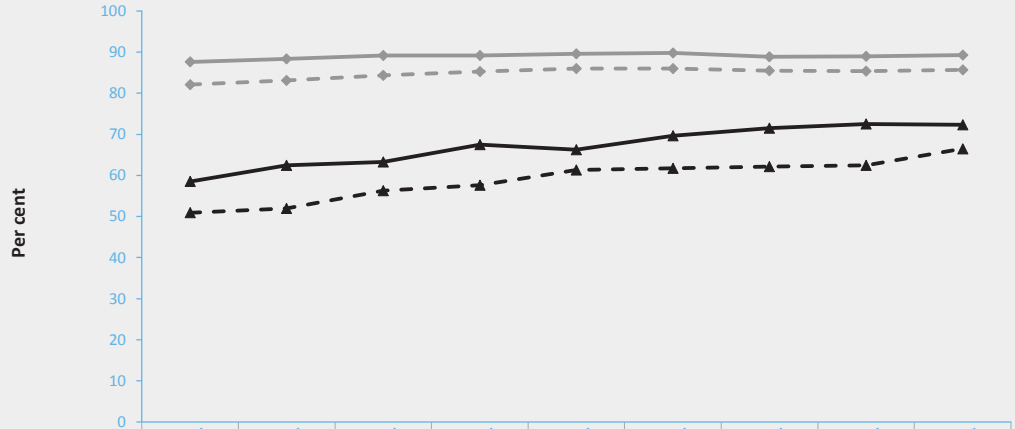
School Year

**Notes:** The "eight-year completion rate" is the proportion of students who graduate, with a British Columbia Certificate of Graduation or British Columbia Adult Graduation Diploma, within eight years from the first time they enrol in grade 8, adjusted for migration in and out of British Columbia. The calculation includes both public and independent schools combined, but not on-reserve First Nations schools. "Indigenous" includes people who self-identify as having "Indigenous Ancestry" on a voluntary basis during school enrolment. This includes First Nations (both Status and Non-Status) on reserve and off reserve, Inuit, and Métis students. See Appendix B for more information about this data source.
**Source:** BC Ministry of Education. Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

As shown in Figure 3.8, the proportion of Indigenous students graduating within eight years of entry into grade 8 has been steadily increasing over time, reaching a high of 69.4 per cent in 2016/17. This increase is promising but still falls below non-Indigenous students by nearly 20 percentage points. While ultimately the goal is to increase the proportion to 90 per cent or more, ***the target set for the next 10 years is to increase the proportion of Indigenous students graduating within eight years of entry into grade 8, by 20 per cent.***

FIGURE 3.9

## Percentage of Students Who Completed High School within Eight Years, Indigenous and Non-Indigenous Students, by Sex, BC, 2008/09 to 2016/17




| | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 |
|---|---|---|---|---|---|---|---|---|---|
| Indigenous Females | 58.5 | 62.5 | 63.3 | 67.5 | 66.3 | 69.6 | 71.5 | 72.5 | 72.3 |
| Indigenous Males | 50.9 | 52.0 | 56.3 | 57.6 | 61.3 | 61.7 | 62.1 | 62.5 | 66.5 |
| Non-Indigenous Females | 87.6 | 88.4 | 89.2 | 89.2 | 89.6 | 89.8 | 88.9 | 89.0 | 89.3 |
| Non-Indigenous Males | 82.1 | 83.1 | 84.3 | 85.3 | 86.0 | 86.0 | 85.5 | 85.4 | 85.7 |

School Year

**Notes:** The "eight-year completion rate" is the proportion of students who graduate, with a British Columbia Certificate of Graduation or British Columbia Adult Graduation Diploma, within eight years from the first-time they enrol in grade 8, adjusted for migration in and out of British Columbia. The calculation includes both public and independent schools combined, but not on-reserve First Nations schools. "Indigenous" includes people who self-identify as having "Indigenous Ancestry" on a voluntary basis during school enrolment. This includes First Nations (both Status and Non-Status) on reserve and off reserve, Inuit, and Métis students. See Appendix B for more information about this data source.

Figure 3.9 shows that while the proportions of male and female Indigenous students graduating are both increasing, females have a consistently higher likelihood of graduating within eight years.

Additional analyses show that there is some variation of graduation rates by health authority area, with the lowest percentage of Indigenous students graduating within eight years in the Island and Vancouver Coastal regions, and the highest in Interior. See Appendix D for additional analyses.

*"Learning is holistic and we need to focus on connectedness and relationships to oneself, family, community, language, culture, and the natural world."*

**–Participant, Indigenous education gathering in Tsaxis, Kwakwaka'wakw territory**[32]

# AVOIDABLE HOSPITALIZATIONS

| | | | |
|---|---|---|---|
| **INDICATOR** | Avoidable hospitalizations | | |
| **MEASURE** | Rate of avoidable hospitalizations per 10,000 population. | | |
| **SOURCE** | First Nations Client File | | |
| **BASELINE** | 78.0 per 10,000 population | **TARGET** | ↓ 15 per cent |

**Primary health care** typically constitutes a patient's first point of contact with the health system. In BC, primary health care services for First Nations are delivered by a variety of health professionals in several different settings. Health care workers that deliver primary care include physicians, nurses, nurse practitioners, midwives, psychologists, social workers, pharmacists, naturopaths, dietitians, counsellors, and rehabilitation therapists, and may also include Elders and traditional healers.[36] Primary care services are delivered through band-operated nursing stations and on-reserve health facilities, as well as through doctors' offices, regional health authority primary care units, urgent care facilities, and hospitals. Primary health care also includes home and community care services, public health services aimed at health promotion and disease prevention as well as rehabilitation and end-of-life care.[37]

When it is accessible, effective, equitable, and culturally safe, primary health care improves population health outcomes, increases patient satisfaction, and lowers total health care spending.[38] Quality primary health care is associated with lower rates of hospitalization and decreased use of emergency services.[39] It has also been found to be particularly effective in managing chronic conditions.[39] Due to complex determinants of health, the prevalence of many chronic conditions are disproportionately higher among First Nations compared to other residents in BC, including asthma, osteoarthritis, mood and anxiety disorders, and cardiovascular conditions, among others.[40]

For First Nations people in BC who have access to both traditional medicines and knowledge and the mainstream health care system, they must at times work to navigate these very different systems of health and healing together. The mainstream health care system, including physician's offices and hospitals, can be a place of first-hand or intergenerational trauma for First Nations people, with practices and policies that perpetuate institutional racism. Research shows that negative experiences when accessing care can result in patients avoiding medically necessary treatment for fear of receiving poor care, or to avoid a repeat of a negative experience.[41] These negative experiences continue to have lasting impacts on how First Nations people interact with the health care system. Data from the BC Ministry of Health's Health System Matrix database, published by the First Nations Health Authority (FNHA), have identified that, when compared to other residents of BC, Status First Nations residents are:

- Less likely to have a continuing relationship with a general practitioner.
- Less likely to access physician services.

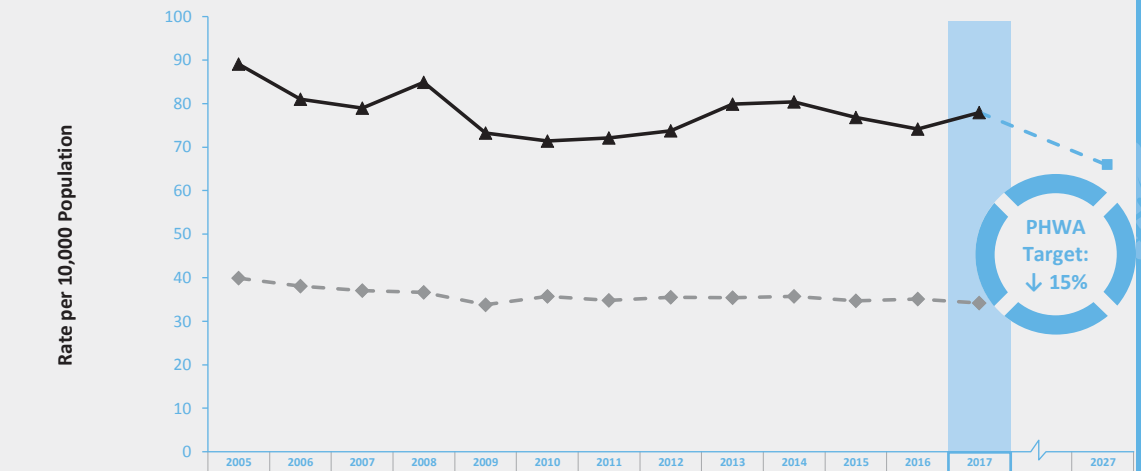
- More likely to use emergency departments for primary health care services.
- More likely to be living with chronic diseases.[40]

The indicator of avoidable hospitalizations is one of three ways that the PHWA will continue to monitor the experience of First Nations people within the BC health care system. Avoidable hospitalizations (also called "ambulatory care sensitive conditions") are admissions to hospital related to disease or conditions that can usually be well managed at home or in communities, and should not require hospitalization (e.g., complications due to diabetes, asthma, hypertension, neurosis, depression and abuse of alcohol or other drugs).[42] Although not all such hospitalizations can be avoided, higher than expected rates within a population or sub-population can indicate a gap or other issue with accessing quality timely primary health care services.[43] A disproportionately high rate of avoidable hospitalizations can indicate a problem in accessing primary health care or an issue with the appropriateness or effectiveness of that care. This measure does not include self-harm or interpersonal violence.

As shown in Figure 3.10, the rate of avoidable hospitalizations among Status First Nations has fluctuated during the years shown, but overall has declined slightly from 2005 to 2017. Despite this decline, the hospitalization rate was more than double that of Other Residents in 2017, and much more work is needed to decrease this rate. ***The target for this indicator for the next 10 years is to decrease the rate of avoidable hospitalizations per 10,000 population among First Nations by 15 per cent.***

FIGURE 3.10

**Rate of Avoidable Hospitalizations, Status First Nations and Other Residents, BC, 2005 to 2027**



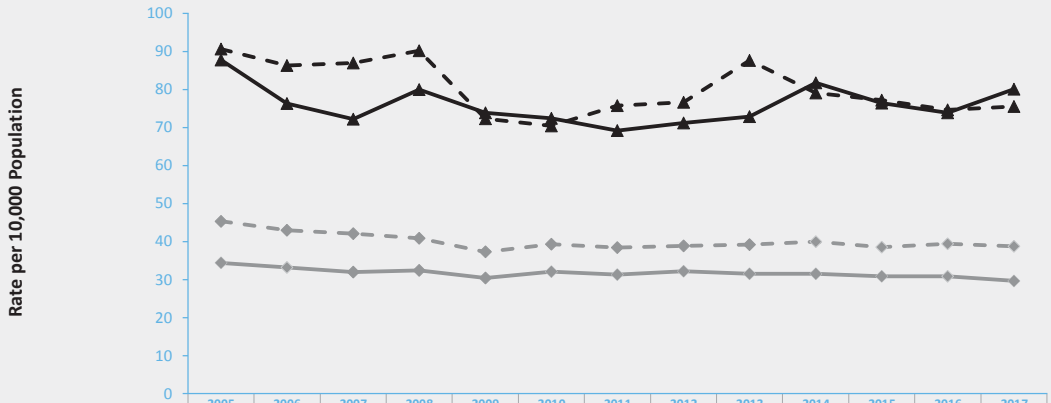

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | | 2027 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations - Rate | 89.1 | 81.0 | 78.9 | 84.9 | 73.3 | 71.4 | 72.1 | 73.8 | 79.9 | 80.4 | 76.8 | 74.2 | 78.0 | | |
| Other Residents - Rate | 39.9 | 38.1 | 37.0 | 36.6 | 33.8 | 35.7 | 34.8 | 35.5 | 35.4 | 35.7 | 34.7 | 35.1 | 34.2 | | |
| Status First Nations - Events | 966 | 910 | 917 | 995 | 868 | 893 | 919 | 956 | 1,052 | 1,062 | 1,028 | 1,015 | 1,090 | | |
| Target | | | | | | | | | | | | | 78.0 | | 66.3 |

Year

**Notes:** "Avoidable hospitalizations" are hospitalizations for long-term health conditions that can often be managed with timely and effective treatment in the community, without hospitalization. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE 3.11

## Rate of Avoidable Hospitalizations, Status First Nations and Other Residents, by Sex, BC, 2005 to 2017



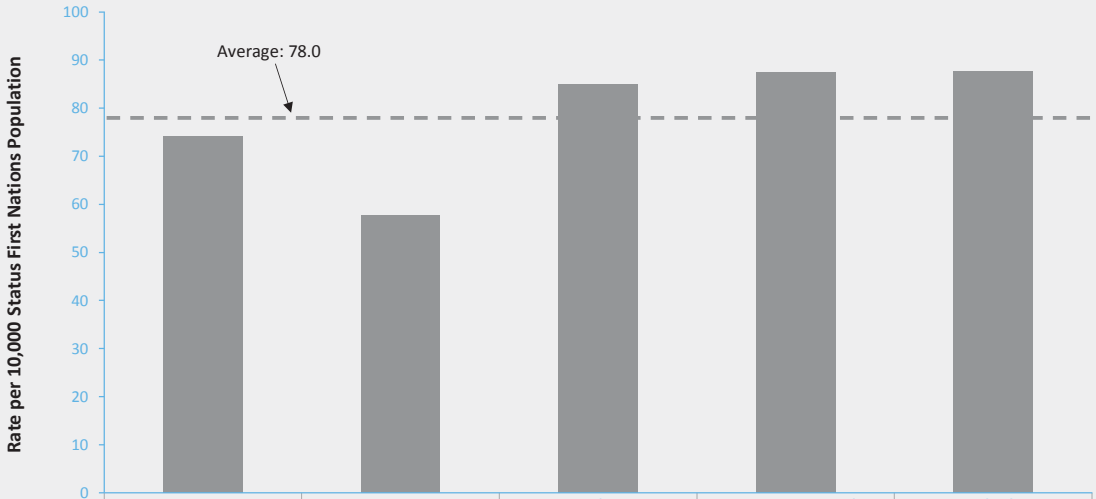

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations Females - Rate | 87.8 | 76.3 | 72.2 | 79.9 | 73.9 | 72.4 | 69.2 | 71.2 | 72.9 | 81.7 | 76.4 | 73.8 | 80.0 |
| Status First Nations Males - Rate | 90.6 | 86.3 | 87.0 | 90.2 | 72.3 | 70.4 | 75.8 | 76.7 | 87.7 | 79.1 | 77.1 | 74.7 | 75.5 |
| Other Residents Females - Rate | 34.4 | 33.2 | 31.9 | 32.4 | 30.4 | 32.1 | 31.3 | 32.2 | 31.5 | 31.5 | 30.9 | 30.8 | 29.7 |
| Other Residents Males - Rate | 45.3 | 43.0 | 42.1 | 40.9 | 37.2 | 39.3 | 38.3 | 38.9 | 39.2 | 39.9 | 38.5 | 39.4 | 38.7 |
| Status First Nations Females - Events | 499 | 444 | 447 | 482 | 455 | 473 | 468 | 479 | 493 | 562 | 531 | 526 | 579 |
| Status First Nations Males - Events | 467 | 466 | 470 | 513 | 413 | 420 | 451 | 477 | 559 | 500 | 497 | 489 | 511 |

Year

**Notes:** "Avoidable hospitalizations" are hospitalizations for long-term health conditions that can often be managed with timely and effective treatment in the community without hospitalization. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE 3.12

## Rate of Avoidable Hospitalizations, Status First Nations, by Health Authority, BC, 2017




| | Fraser | Interior | Northern | Vancouver Coastal | Island |
|---|---|---|---|---|---|
| Rate | 74.2 | 57.7 | 85.0 | 87.5 | 87.8 |
| Events | 150 | 171 | 307 | 199 | 260 |

Health Authority

**Notes:** "Avoidable hospitalizations" are hospitalizations for long-term health conditions that can often be managed with timely and effective treatment in the community without hospitalization. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. Health authority is based on the residence of the patient. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

As shown in Figure 3.11, the rate of avoidable hospitalizations per 10,000 population is nearly double the rate of Other Residents for both males and females. Additionally, the ongoing disparity between males and females among the Other Resident population is not reflected among First Nations.

As shown in Figure 3.12, the rate of avoidable hospitalizations among Status First Nations in 2017 varied by regional health authority area. The lowest rate was identified in Interior, at 57.7 per 10,000 population, and the highest rates were seen in Island (87.8 per 10,000) and Vancouver Coastal (87.5 per 10,000).

Overall, the results of this indicator should be considered a signal to improve the quality, cultural safety, accessibility, affordability and effectiveness of primary health care for First Nations in BC, including support for prevention and management of chronic conditions.

# CULTURAL SAFETY AND HUMILITY IN RECEIVING HEALTH SERVICES

| | | | |
|---|---|---|---|
| **INDICATOR** | Cultural safety and humility in the health care system | | |
| **MEASURE** | Percentage of First Nations people who report that their care provider was respectful of their culture and traditions. | | |
| **SOURCE** | First Nations Client File | | |
| **BASELINE** | Acute Care – 68.8 per cent<br>Emergency Dept – 69.5 per cent | **TARGET** | ↑ 25 per cent |

Respect for language, culture, and diversity has been a long-standing priority for BC First Nations. Feelings of trust, safety, and respect are essential for a healthy relationship between the patient and a health care provider, and for the effective functioning of the health care system. Evidence shows that healthy and respectful relationships with health care providers improve patient care quality and overall satisfaction when accessing care.[44] When the health care system is not culturally safe for First Nations people (e.g., when it perpetuates institutional racism), this situation harms First Nations people by denying access to appropriate assistance within the system, even if this assistance is physically or geographically available.

Quality health care for First Nations people includes receiving care in an environment that is culturally safe, from care practitioners who are respectful of their traditions, language, and culture, and where care is delivered in the spirit of cultural humility. Cultural safety is a concept developed by Māori nurse, Irihapeti Ramsden, in New Zealand as a tool for health care practitioners to move beyond cultural sensitivity to more actively address power imbalances brought on by social, historical, and political inequities.[45,46] It is an outcome of initiatives that address unequal power relationships in the health care system, eliminate racism and discrimination, and create an environment where people feel safe when receiving health care.[45] Cultural humility is an ongoing process of self-reflection wherein individuals seek to understand their personal and systemic conditioned biases in order to build relationships based on mutual trust, and to gain understanding of another's experiences.[45]

The focus of this indicator is to assess the self-reported experiences of the Status First Nations population of BC when receiving care. This measurement is derived from a question on a self-administered survey, asking patients whether the care provider was respectful of their culture and traditions. While ideally this would include every care setting within the health care system, this indicator focuses on two care settings for which data were available: **acute care** facilities and the emergency department. Acute care is commonly defined as treatment or care for a disease, illness, or condition for a short time period, with the intention to discharge patients as soon as they are healthy and stable enough (e.g., treating

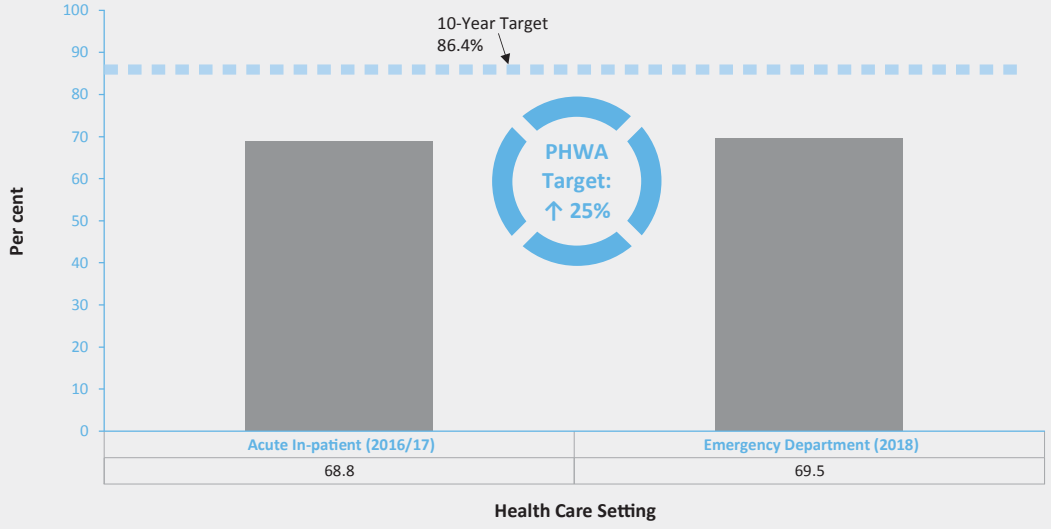
broken bones). It should be noted that this is a voluntary survey for patients in health care settings; First Nations patients with unsatisfactory or disrespectful experiences, or those who may have concerns about ongoing systemic racism, may be reluctant to participate or disclose Indigeneity, and therefore may be underrepresented in these data.

As shown in Figure 3.13, the percentages of Status First Nations patients in these two care settings reporting respectful care were similar in the most recent reporting years. As indicated here, 68.8 per cent of Status First Nations surveyed in acute care settings reported that their care provider was respectful of their culture and traditions, while 69.5 per cent reported the same experience in the emergency department. ***The target for this indicator for the next 10 years is to increase the percentage of First Nations patients in both survey settings reporting that their care provider was respectful of their culture and traditions, by 25 per cent.***

Additional analyses of these data show that there is some variation by region for the percentage of patients in the acute care and emergency department settings who reported that their care provider was respectful of their culture and traditions. Vancouver Coastal had the highest percentage of affirmative responses (74.6 per cent) in acute care settings, and Fraser had the highest (79.3 per cent) in emergency department settings. The lowest percentages for both care settings analyzed were found in the Northern region (acute care, 63.1 per cent; emergency department, 64.4 per cent). See Appendix D for additional analyses.

FIGURE 3.13

**Percentage of Patients in Acute In-patient Care (2016/17) and Emergency Department (2018), Reporting Care Provider Was Completely Respectful of Culture and Traditions, Status First Nations, BC**



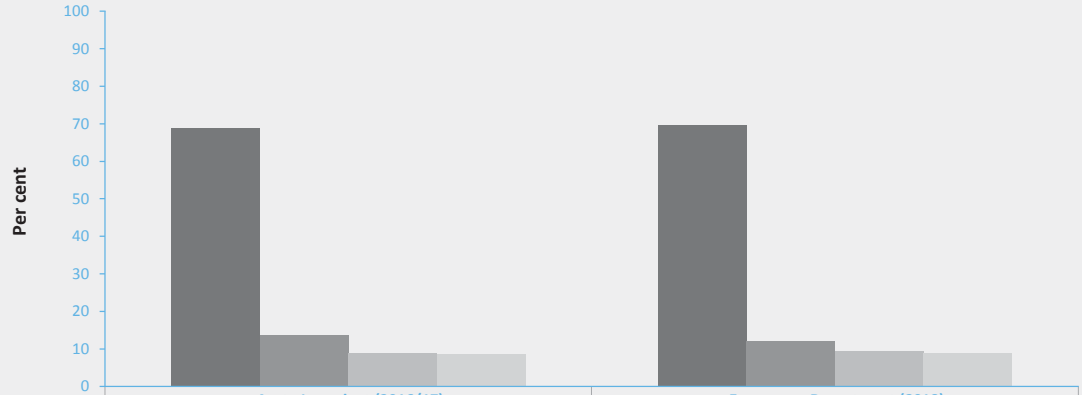

**Notes:** Respondents were asked if they felt that their care provider was respectful of their culture and traditions during their hospital stay (acute in-patient care) or during their emergency room visit. This analysis reports exclusively on those who felt that the hospital staff were completely respectful of their culture and traditions and excludes non-responses. See Appendix B for more information about these data sources.
**Sources:** British Columbia Patient-centred Measurement, Reporting and Improvement, 2016/17 Acute In-patient Care Survey, 2018 Emergency Department Visits Survey; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, July 2019.

The distribution of all survey response options for Status First Nations patients are displayed in Figure 3.14. It shows that less than 20 per cent of patients in each care setting reported that their care provider was either "not at all" or "partly" respectful of their culture and traditions. There is some concern that patients who had particularly negative experiences in the care setting may have declined to complete the care setting survey, and that the most underserved populations (e.g., those without a phone or permanent address) are underrepresented due to data collection methodologies (see Appendix B for more information).

There is currently a wide range of initiatives underway at individual, institutional, and systemic levels that may assist in increasing the percentage of Status First Nations peoples who report positive experiences of cultural safety in these health care settings. FNHA has been a leader in developing a common vision, language, and framework that guides health system transformation, addresses systemic racism, and promotes culturally safe services through the incorporation of cultural humility.[47] This has initiated a system-wide movement in BC and beyond, captured in a series of *Declarations of Commitment* to advance cultural safety and humility, signed by the BC Ministry of Health, health authorities, the BC Ministry of Mental Health and Addictions, the BC Coroners Service, Health Canada, Indigenous Services Canada, the Public Health Agency of Canada, and all 23 health regulatory bodies in BC, among others.[48]

FIGURE 3.14

**Percentage of Patients in Acute In-patient Care (2016/17) and Emergency Department (2018), Reporting Care Provider Was Completely Respectful of Culture and Traditions, by Response Category, Status First Nations, BC**




| | Acute In-patient (2016/17) | Emergency Department (2018) |
|---|---|---|
| Completely | 68.8 | 69.5 |
| Quite a Bit | 13.7 | 12.2 |
| Partly | 8.9 | 9.4 |
| Not At All | 8.6 | 8.9 |

**Health Care Setting**

**Notes:** Respondents were asked if they felt that their care provider was respectful of their culture and traditions during their hospital stay (acute in-patient care) or during their emergency room visit. This analysis is based on weighted survey responses. It excludes non-responses. See Appendix B for more information about these data sources.
**Sources:** British Columbia Patient-centred Measurement, Reporting and Improvement, 2016/17 Acute In-patient Care Survey, 2018 Emergency Department Visits Survey; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, July 2019.

*“Cultural humility and cultural safety in the health system requires health professionals to acknowledge they are always on a journey of learning, and being open to listening to what better care means for First Nations and Aboriginal peoples. We all need to acknowledge, ‘it starts with me’.”*

– **Dr. Evan Adams (Tlesla II), Tla’amin Nation; Chief Medical Officer, First Nations Health Authority**[45]

Many of the organizations that have committed to enhancing cultural safety and humility have undertaken initiatives related to education and training. In fiscal year 2010/11, the Provincial Health Services Authority launched a training program designed to educate health care practitioners and others who work with Indigenous peoples in BC, now called the San’yas Indigenous Cultural Safety Training.[49] The training is designed to provide a deeper level of cultural awareness and understanding of the legacies of colonialism and to enhance Indigenous peoples’ experiences of cultural safety and humility.[50] Since its launch up to September 23, 2019, a total of 40,004 people in BC have completed this training.[49] Since the figures provided in this section do not show trends over time, it is not possible to determine if patient experiences have improved since these programs were introduced. Some health authorities and other organizations offer supplemental training and education programs to enhance the experience of San’yas and support continuous learning.

# FIRST NATIONS HEALTH CARE PROVIDERS

| | | | |
|---|---|---|---|
| **INDICATOR** | The number of certified, practicing First Nations health care providers in BC | | |
| **MEASURE** | The number of registered First Nations physicians in BC. | | |
| **SOURCE** | College of Physicians and Surgeons of BC | | |
| **BASELINE** | 0.32 per cent of BC population | **TARGET** | ↑ 100 per cent |

A strong First Nations workforce in health care settings supports self-determination. Recruitment and retention of First Nations and other Indigenous professionals is a key part of reconciliation. If done as a complement to dismantling systemic racism in the health care system, then increasing the number and proportion of Indigenous health care professionals in BC can help Indigenous people to feel heard and feel more culturally safe in engaging with the health care system.[51] Increasing the representation and influence of First Nations and other Indigenous people in the health system also offers more meaningful and accessible choices regarding who First Nations can work with to support their health and wellness. Practicing First Nations health professionals carry the historical and cultural knowledge that enables them to provide more culturally appropriate care for First Nations and Indigenous patients.[45] First Nations health professionals can also influence their non-Indigenous colleagues and the broader health system about other ways of understanding and supporting health and wellness, with the potential to initiate impactful changes to institutional policy, programs, training, and services.

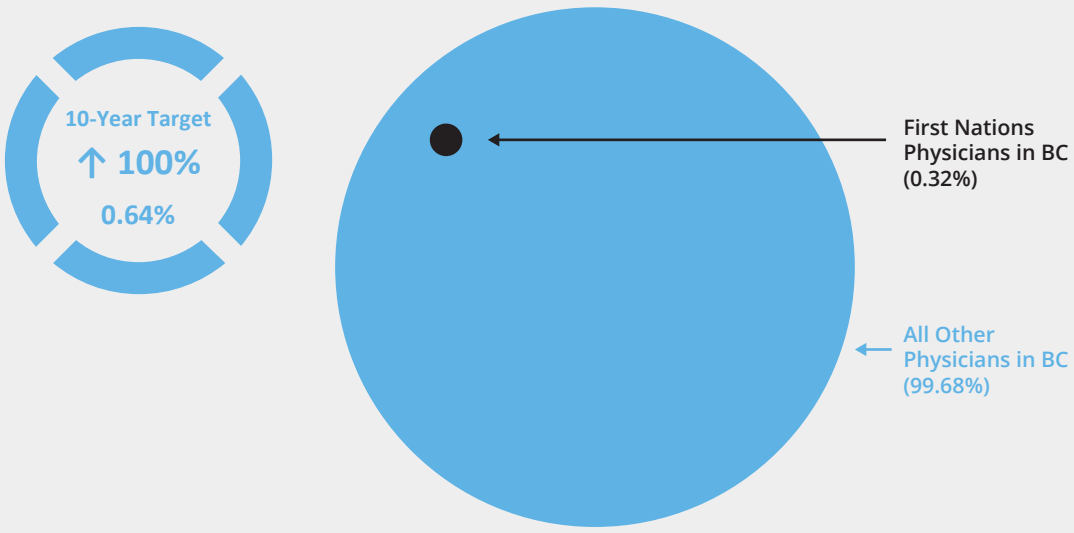
One target of the first 10-year reporting period under the *Transformative Change Accord: First Nations Health Plan* was to develop a baseline and ongoing mechanism to monitor the number of certified, practicing health care professionals in BC who are First Nations. These data were either not collected or not collected consistently enough by some health care regulators in order to report on during the first 10 years. However, through the partnership between FNHA and the BC College of Physicians and Surgeons, a self-identifier was added to the annual BC licence renewal process with the BC College of Physicians and Surgeons in January 2019. Plans are underway for all regulatory colleges to collect these data to better understand the number of First Nations health care professionals in BC and their field of care. Until more comprehensive data are available, the PHWA will rely on data that focus on First Nations practitioners; therefore, the indicator is currently specific to the number of certified, practicing First Nations physicians in BC.

The results of the first round of data collection for 2019 is presented in Figure 3.15 and additional analyses are presented in Appendix D. Figure 3.15 shows that of the 13,263 physicians who registered or renewed their licence with the BC College of Physicians and Surgeons, 43 who identified as First Nations. It also shows that this equates to a fraction of a per cent (0.32 per cent) of licensed physicians in BC being First Nations. While a longer-term goal is to increase this proportion to reflect the proportion of First Nations people in the BC population (3.8 per cent in 2016)[52], ***the target for this indicator for the next 10 years is to increase the percentage of practicing certified First Nations physicians by 100 per cent.***

The recruitment and retention of First Nations to be health care practitioners continues to be a priority in the BC Ministry of Health's Provincial Workforce Strategy.[53] In future interim reports for the PHWA, it may be possible to collect and provide similar data from other regulatory colleges in BC, as well as provide data regarding Indigenous students graduating from health services and pre-medical degrees, and medical schools.

FIGURE 3.15

**Percentage of Practicing, Certified First Nations Physicians, BC, 2019**




**Notes:** Self-identified Indigenous Status disclosed during registration of licensing for independent practice. The denominator is represented by a total of 13,263 practicing, certified physicians in BC (all ethnicities). There were a total of 99 practicing, certified Indigenous physicians, of whom 43 were identified as Status First Nations. See Appendix B for more information about these data sources.
**Sources:** College of Physicians and Surgeons of British Columbia, 2019 Annual Licensure Renewal Form (number of practicing, certified physicians); Statistics Canada, Aboriginal Population Profile, 2016 Census, Catalogue no. 98-510-X2016001, released July 2018 (First Nations people as percentage of BC population). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

*“Working as an Indigenous health care professional can be extremely rewarding. While I don’t necessarily disclose details of my personal life to my patients, when they meet me and know that I’m First Nations, there’s something that goes unspoken, something that’s intuitive – that I have somehow suffered too and have a sense of empathy and understanding. It seems to be easier to develop a sense of mutual trust and rapport, and health care encounters seem to develop into partnerships in a culturally safe way. I was also happy to be visible in the communities I worked in – showing the youth that it is possible to become a doctor who is First Nations. If you can’t see yourself in a role or career, you’ll never set a goal to achieve it. I always say to youth that you are only limited by the extent of your imaginations and working as a physician in community is one way to expand the imaginations of the young people.”*

**– Dr. Nel Wieman, Anishnawbe, Little Grand Rapids First Nation; President of the Indigenous Physicians Association of Canada (IPAC), and Deputy Chief Medical Officer, First Nations Health Authority**

## CONCLUSION

Colonialism has eroded First Nations systems of education, housing, food, and health and healing. This has given rise to barriers and systems that are racist and exclusionary, and as a result, are not fully meeting the needs of First Nations people. This chapter explored social and structural determinants of health that either promote or undermine the health and wellness of First Nations peoples, including three socio-economic determinants of health and three measures for assessing the health care system. Data presented here showed that food insecurity and acceptable housing are still of concern for First Nations in BC, while education (graduation rates) are high and still increasing. Health care system measures show some variability – although the avoidable hospitalization rate has been declining for Status First Nations in BC, it is still more than double that of other residents. Acute and emergency care settings are indicating relatively high levels of cultural safety and humility; however, those who declined to participate in the survey because they had negative experiences receiving care are not reflected in the data. Much more work is needed to increase the number and proportion of certified physicians in BC who are First Nations. Ensuring that the health care system is representative of the population it serves is an essential component of self-determination, reconciliation, and cultural safety for First Nations in the health care system. A focus on supportive systems will result in environments where First Nations individuals, families, and communities can lead their health and wellness journeys.

*A focus on supportive systems will result in environments where First Nations individuals, families and communities can lead their health and wellness journeys.*

FNHA STAFF MEMBERS PARTICIPATE IN A WALK WITH YOUR DOC EVENT IN SQUAMISH TERRITORY.

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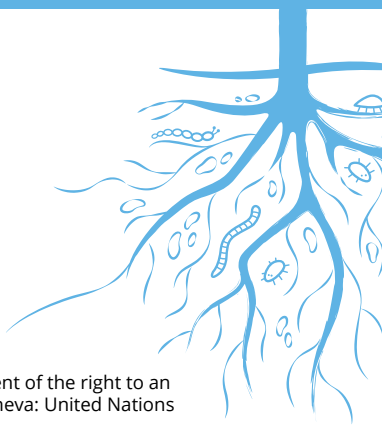


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PHOTO TAKEN AT GITANMAAX HEALTH AND WELLNESS CENTRE.

## CHAPTER 4

# HEALTHY, VIBRANT CHILDREN AND FAMILIES

Achieving the vision of healthy, vibrant, self-determining individuals, families, and communities requires well-nourished roots of wellness, including self-determination, connection to land, and cultural wellness. Once systemic barriers to wellness have been removed and supportive systems created, the health and wellness of individuals, families, and communities can flourish. This chapter explores select health and wellness outcomes: healthy beginnings (babies, children, and youth) are explored through the indicators of healthy birth weights, infant mortality, children's oral health, childhood weights, and youth/young adult deaths by suicide. Family health is explored through the indicators of mental health and wellness, physical activity, use of commercial tobacco, diabetes, and serious injuries. People living long healthy lives is explored through the indicators of life expectancy, age-standardized mortality, and alcohol-related deaths.

First Nations honour the sacred link between generations.[1] For First Nations, children are considered gifts from the Creator and their care is a highly valued and sacred responsibility.[2] Of equal importance are youth, young adults, family, extended family, and community. Elders and older people are treated with utmost respect and hold an important role in sharing wisdom, traditional values, and teachings.[3]

# INFANTS BORN AT A HEALTHY BIRTH WEIGHT

| | | | |
|---|---|---|---|
| **INDICATOR** | Infants born at a healthy weight | | |
| **MEASURE** | Percentage of singleton babies born at a healthy birth weight for their sex and gestational age. | | |
| **SOURCE** | First Nations Client File | | |
| **BASELINE** | 73.4 per cent | **TARGET** | ↑ 10 per cent |

The health of a newborn baby reflects the health and wellness of both the infant and the mother.[4] A healthy infant can be an indication that a mother experienced appropriate, culturally safe, and respectful social, health, emotional, and financial supports during her pregnancy. The health of the mother and her child is also strongly influenced by determinants of health, such as adequate food, housing, employment, education level, and environmental exposure.[4] Births are considered significant events across all societies; for First Nations people, the opportunity to love, protect, and care for babies is a sacred gift.[5]

A **healthy birth weight** is between 2,500 and 4,000 grams (or between approximately 5 pounds 8 ounces and 8 pounds 13 ounces), without considering gestational age. **Low birth weight** refers to those born weighing less than 2,500 grams, while **high birth weight** refers to those born weighing more than 4,000 grams. Using the measure of **healthy birth weight for sex and gestational age** accounts for the different sizes expected as an infant develops in utero. Traditional measures (low and high birth weights) do not consider these important factors. For this indicator, healthy birth weight is defined as a live singleton birth weighted between the 10th and 90th percentile for a specific sex and gestational age. Infants from multiple births (twins or triplets) typically have lower birth weights,[6] so data for this indicator represent only single births and do not reflect multiple births (e.g., twins or triplets).

Many babies who are born small for gestational age (i.e., born with a weight below the 10th percentile) catch up on their growth,[7] but can have increased risks for illnesses such as hypoglycemia and for slow physical development. There are a variety of risk factors that can lead to babies being small for gestational age (SGA), such as malnutrition of the mother, or the mother's high blood pressure, or use of alcohol, tobacco, or other drugs. SGA can also be due to issues with the uterus or placenta, such as infection or decreased blood flow, or problems with the fetus, such as chromosomal defects.[8]

Babies who are large for gestational age (i.e., born with a weight higher than the 90th percentile) are at increased risk for breathing problems, hypoglycemia, and an excess of red blood cells that can put a strain on the liver and lead to jaundice. Babies who are large for gestational age are also at risk of injury

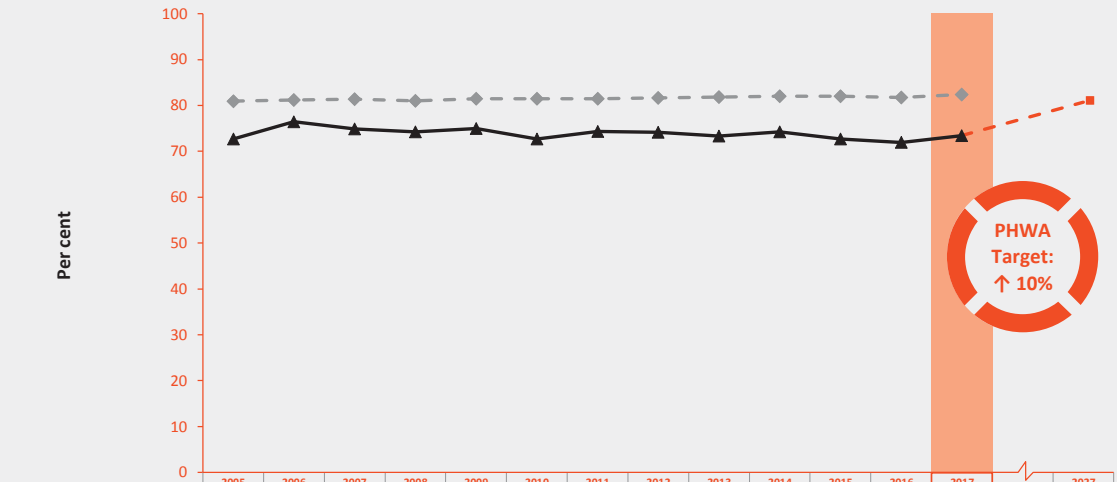
during birth (e.g., collar bone breakage, nerve damage in arms). Maternal diabetes is the most common cause of babies born large for gestational age, because high blood sugar in the mother causes the fetus to create increased insulin, which can lead to rapid growth and fat deposits.[8,9]

Figure 4.1 presents the percentage of live births in BC where the infant was born at a healthy birth weight for sex and gestational age. It shows that for First Nations newborns, while there has been year-to-year variability, there has not been a substantial change from 2005 to 2017. Other Resident infants have experienced a slight improvement in this measure, resulting in the gap increasing between these populations. ***The target for this indicator for the next 10 years is to increase the percentage of healthy birth weights among singleton First Nations infants by at least 10 per cent.***[f]

Additional analyses of these data show that among Status First Nations infants born in 2017, the regional population with the highest percentage of infants born at a healthy birth weight was in the Interior region, while the lowest percentages were found in the Northern and Vancouver Coastal regions. (See Appendix D for additional analyses.)

FIGURE 4.1

**Percentage of Singleton Live Births at Healthy Birth Weight for Gestational Age and Sex, Status First Nations and Other Residents, BC, 2005 to 2027**



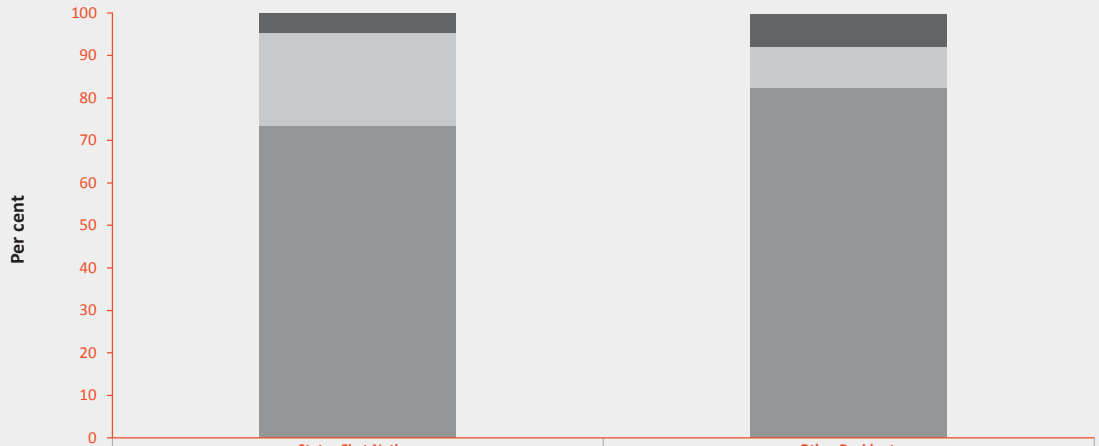

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | | 2027 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations - Per cent | 72.7 | 76.5 | 74.9 | 74.2 | 74.9 | 72.6 | 74.4 | 74.2 | 73.3 | 74.2 | 72.7 | 71.9 | 73.4 | | |
| Other Residents - Per cent | 80.9 | 81.2 | 81.3 | 81.0 | 81.4 | 81.4 | 81.5 | 81.6 | 81.9 | 82.0 | 82.0 | 81.7 | 82.4 | | |
| Status First Nations - Count | 1,667 | 1,779 | 1,839 | 1,839 | 1,772 | 1,705 | 1,674 | 1,719 | 1,600 | 1,601 | 1,558 | 1,534 | 1,474 | | |
| Target | | | | | | | | | | | | | 73.4 | | 80.7 |

**Notes:** "Healthy birth weight" means the birth weight of a singleton live birth was between the 10th and 90th percentiles for the infant's gestational age and sex. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

f Due to an issue in timely identification of Status First Nations infants in provincial datasets, some infants who are Status First Nations may be included in Other Residents data. This impacts all figures related to this indicator. See Appendix B for more information.

FIGURE 4.2

## Percentage of Singleton Live Births, Status First Nations and Other Residents, by Weight for Gestational Age and Sex, BC, 2017




| | Status First Nations | Other Residents |
|---|---|---|
| Small - Per cent | 4.5 | 7.8 |
| Large - Per cent | 22.0 | 9.7 |
| Healthy - Per cent | 73.4 | 82.4 |
| Small - Count | 90 | 3,198 |
| Large - Count | 441 | 3,987 |
| Healthy - Count | 1,474 | 33,798 |

**Notes:** "Healthy birth weight" means the birth weight of a singleton live birth was between the 10th and 90th percentiles for the infant's gestational age and sex. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

Figure 4.2 presents the live births among Status First Nations and Other Residents according to gestational weight category. This figure shows that these two populations experience different challenges. Status First Nations infants are less likely to be born small for gestational age than their Other Resident counterparts; instead, they are more likely to be born large for gestational age. This is consistent with findings presented in a previous Provincial Health Officer's (PHO) report, as well as national findings.[10,11]

Overall, most Status First Nations infants are being born at a healthy weight for gestational age and sex, but more support for expectant mothers and families in all regions of BC could help to reduce the percentage of Status First Nations infants born at a high birth weight. See Appendix D for additional analyses.

An FNHA Children's Oral Health Initiative Staff Member meets with a family at Gitanmaax Health and Wellness Centre.

*"When our babies are well, we will know that our people are well."*

**– Grand Chief Doug Kelly, Stó:lō Nation**

# INFANT MORTALITY

| | | | |
|---|---|---|---|
| **INDICATOR** | Infant mortality rate | | |
| **MEASURE** | Rate of infants who die within 365 days of birth, calculated as a 5-year aggregate, expressed as a rate per 1,000 live births. | | |
| **SOURCE** | First Nations Client File | | |
| **BASELINE** | 5.8 per 1,000 live births | **TARGET** | ↓ 30 per cent |

This indicator attempts to measure one of the deepest tragedies that can befall parents, families, and communities. The telling of this story is done with reverence and care and acknowledges the grief and suffering that follows the death of an infant. Monitoring the rate of infant mortality[g] is a commonly used public health tool that can indicate the health of the broader population. This measure was originally introduced in the *Transformative Change Accord: First Nations Health Plan* (TCA:FNHP) and will continue to be monitored in the Population Health and Wellness Agenda (PHWA) to provide longitudinal monitoring.

In many First Nations cultures in BC, infants are seen as sacred gifts, and parents are entrusted with the spirit of the child.[12] Any infant death is challenging for families and communities. When a baby dies suddenly, cultural teachings can help First Nations people through the grieving process. Babies are considered innocent when they pass away; although the infant is gone, the spirit remains, as does its gift of unconditional love.[13]

While some causes of infant mortality cannot be prevented, there are actions that can be taken at the health systems level to reduce the risk of infant mortality. In BC, newborns can be screened for two dozen treatable conditions that are associated with sudden and unexpected deaths, growth deficiencies, and other health problems.[14] Pregnant women can also be immunized against vaccine-preventable diseases (e.g., influenza and pertussis) to protect babies from developing illnesses until they are old enough or large enough to receive immunizations themselves.[15] Parents can be advised about safe sleep practices, such as placing babies on their backs and ensuring the baby has a tobacco-free environment, to prevent sleep-related deaths.[5]

The health of infants is also closely linked with the health of mothers. **Maternal health** refers to a woman's mental, emotional, and physical health while she is pregnant, through childbirth, and during the postpartum period.[16] Conditions of the pregnancy and birth, and fetal development also impact the

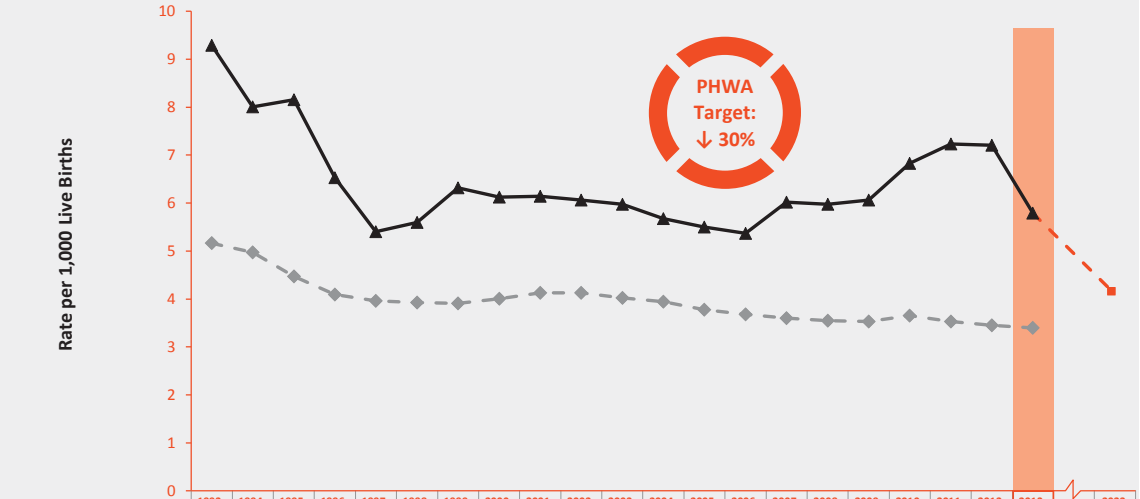
g Infant mortality measures the number of infants who die in the first year of life, expressed as a rate per 1,000 live births.

health of the infants, and can be risk factors associated with infant mortality, such as the age of the mother, birth weight of the infant, gestational age at birth, and multiplicity (i.e., singleton, twin, or triplet birth). Data for this indicator represent only single births and do not reflect multiple births (e.g., twins or triplets).

Figure 4.3 shows that since the last TCA:FNHP interim update, there has been a successful reduction in infant mortality among Status First Nations in BC.[h] Despite the decrease in the most recent time period, the gap between the Status First Nations population and the Other Residents population has increased overall due to an increase in the rate between 2006-10 and 2012-16 for Status First Nations, and a corresponding slow decrease in the rate for Other Residents in the same time period. The steep decline in the most recent time period may be due to the volatility associated with small numbers and will continue to be monitored, but overall, the trend indicates that the gap may be starting to narrow between these populations. ***The target for the next 10 years for this indicator is to decrease infant mortality among First Nations infants by at least 30 per cent.***

**FIGURE 4.3**

**Infant Mortality Rate, Status First Nations and Other Residents, BC, 1993-97 to 2023-27**




| | 1993-97 | 1994-98 | 1995-99 | 1996-00 | 1997-01 | 1998-02 | 1999-03 | 2000-04 | 2001-05 | 2002-06 | 2003-07 | 2004-08 | 2005-09 | 2006-10 | 2007-11 | 2008-12 | 2009-13 | 2010-14 | 2011-15 | 2012-16 | 2013-17 | | 2023-27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations - Rate | 9.3 | 8.0 | 8.2 | 6.5 | 5.4 | 5.6 | 6.3 | 6.1 | 6.1 | 6.1 | 6.0 | 5.7 | 5.5 | 5.4 | 6.0 | 6.0 | 6.1 | 6.8 | 7.2 | 7.2 | 5.8 | | |
| Other Residents - Rate | 5.2 | 5.0 | 4.5 | 4.1 | 4.0 | 3.9 | 3.9 | 4.0 | 4.1 | 4.1 | 4.0 | 3.9 | 3.8 | 3.7 | 3.6 | 3.6 | 3.5 | 3.6 | 3.5 | 3.5 | 3.4 | | |
| Status First Nations - Deaths | 128 | 109 | 108 | 84 | 67 | 68 | 76 | 74 | 75 | 75 | 75 | 72 | 70 | 68 | 75 | 73 | 72 | 79 | 81 | 79 | 61 | | |
| Target | | | | | | | | | | | | | | | | | | | | | 5.8 | | 4.1 |

Years

**Notes:** "Infant mortality rate" is the number of infants who die in the first year of life, expressed as a rate per 1,000 live births. The infant mortality rate is assigned to the year of the child's birth. Rates for Other Residents infants might be overestimated due to Status First Nations identification issue in the data. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

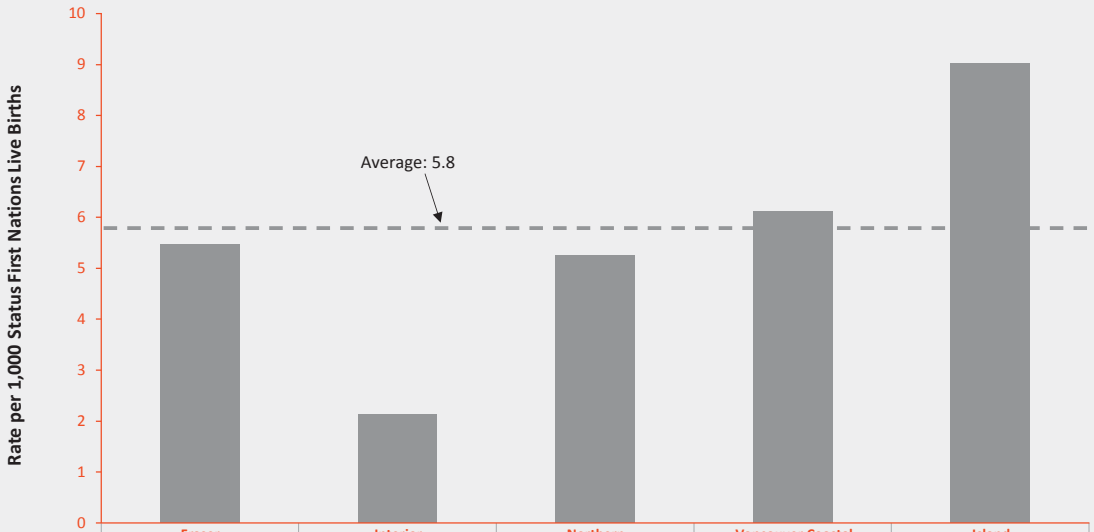
h As identified in the Healthy Birth Weights section, due to an issue in timely identification of Status First Nations infants in provincial datasets, some infants who are Status First Nations may be included in Other Residents data. This impacts all figures related to this indicator. See Appendix B for more information.

Figure 4.4 presents the infant mortality rate per 1,000 live births among Status First Nations in 2013-17 by health authority. This figure shows that the Interior region has the lowest infant mortality rate for Status First Nations in BC (2.1 per 1,000 live births), while the Island region has the highest (9.0 per 1,000 live births).

The BC Ministry of Health, First Nations Health Authority (FNHA), and their partners are engaged in several initiatives designed to protect and support First Nations infants who are less than 12 months of age. For example, the Doulas for Aboriginal Families Grant Program is available to help Indigenous women have a dedicated support person with them during pregnancy, birth, and the postpartum period, even if they are outside of their home community or away from family. This program is delivered by the BC Association of Aboriginal Friendship Centres, with support from the BC Ministry of Health and FNHA, and provides up to a maximum of $1,000 in coverage for birth and postpartum doula services.[17]

FIGURE 4.4

**Infant Mortality Rate, Status First Nations, by Health Authority, BC, 2013-17**




**Notes:** "Infant mortality rate" is the number of infants who die in the first year of life, expressed as a rate per 1,000 live births. The infant mortality rate is assigned to the year of the child's birth. Rates for Other Residents infants might be overestimated due to Status First Nations identification issue in the data. Small numbers (≤10) have been suppressed. Health authority is based on the residence of the deceased. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

# CHILDREN'S ORAL HEALTH

| | | | |
|---|---|---|---|
| **INDICATOR** | Children with healthy teeth | | |
| **MEASURE** | Percentage of Indigenous kindergarten children who are cavity free. | | |
| **SOURCE** | BC Ministry of Health | | |
| **BASELINE** | 45.7 per cent | **TARGET** | ↑ 40 per cent |

Oral health is an important aspect of overall health and well-being. Children with healthy teeth can fully engage in all aspects of everyday living without oral pain, embarrassment, sleep disruption, or discomfort. Childhood caries (cavities) can lead to pain, trouble eating, and trouble sleeping; can affect speech; and can lower self-esteem.[18] Prevention of **caries** in childhood also reduces the number of dental caries over the life course.[19] The oral health of First Nations people is linked to several determinants of health, including income and education.[20] Access to dental services can be a challenge for First Nations people living in rural or remote areas. Dental health assessments and interventions of any kind can also be triggering and potentially re-traumatize families who experienced incredibly harmful interactions with health providers through the residential school system and other colonial experiences. However, many First Nations have stories of healing, strength, and resilience in the face of their experiences of trauma as well as positive relationships and interactions with their health providers (see Connie Paul's story).

This indicator defines healthy teeth as those that have no evidence of visible decay, broken enamel, or existing restorations or treated decay, based on visual inspection. This indicator has been chosen to help monitor one aspect of supporting First Nations children to live at their full potential in BC. This measure uses data collected in the BC Ministry of Health Dental Survey, which is a visual inspection of kindergarten children's mouths conducted by certified dental hygienists and certified dental assistants in public schools, independent schools, or public health settings.[18] The 2015/16 survey included data from 3,363 Indigenous children,[i] which is 89.8 per cent per cent of estimated Indigenous students enrolled.[188]

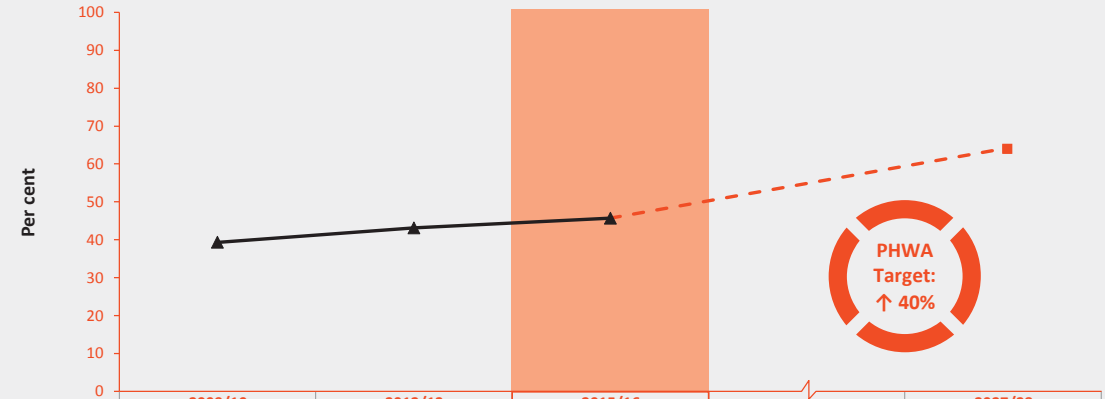
i In this indicator, Indigenous status was based on parent or guardian identification of a child's heritage during school enrolment. The process and terminology currently used by the Ministry of Education at the time of school registration, is to ask each child's parent or guardian if the child identifies as having Aboriginal ancestry. This can include status and non-status First Nations, Métis, and Inuit ancestry; as such, in this report descriptions of this indicator diverge from their source and use the term Indigenous. For more information, see Appendix B.

Children's Oral Health Initiative, Gitanmaax Health and Wellness Centre.

As shown in Figure 4.5, less than half (45.7 per cent) of Indigenous kindergarten children screened in BC were seen to have no visible decay in 2015/16, which is an improvement from previous survey years. ***The target for this indicator for the next 10 years is to increase the proportion of Indigenous children with healthy teeth by 40 per cent.***

FIGURE 4.5

**Percentage of Indigenous Kindergarten Children with No Visible Dental Decay, BC, 2009/10 to 2027/28**




| | 2009/10 | 2012/13 | 2015/16 | | 2027/28 |
|---|---|---|---|---|---|
| Per cent | 39.3 | 43.1 | 45.7 | | |
| Count | 953 | 1,455 | 1,532 | | |
| Target | | | 45.7 | | 64.0 |

School Year

**Notes:** This analysis identifies children between the ages of 4 and 6 with "no visible dental decay" (no broken enamel and no existing restorations) based on a visual inspection of the child's teeth. It includes all public schools, independent schools, and First Nations schools. The term "Indigenous" is used for this indicator in alignment with the terminology used in this report. This is different than the BC Ministry of Education process by which families, at the time of school registration, can self-identify as having Aboriginal ancestry. This can include Status and non-Status First Nations, Métis, and Inuit ancestry. See Appendix B for more information about this data source.
**Source:** BC Dental Survey of Kindergarten Children, 2009/10 - 2015/16, BC Ministry of Health. Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, February 2019.

# MY DAD'S UNBELIEVABLE STORY, UNTOLD BY HIM (EXCERPT)[91]

## Connie Paul (Teltitelwel/Yetta), Tsartlip First Nation; Registered Nurse and Home Care Coordinator

"Mr. Paul, no disrespect, but I need to take the dental history of what happened to you. This will assist in the medical management of your care. It is just that I recognized that there has been significant trauma and scarring along your gums. Can you tell me to the best of your knowledge what happened?"

My dad studied the man across the desk, wearing his suit, tie, and polished shoes, with his white walled office with one family picture. I looked at him, sized him up. Would I tell him or would I avoid telling him? It was a fair question. My dad decided to tell him.

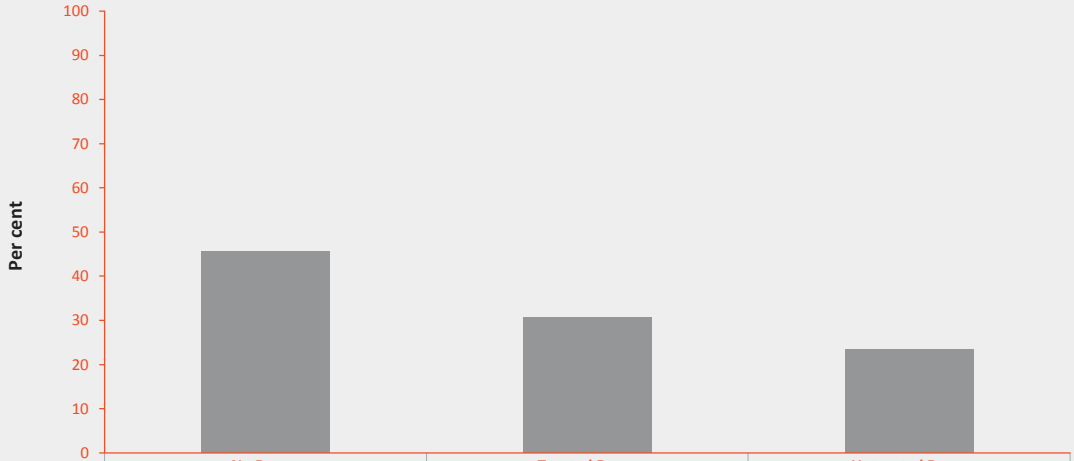
"First, I want you to know that I do not want pity. I do not want any emotional looks. I will tell you what happened. I was brought to Kuper Island Indian residential school. I was eleven when it happened. A dentist come in, examined my mouth, then later I was brought into another room. My ankles were buckled, then my arms, then my chest, then my forehead. It was a damn good thing because when they opened my mouth, every single tooth was pulled in one sitting. Nothing was given for freezing. My face swelled, my eyes swelled, and God bless my sister Cecelia, she gave me water. Weeks passed and my mouth got rotten. I was taken back to that chair. There was no fight left in me; I was too weak. And the dentist pinched off all the rotten gums. I remember becoming so skinny, but I lived. I survived."

My dad looked at me "Stop that, stop that crying now. You have nothing to cry about."

I held back my grief, anger, my questions. I wiped the tears from my face. And my dad went back to his story. "Today, I have never been able to eat solid food; all my food has to be soft. No matter how much polident paste I use inside my dentures. I cannot chew anything hard or even semi hard. If I try my gums break down and then I'm on an even softer diet." It was a sudden realization, that's right; everything he ate was mashed, soft, without body. To my knowledge, this surgeon corrected this for my dad. And during the last 10 years of his life he was able to enjoy foods that he could chew. He never did talk to me about what happened to him. He never talked about pain. He taught us that trauma can cause you to be either resilient or weak. You make your own choice. You make your own luck. People have to heal with dignity or they will not heal at all. It's been 20 years since my dad is gone but the river still runs through us.

FIGURE 4.6

## Percentage of Indigenous Kindergarten Children With Visible Dental Decay, by Status of Decay, BC, 2015/16




| | No Decay | Treated Decay | Untreated Decay |
|---|---|---|---|
| Per cent | 45.7 | 30.7 | 23.6 |
| Count | 1,537 | 1,034 | 792 |

Decay Status

**Notes:** This analysis identifies children between the ages of 4 and 6 with "no visible dental decay" (no broken enamel and no existing restorations) based on a visual inspection of the child's teeth. It includes all public schools, independent schools, and First Nations schools. The term "Indigenous" is used for this indicator in alignment with the terminology used in this report. This is different than the BC Ministry of Education process by which families, at the time of school registration, can self-identify as having Aboriginal ancestry. This can include Status and non-Status First Nations, Métis, and Inuit ancestry. See Appendix B for more information about this data source.
**Source:** BC Dental Survey of Kindergarten Children, 2015/2016, BC Ministry of Health. Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, February 2019.

Additional analyses of these data indicate that Indigenous children in the Fraser and Interior regions were more likely to have healthy teeth than children in other regions (see Appendix D).

Figure 4.6 presents the levels of decay identified during the dental survey of Indigenous kindergarten children in 2015/16. It indicates that more support is needed to address untreated dental caries, as well as to prevent dental caries from forming. This figure also shows that nearly one-third of children surveyed had caries but had received dental care to treat them.

BC is poised to leverage these successes in Indigenous children's oral health and further increase the percentage of those without visible tooth decay. Dental care in Canada is primarily provided through a private practice fee-for-service model. Eligible services are available through the Non-Insured Health Benefits Program (Health Benefits) for First Nations people. In 2016 there were 17,922 eligible clients age 0–9 registered with Health Benefits.[21] In 2014 FNHA released *Healthy Smiles for Life: BC's First Nations and Aboriginal Oral Health Strategy* to guide oral health initiatives. FNHA delivers the Children's Oral Health Initiative for children 0–7, which provides fluoride varnish, caries risk assessment, sealants, temporary fillings, and education to children and families through a model focused on community engagement, with the goal of preventing tooth decay.[19]

# HEALTHY CHILDHOOD WEIGHTS

| | | | |
|---|---|---|---|
| **INDICATOR** | Healthy childhood weights | | |
| **MEASURE** | Percentage of First Nations children age 2–11 who have a healthy/moderate body mass index. | | |
| **SOURCE** | First Nations Regional Health Survey | | |
| **BASELINE** | 30.5 per cent | **TARGET** | ↑ 30 per cent |

Children's health and well-being can be measured using a wide range of tools, such as developmental milestones, healthy behaviours, and family relationships. Monitoring of growth is one important measure of physical health for children age 2–11. Healthy weights is one way to monitor healthy growth, and body mass index (BMI) is one tool available to calculate and report on children's body weight status.[22] Childhood weight reflects many factors affecting growth and development, including individual and interpersonal, environmental (land, community, home, sociocultural, and built), societal, and historical factors—all play an important role in weight and well-being.[23] In addition, food security and food insecurity continue to influence exposure to and intake of healthy, culturally appropriate foods (see food insecurity section for more information). Changes in First Nations cultures and lifestyles, as well as systems of colonialism and residential schools, have contributed to increased obesity, with more processed and less nutritious food choices and more sedentary lifestyles.[25]

A healthy BMI positively contributes to an individual's overall health, well-being, and quality of life over their life span.[26] Another important consideration when measuring a child's weight is the potential impact on their body image and self-esteem. Encouraging positive body image in children can equip them with confidence and self-esteem for life.

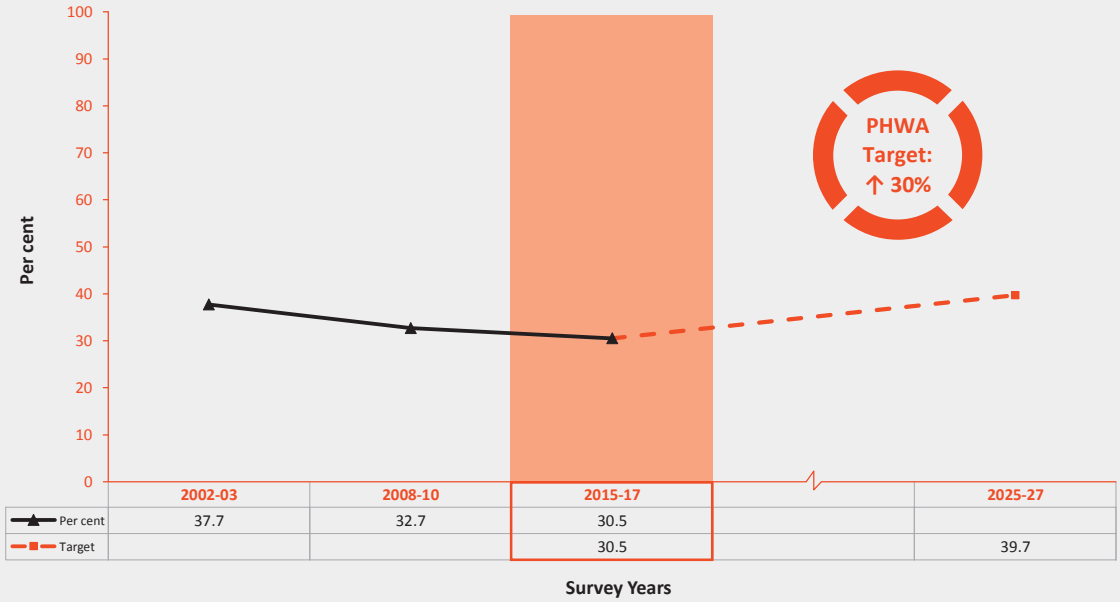
For this indicator, BMI is used to determine the proportion of First Nations children age 2–11 who are within a healthy weight range. A BMI for age is based on percentiles in children, and a healthy range is between the 3rd and 85th percentile.[27] BMI is calculated based on body weight in kilograms divided by height in metres squared, using age- and sex-specific growth rates, but does not distinguish between weight from fatty tissues and weight from muscle or bone. One major limitation of using BMI as a predictor of health for First Nations is that the tool has not been standardized with a First Nations population. Research has shown that levels of body fat[28] and bone mass[29] differ by ethnicity, which will affect differences in weight for First Nations.

The data used to calculate BMI for this indicator were reported by parents about their children.

Figure 4.7 shows that the percentage of First Nations children age 2–11 with a healthy BMI has been decreasing. By 2015-17, less than one-third (30.5 per cent) of these First Nations children had a healthy BMI. ***The target for this indicator for the next 10 years is to increase the proportion of First Nations children with a healthy BMI by at least 30 per cent.***

**FIGURE 4.7**

**Percentage of First Nations Children On Reserve, Age 2-11, Who Have a Healthy Body Mass Index, BC, 2002-03 to 2025-27**




**Notes:** Parent-reported heights and weights from the Regional Health Survey were used to determine Body Mass Index (BMI). The BMI was then categorized into underweight, moderate, overweight, and obese using age- and sex-specific cut points. Children less than 2 years old are not eligible for BMI to be calculated. "Healthy" BMI is a BMI classified as "moderate". See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

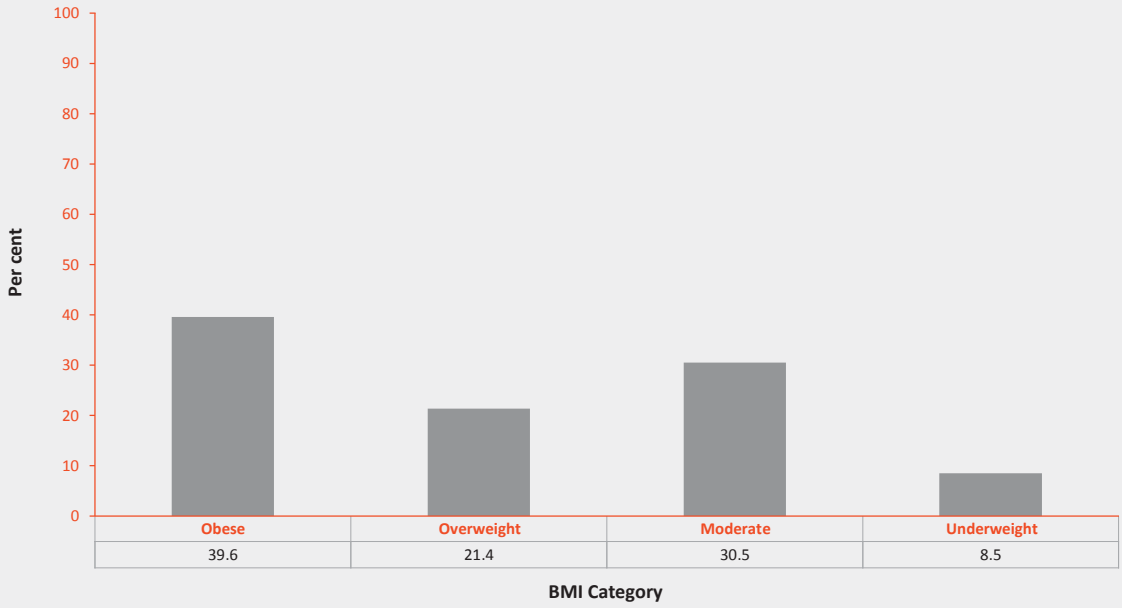
Additional analyses of these data show that both male and female First Nations children age 2–11 have experienced this downward trend. They also show that the Interior region had the highest percentage of First Nations children age 2–11 with a healthy BMI in 2015-17, while Vancouver Coastal had the lowest (see Appendix D).

Figure 4.8 shows that in 2015-17, based on BMI categories, 21.4 per cent of First Nations children age 2–11 were classified as overweight, and 39.6 per cent were classified as obese.

Increasing the percentage of First Nations children with a healthy BMI will require increased investment in land, culture, and food security and increased supports for physical activity. This will be discussed further in Chapter 5.

FIGURE 4.8

**Body Mass Index of First Nations Children On Reserve, Age 2-11, by BMI Category, BC, 2015-17**




**Notes:** Parent-reported heights and weights from the Regional Health Survey were used to determine Body Mass Index (BMI). The BMI was then categorized into underweight, moderate, overweight, and obese using age- and sex-specific cut points. Children less than 2 years old are not eligible for BMI to be calculated. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

ABORIGINAL HEAD START ON RESERVE PROGRAM

# YOUTH/YOUNG ADULT DEATH BY SUICIDE

| | | | |
|---|---|---|---|
| **INDICATOR** | Youth/young adult death by suicide | | |
| **MEASURE** | Suicide mortality rate of youth/young adults age 15–24, calculated as a 5-year aggregate, expressed as a rate per 10,000 population. | | |
| **SOURCE** | First Nations Client File | | |
| **BASELINE** | 3.3 per 10,000 | **TARGET** | ↓ 40 per cent |

Each death presented in this data is understood as a tragic loss, and reflects a dark and sad time in the lives of individuals, families, and communities. This report honours those that are represented in these charts and recognizes that each one is a rich and vibrant life lost too soon.

Death by suicide is one indicator of much deeper, underlying issues of collective suffering and injustice related to intergenerational and contemporary trauma. Addressing death by suicide requires collective efforts to enhance protective factors, by building on existing strengths and resilience.[30] Protective factors occur at the individual, community, and system levels and include self-determination, school connectedness, supportive relationships, and cultural revitalization.[31] First Nations youth themselves have been pushing to shift the focus towards more wholistic, cultural, and contextually-based "life promotion" efforts rather than on the more typical "suicide prevention" efforts.[30,32] This indicator was originally introduced in the TCA:FNHP and will continue to be measured in the PHWA to provide longitudinal monitoring.

The BC Coroners Service has identified that the **mortality rate** for First Nations youth and young adults is almost twice the rate of other residents in BC, with death by suicide accounting for one-third of all First Nations youth and young adult unexpected death.[31] When death by suicide occurs, there are devastating effects for the whole community; these impacts are felt particularly acutely on reserves, where suicides occur five times more often than off reserve.[31]

This indicator measures the mortality rate of Status First Nations youth/young adults age 15–24 who take their own lives, expressed as a rate per 10,000 population. This indicator was introduced in the original TCA:FNHP and monitored over the past 10 years, and will continue to be monitored as part of the PHWA over the next 10 years.

Figure 4.9 shows that death by suicide among Status First Nations youth/young adults has been decreasing over the last 20 years. There has been a great deal of fluctuation in the rate of suicide among Status First Nations youth/young adults over the last 20 years, but overall the rate has been decreasing. Despite this progress, starting in 2011-15, the rate of deaths by suicide began to rise again, resulting in a larger gap

*"I didn't know much about my culture or language until 2014. That's when I really got into it. I was still a learner though. And that was just my Elders showing me that we matter. We're the future. We're the purpose for why the world goes on. Here's my song. [Matthew drums and sings a song.] That was the accomplishment song. That is the song that we sing when we are proud of each other's accomplishments. It's traditionally and originally a raven song, but my peers and dance group members give me permission to sing it.*

*My message to you is that we matter. We all matter. It may seem to you that you don't matter to anyone but that's cause you might be holding it in. I do that sometimes. And just know that there are people who care for you and there are people who are there for you. Friends, family, Chiefs, grandmas, aunties, anyone. You just got to put yourself out there and be straight up. We matter and be truthful to yourself. Gunalchéesh."*

**– Matthew Wesley, Taku River Tlingit First Nation; Youth Spokesperson, *We Matter Campaign***

between Status First Nations and Other Residents over the last three time periods. The rate of deaths by suicide of Status First Nations youth/young adults was four times higher than the rate among Other Residents by 2013-17. ***The target for this indicator for the next 10 years is to decrease the rate of deaths by suicide among First Nations youth/young adults by 40 per cent.***

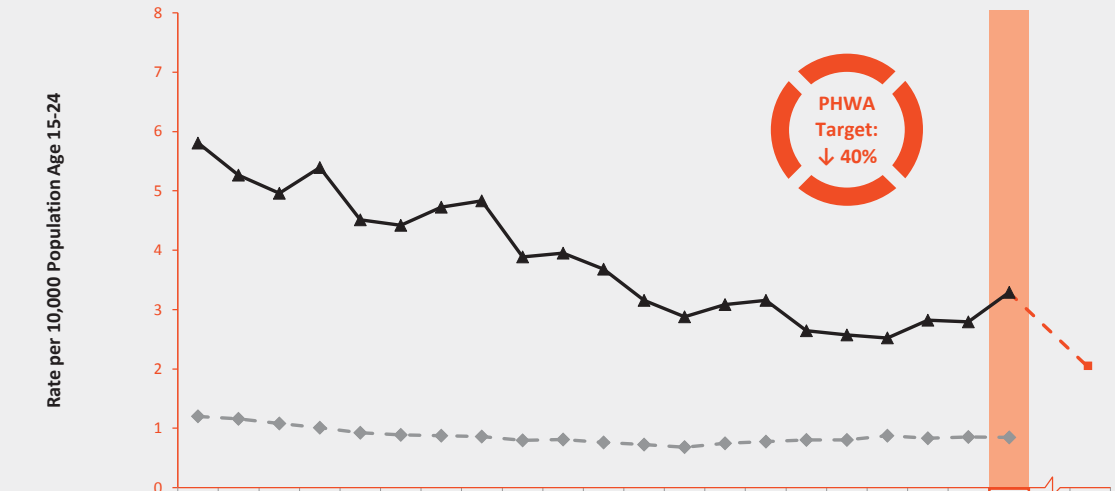
Figure 4.10 reveals that the majority of suicide deaths among Status First Nations youth/young adults are males. While the female Status First Nations rate is higher than the rate for Other Resident females, the rate for Status First Nations males shown here is more than twice the female Status First Nations rate and nearly four times higher than the rate for Other Resident males. This figure also shows that the steep decrease in death by suicide among females Status First Nations youth/young adults age 15–24 from 1993-97 to 1997-01 has been largely sustained in the 15 time periods since that time. This has resulted in death counts of under 10 in nine out of the 20 years shown.

Additional analyses show that the rate per 10,000 population of Status First Nations youth/young adult suicide varied by health authority area for 2013-17, with the highest rate occurring in Vancouver Coastal (see Appendix D).

Work is underway to address the underlying contextual factors that lead to increased suicide risk, in order to reduce suicides among First Nations youth and young adults in BC. The joint death review panel formed between the BC Coroners Service and FNHA identified three areas to strengthen in order to prevent further suicide deaths: connectedness to peers, family, community, and culture; reduced barriers and increased access to health and social services; and cultural safety and humility/trauma-informed care.[31] Additionally, a study by Chandler and Lalonde found that communities with lower youth suicide rates had some commonalities, including achieving a measure of self-government; litigating for Aboriginal title to traditional land; accomplishing a measure of local control over health, education, and policing services; and creating community facilities for the preservation of culture.[33]

FIGURE 4.9

## Youth Suicide Rate, Age 15-24, Status First Nations and Other Residents, BC, 1993-97 to 2023-27



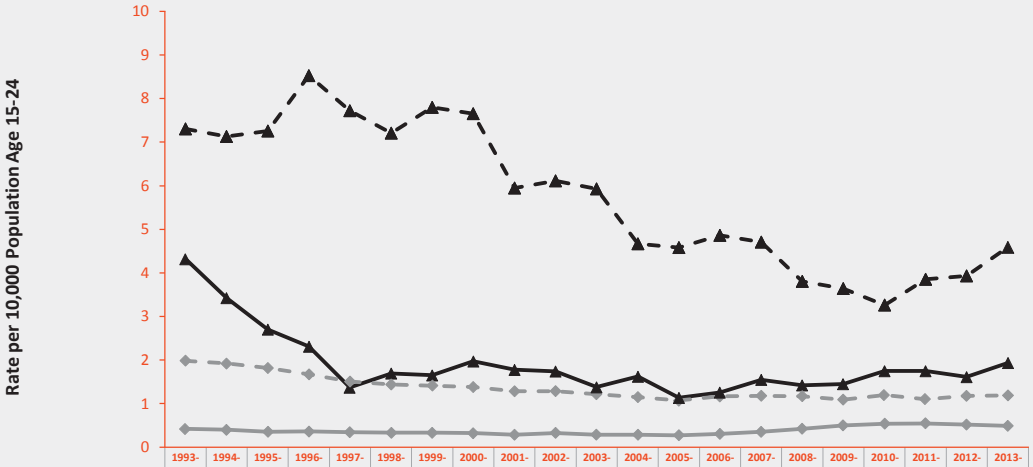

| | 1993-97 | 1994-98 | 1995-99 | 1996-00 | 1997-01 | 1998-02 | 1999-03 | 2000-04 | 2001-05 | 2002-06 | 2003-07 | 2004-08 | 2005-09 | 2006-10 | 2007-11 | 2008-12 | 2009-13 | 2010-14 | 2011-15 | 2012-16 | 2013-17 | | 2023-27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations - Rate | 5.8 | 5.3 | 5.0 | 5.4 | 4.5 | 4.4 | 4.7 | 4.8 | 3.9 | 4.0 | 3.7 | 3.2 | 2.9 | 3.1 | 3.2 | 2.6 | 2.6 | 2.5 | 2.8 | 2.8 | 3.3 | | |
| Other Residents - Rate | 1.2 | 1.2 | 1.1 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.9 | 0.8 | 0.9 | 0.8 | | |
| Status First Nations - Deaths | 64 | 58 | 55 | 60 | 51 | 50 | 55 | 57 | 47 | 49 | 47 | 41 | 39 | 43 | 45 | 38 | 37 | 36 | 40 | 39 | 45 | | |
| Target | | | | | | | | | | | | | | | | | | | | | 3.3 | | 2.0 |

Years

**Notes:** See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE 4.10

## Youth Suicide Rate, Age 15-24, Status First Nations and Other Residents, by Sex, BC, 1993-97 to 2013-17




| | 1993-97 | 1994-98 | 1995-99 | 1996-00 | 1997-01 | 1998-02 | 1999-03 | 2000-04 | 2001-05 | 2002-06 | 2003-07 | 2004-08 | 2005-09 | 2006-10 | 2007-11 | 2008-12 | 2009-13 | 2010-14 | 2011-15 | 2012-16 | 2013-17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations Females - Rate | 4.3 | 3.4 | 2.7 | 2.3 | 1.4 | 1.7 | 1.6 | 2.0 | 1.8 | 1.7 | 1.4 | 1.6 | 1.1 | 1.3 | 1.5 | 1.4 | 1.4 | 1.7 | 1.7 | 1.6 | 1.9 |
| Status First Nations Males - Rate | 7.3 | 7.1 | 7.3 | 8.5 | 7.7 | 7.2 | 7.8 | 7.7 | 5.9 | 6.1 | 5.9 | 4.7 | 4.6 | 4.9 | 4.7 | 3.8 | 3.6 | 3.3 | 3.9 | 3.9 | 4.6 |
| Other Residents Females - Rate | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Other Residents Males - Rate | 2.0 | 1.9 | 1.8 | 1.7 | 1.5 | 1.4 | 1.4 | 1.4 | 1.3 | 1.3 | 1.2 | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 | 1.1 | 1.2 | 1.1 | 1.2 | 1.2 |
| Status First Nations Females - Deaths | 24 | 19 | 15 | 13 | ≤10 | ≤10 | ≤10 | 12 | 11 | 11 | ≤10 | 11 | ≤10 | ≤10 | 11 | ≤10 | ≤10 | 12 | 12 | 11 | 13 |
| Status First Nations Males - Deaths | 40 | 39 | 40 | 47 | 43 | 40 | 45 | 45 | 36 | 38 | 38 | 30 | 31 | 34 | 34 | 28 | 27 | 24 | 28 | 28 | 32 |

Years

**Notes:** Small numbers (≤10) have been suppressed. Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

# MENTAL AND EMOTIONAL WELL-BEING

| | | | |
|---|---|---|---|
| **INDICATOR** | Mental and emotional well-being | | |
| **MEASURE** | Percentage of First Nations adults who report feeling balanced physically, emotionally, mentally, and spiritually. | | |
| **SOURCE** | First Nations Regional Health Survey | | |
| **BASELINE** | 53.4 per cent | **TARGET** | ↑ 20 per cent |

Mental health and wellness has been consistently identified as a top priority for First Nations in BC and is fundamental to realizing the vision of healthy, vibrant, self-determining First Nations individuals, families, and communities.[34] As an area of focus for health system interventions, mental health and wellness is often under-resourced compared to physical health.[34] Yet, from First Nations perspectives, all dimensions of health are inextricably interconnected and should not be separated.

*"Our ancestors on the North West Coast of British Columbia believe that when a person experiences a traumatic event, such as a near drowning, that a part of their soul is lost, it breaks away and remains in the geographic location until healing is sought to retrieve the missing part of the soul. When we lose a part of self through trauma, through violence, through abuse or neglect, this is called soul loss. Soul retrieval is the ability to return to the traumatic event to retrieve the missing part of self. Returning enables the individual to bring together splintered parts of spirit, body and mind."*

**– Patricia Vickers, Tsimshian and Heiltsuk ancestry**

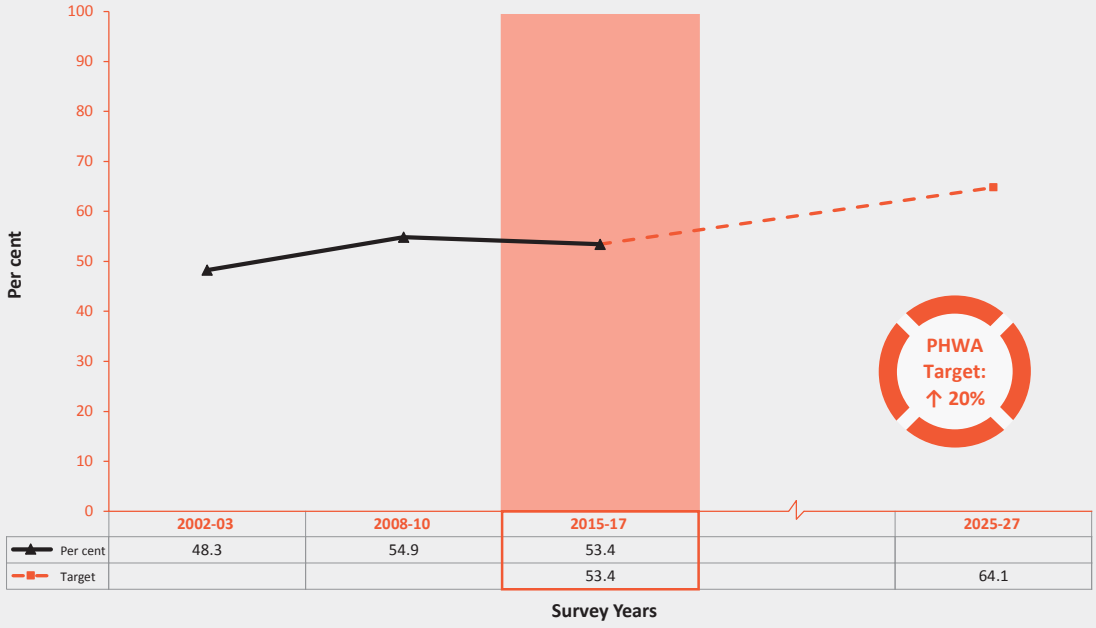
A common theme across the diversity of First Nations cultural perspectives and approaches to mental health and wellness is the importance of wholism, including the balance and harmony between the individual, family, community, Nation, and ecosystem. This balance and harmony, in addition to the mental, emotional, physical, and spiritual dimensions, come together to make the whole person. This view is different than the mainstream health system, which tends to focus only on the individual person and their mental illness, which does not account for the broader perspective of that individual.[35,36,37,38] Care that is biomedical, individual-focused, decontextualized, and not grounded in cultural teachings has generally failed to result in wellness and healing among First Nations people.[39] Clinical support for mental health conditions is certainly part of the healing process, but it is only one piece of a much bigger puzzle.

FNHA has released a policy on mental health and wellness that calls for a paradigm shift in how mental health and wellness is supported and promoted by First Nations. The policy is based on recognized need for a continuum of mental health and wellness approaches that address the needs of the whole person in the context of their family, community, Nation, and ecosystem.[35] The BC Ministry of Mental Health and Addictions has also released *A Pathway to Hope: A Roadmap for Making Mental Health and Addictions Care Better for People in British Columbia*, which outlines a pathway to address critical barriers to mental health and well-being, with a particular focus on the unique priorities and strengths of Indigenous people in BC.[34]

As the work to improve mental health and wellness advances, it is important to track the status of perceived First Nations mental health and wellness in a wholistic way. Therefore, this indicator uses a measure that is focused on balance, within and among the mental, physical, spiritual, and emotional dimensions of a whole person.

FIGURE 4.11

## Percentage of First Nations Adults On Reserve Who Self-reported Feeling in Balance Physically, Emotionally, Mentally, and Spiritually, BC, 2002-03 to 2025-27




| | 2002-03 | 2008-10 | 2015-17 | | 2025-27 |
|---|---|---|---|---|---|
| Per cent | 48.3 | 54.9 | 53.4 | | |
| Target | | | 53.4 | | 64.1 |

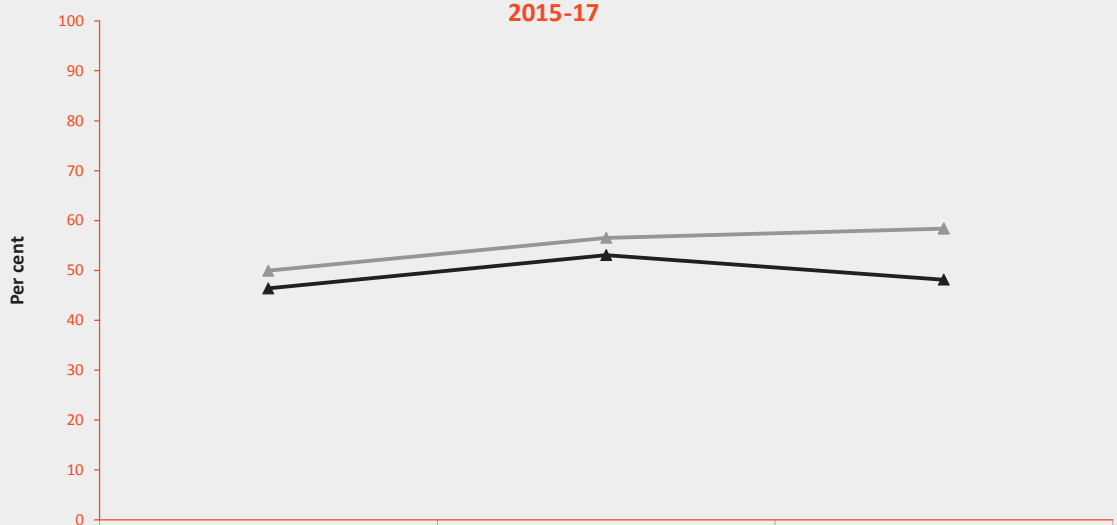
**Notes:** Includes responses of survey participants who reported that they felt in balance in the four aspects of their life (physically, emotionally, mentally, and spiritually) "all of the time" or "most of the time". See Appendix B for more information about this data sources.
**Source:** First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

Figure 4.11 shows that approximately half of on-reserve First Nations adults feel in balance physically, emotionally, mentally, and spiritually. This proportion increased from 48.3 per cent in 2002-03 to 53.4 per cent in 2015-17. ***The target for this indicator for the next 10 years is to increase the proportion of First Nations adults who feel in balance physically, emotionally, mentally and spiritually, by 20 per cent.***

Figure 4.12 shows that the proportion of First Nations adult males who felt in balance physically, emotionally, mentally, and spiritually increased between 2002-03 (50.0 per cent) and 2015-17 (58.4 per cent). Although the proportion of First Nation adult females who felt this balance increased between 2002-03 (46.4 per cent) and 2008-10 (53.1 per cent), it then decreased to 48.1 per cent in 2015-17, and is also lower than their male counterparts at all points in time.

FIGURE 4.12

## Percentage of First Nations Adults On Reserve Who Self-reported Feeling in Balance Physically, Emotionally, Mentally, and Spiritually, by Sex, BC, 2002-03 to 2015-17




| | 2002-03 | 2008-10 | 2015-17 |
|---|---|---|---|
| Females | 46.4 | 53.1 | 48.1 |
| Males | 50.0 | 56.5 | 58.4 |

Survey Years

**Notes:** Includes responses of survey participants who reported that they felt in balance in the four aspects of their life (physically, emotionally, mentally, and spiritually) "all of the time" or "most of the time". See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

Additional analyses of these data suggest that a sense of balance among First Nations adults may increase with age: in 2015-17, those age 18–29 were the least likely to report feeling in balance (49.7 per cent). This increased with age, up to the highest reported percentage among the oldest category of age 60 and up (60.6 per cent). These analyses also show that the proportion of First Nations adults who felt in balance physically, emotionally, mentally, and spiritually was similar across regional health authority areas. An analysis by wellness dimension (physical, emotional, mental, spiritual) in 2015-17 suggests that there were no major differences between the dimensions, although mental wellness was ranked highest (71.9 per cent) and physical wellness was the lowest (66.8 per cent). See Appendix D for additional analyses.

Overall, analyses of this measure of mental and emotional well-being indicate that for the target to be met, more support will be needed, particularly for First Nations adults age 18–29 and females.

# PHYSICAL ACTIVITY

| | | | |
|---|---|---|---|
| **INDICATOR** | Physical activity | | |
| **MEASURE** | Percentage of First Nations people meeting the recommendations in the Canadian Physical Activity Guidelines. | | |
| **SOURCE** | First Nations Regional Health Survey | | |
| **BASELINE** | Children and youth – 55.3 per cent | **TARGET** | ↑ 30 per cent |
| | Adults – 77.2 per cent | | ↑10 per cent |

First Nations have long histories of leading active lifestyles.[40] Connection to land and culture through the teachings and wisdom of Elders is the foundation of physical strength and resilience.[41] These teachings include the traditional knowledge that being healthy in mind, body, and spirit requires discipline, hard work, and inner strength.[40, 42]

*"The fierce rivalries that arise between Nations in Basketball, Lahal, Soccer, Lacrosse, Canoe Pulling and many other competitive activities are a source of Nation Pride. We show up, we wear our colours and we either soar with victory or are crushed by defeat. Nations continue to build upon their reputations of excellence, these Nations are feared and admired, and their children are supported to continue the tradition."*

**– Dr. Rosalin Hanna, Lytton First Nation; Physical Activity Specialist, First Nations Health Council[40]**

*"I have always been a busy, hardworking person. At 70 years old, I still like to get out and do things, especially traditional activities that I feel were designed to keep us active. I live in the shadow of the animals who guide me in trapping and hunting activities that keep me fit and able-bodied. It's when a person stops doing these things that they start to act old! I pass my teachings onto my daughters, grandchildren, and several of the youth here in my village by taking them out camping. I get out around Takla Lake, Hogum Landing, and in the Germanesen-Manson Creek region in northern BC."*

**– Julie Jacques, Takla Lake First Nation; Submitted by Bonnydale Pierre[40]**

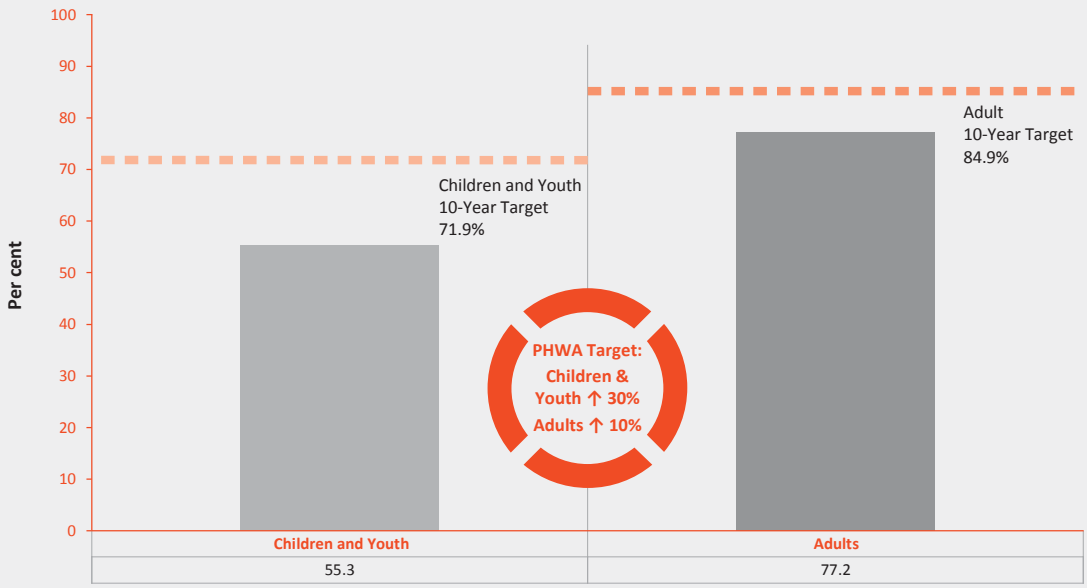
Cultural activities such as hunting, dancing, canoeing, fishing, and berry picking represent how physical activity been a longstanding part of First Nations ways of life. Today, many First Nations individuals and communities also enjoy mainstream sports and recreational activities in their day-to-day lives. Regular physical activity is important for wholistic health and wellness, and is key to mental, physical, emotional, and spiritual health. As illustrated in the story sidebar, physical activity can also be a way to connect to land, ceremony and culture, and support Nation building activities. Physical benefits include increased strength and fitness, and prevention of many chronic diseases such as heart disease, stroke, high blood pressure, certain types of cancer, type 2 diabetes, osteoporosis, and obesity.[43] Mental and emotional benefits of physical activity include enhanced self-esteem, heightened ability to manage stress and anxiety, and the ability to alleviate depression.[44]

Loss of access to land and territory due to colonization has changed the lifestyles of most First Nations people. First Nations people, including those living in rural and remote communities, may also face financial and geographical barriers to participating in other types of physical activity, such as organized sports.[45] Despite these barriers, many communities show resilience by continuing to participate in traditional activities. Building the foundations of physical activity in First Nations families is a way to share cultural teachings, knowledge, languages, and strengths with the next generation. Creating a supportive environment for physical activity is important for people of all ages, but particularly youth and young adults, who require more physical activity for healthy growth and development.[43,45]

For adults age 18–64, the Canadian Physical Activity Guidelines suggest at least 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week.[43] Compared to adults, children need more physical activity each day to stay healthy and well. For children and youth, the guidelines recommend 60 minutes of moderate to vigorous physical activity per day.[43] This indicator examines the percentage of First Nations people meeting the recommended Canadian Physical Activity Guidelines.

FIGURE 4.13

## Percentage of First Nations Children, Youth, and Adults On Reserve Who Meet Canadian Physical Activity Guidelines, BC, 2015-17




**Notes:** "Children" includes parents/guardians responding on behalf of a child age 5 to 11; "Youth" includes respondents age 12 -17; and "Adults" includes respondents age 18 and up. The Canadian Physical Activity Guidelines are met as follows: Children >5 years old and Youth – minimum 60 minutes of moderate- to vigorous-intensity physical activity daily; Adults – minimum 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, August 2019.

Figure 4.13 indicates that in 2015-17, 77.2 per cent of First Nations adults, and 55.3 per cent of children and youth living on reserve met the Canadian Physical Activity Guidelines. ***The target for the next 10 years is to increase the proportion of First Nations adults meeting these guidelines by 10 per cent, and the proportion of First Nations children and youth by 30 per cent.***

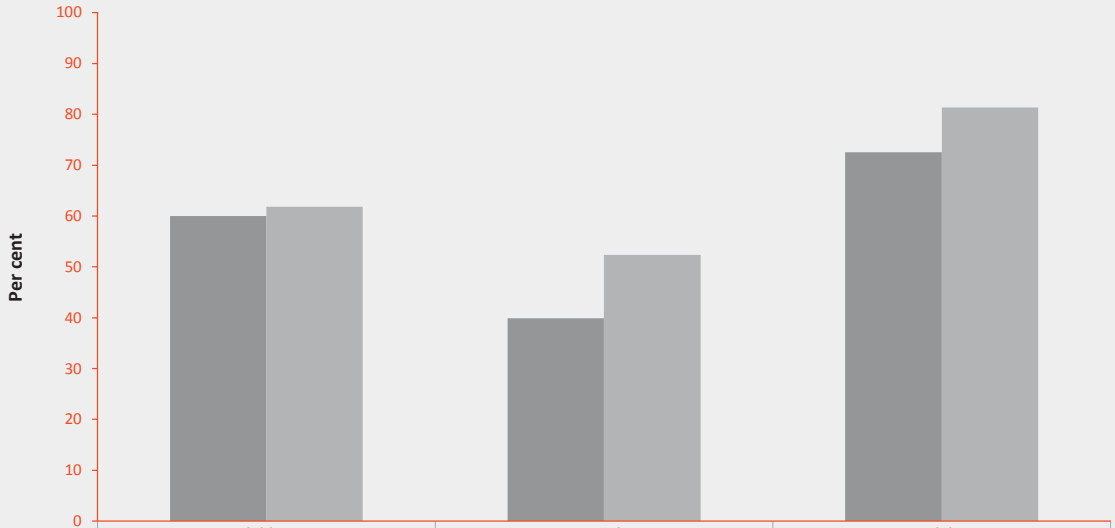
Figure 4.14 demonstrates that in 2015-17, a greater proportion of males were meeting physical activity guidelines than females, for every age category. This figure also shows that youth age 12–17 had the greatest challenges meeting the guidelines.

Additional analyses show that there is some regional variation for this indicator, with children, youth, and adults in Vancouver Coastal, Fraser, and Northern regions having the highest proportion of those meeting the guidelines. However, these analyses also show that the disparity between age groups is more substantial than the difference between regions. See Appendix D for additional analyses.

In addition to the moderate to vigorous activity that is captured by Canada's Physical Activity Guidelines, many First Nations people are active in their day-to-day lives. Figure 4.15 shows a variety of physical activities that were reported among First Nations living on reserve. Walking is a central source of physical activity for many First Nations adults age 18 and up (63.7 per cent). For children and youth, walking, swimming, and running or jogging are the most common activities reported. Many First Nations of all ages also participated in cultural activities, including approximately one-quarter of respondents who reported hiking or berry-picking and food gathering.

FIGURE 4.14

## Percentage of First Nations Children, Youth, and Adults On Reserve Who Meet Canadian Physical Activity Guidelines, by Sex, BC, 2015-17

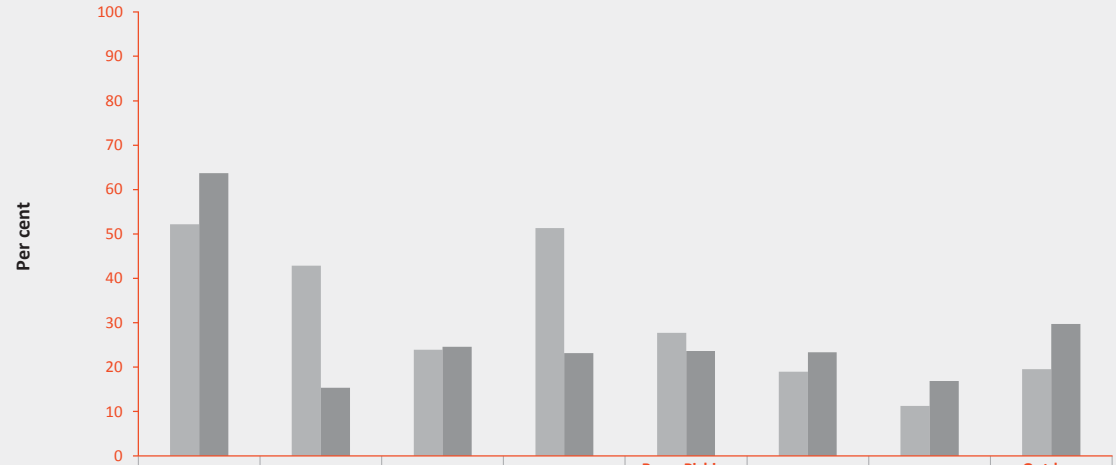



| | Children | Youth | Adults |
|---|---|---|---|
| Females | 60.0 | 39.9 | 72.6 |
| Males | 61.8 | 52.3 | 81.4 |

**Notes:** "Children" includes parents/guardians responding on behalf of a child age 5 to 11; "Youth" includes respondents age 12 -17; and "Adults" includes respondents age 18 and up. The Canadian Physical Activity Guidelines are met as follows: Children >5 years old and Youth – minimum 60 minutes of moderate- to vigorous-intensity physical activity daily; Adults – minimum 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, August 2019.

FIGURE 4.15

## Percentage of First Nations Children, Youth, and Adults On Reserve Participating in Various Physical Activities, BC, 2015-17




| | Walking | Running or Jogging | Hiking | Swimming | Berry Picking and Food Gathering | Fishing | Hunting | Outdoor Gardening, Yard Work |
|---|---|---|---|---|---|---|---|---|
| Children & Youth | 52.2 | 42.9 | 24.0 | 51.3 | 27.7 | 18.9 | 11.3 | 19.6 |
| Adults | 63.7 | 15.4 | 24.6 | 23.1 | 23.6 | 23.3 | 16.9 | 29.7 |

**Physical Activity**

**Notes:** "Children" includes parents/guardians responding on behalf of a child age 5 to 11; "Youth" includes respondents age 12-17; and "Adults" includes respondents age 18 and up. Percentage of First Nations children, youth, and adults who participated in various physical activities in the last three months. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

# DIABETES

| | | | |
|---|---|---|---|
| **INDICATOR** | Diabetes incidence | | |
| **MEASURE** | Age-standardized diabetes incidence rate, expressed as a rate per 1,000 population. | | |
| **SOURCE** | First Nations Client File | | |
| **BASELINE** | 7.7 per 1,000 population | **TARGET** | ↓ 20 per cent |

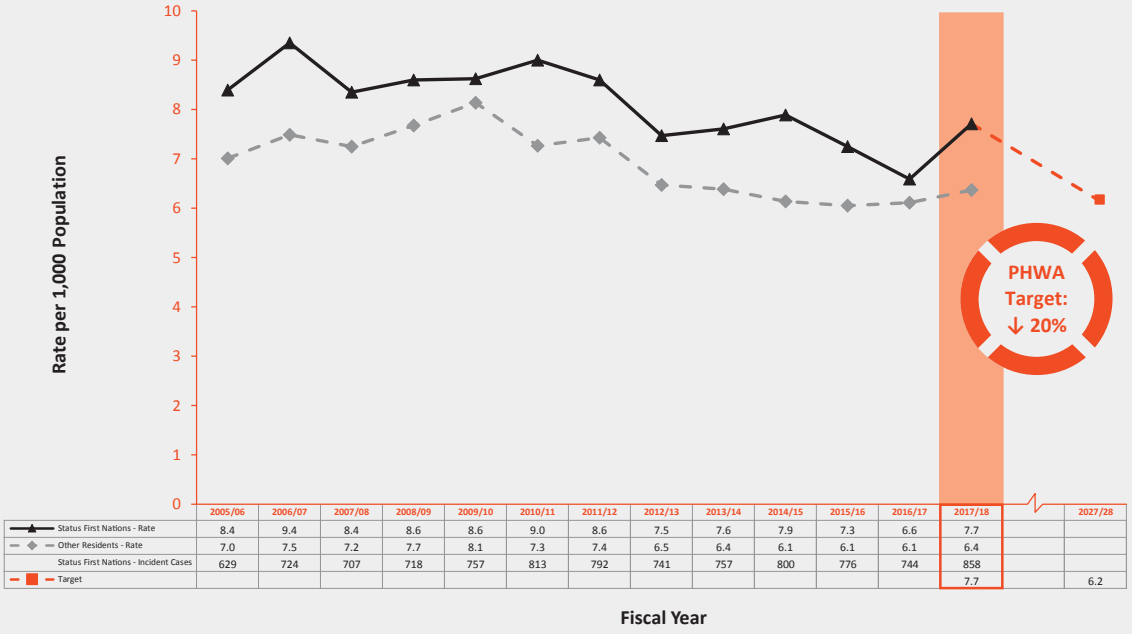
Colonialism and related Indigenous determinants of health such as poverty, isolation, poor access to care, food insecurity, obesity, and lower levels of health literacy, play a role in the development of chronic diseases such as diabetes.[46] A myriad of colonial and global forces such as decreased access to land and First Nations knowledge have reduced the food gathering activities and practices of First Nations (e.g. hunting, fishing, berry picking) and the eating of traditional foods, which promoted physical, spiritual, and mental health. These changes have been associated with the marked increase in obesity and diabetes among First Nations.[47]

Diabetes is a chronic condition involving regulation of blood sugar in the body. It occurs when the pancreas does not produce enough insulin, a hormone that regulates blood sugar, or when the body cannot use the insulin it produces.[48] Diabetes is an important chronic condition to monitor due to its potential health implications if not appropriately treated, and because it is a sentinel chronic condition that can help to assess the overall burden of chronic disease in a population.

**Diabetes incidence** is the number of newly diagnosed cases of diabetes identified in a specified time period, as a rate per population (in this case per 1,000 population).[49] Diabetes prevalence includes all of the known/diagnosed cases of people living with this condition in the population.[50] Diabetes prevalence was one of the original TCA:FNHP indicators for the first 10 years, and will continue to be monitored over the next 10 years as an indicator in the PHWA; however, the PHWA will focus on reducing diabetes incidence (new cases) rather than prevalence.

FIGURE 4.16

## Age-standardized Diabetes Incidence Rate, Status First Nations and Other Residents, BC, 2005/06 to 2027/28



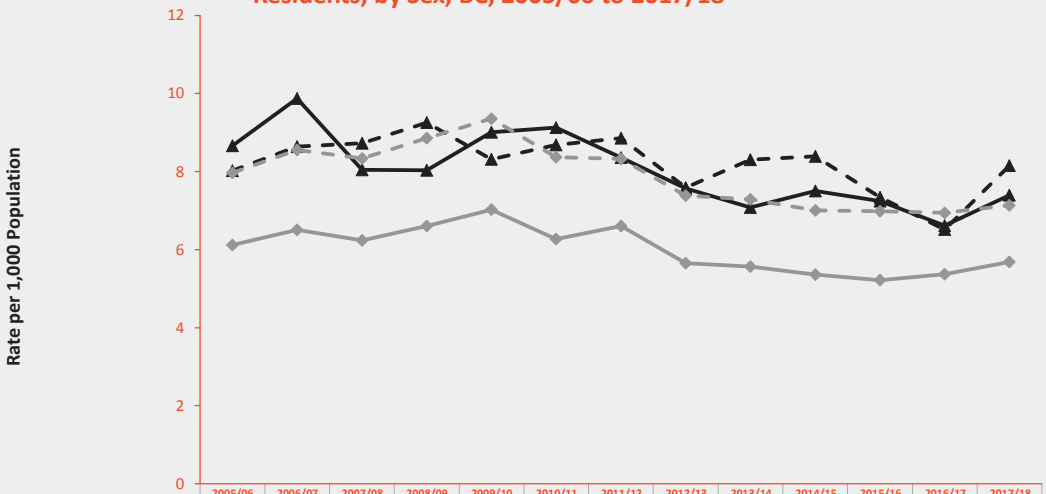

| | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | | 2027/28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations - Rate | 8.4 | 9.4 | 8.4 | 8.6 | 8.6 | 9.0 | 8.6 | 7.5 | 7.6 | 7.9 | 7.3 | 6.6 | 7.7 | | |
| Other Residents - Rate | 7.0 | 7.5 | 7.2 | 7.7 | 8.1 | 7.3 | 7.4 | 6.5 | 6.4 | 6.1 | 6.1 | 6.1 | 6.4 | | |
| Status First Nations - Incident Cases | 629 | 724 | 707 | 718 | 757 | 813 | 792 | 741 | 757 | 800 | 776 | 744 | 858 | | |
| Target | | | | | | | | | | | | | 7.7 | | 6.2 |

**Notes:** Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

Figure 4.16 shows a noticeable increase in diabetes incidence from 2016/17 to 2017/18 for both Status First Nations and Other Residents. The increase was more substantial for First Nations people, which has caused the gap to widen between these populations in the most recent time period. However, over the longer term, there is a downward trend over time among the First Nations population despite marked variability from year to year, which shows the dynamic nature of this indicator. ***The target for this indicator for the next 10 years is to decrease the rate of diabetes incidence among First Nations per 1,000 population by at least 20 per cent.***

FIGURE 4.17

## Age-standardized Diabetes Incidence Rate, Status First Nations and Other Residents, by Sex, BC, 2005/06 to 2017/18



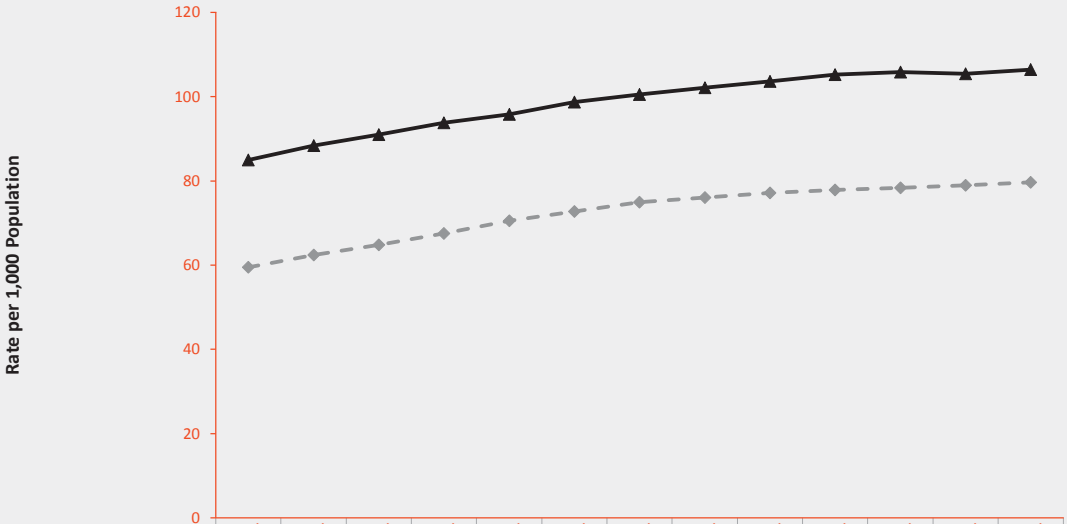

| | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations Females - Rate | 8.7 | 9.9 | 8.0 | 8.0 | 9.0 | 9.1 | 8.4 | 7.6 | 7.1 | 7.5 | 7.2 | 6.6 | 7.4 |
| Status First Nations Males - Rate | 8.0 | 8.6 | 8.7 | 9.3 | 8.3 | 8.7 | 8.9 | 7.6 | 8.3 | 8.4 | 7.3 | 6.5 | 8.1 |
| Other Residents Females - Rate | 6.1 | 6.5 | 6.2 | 6.6 | 7.0 | 6.3 | 6.6 | 5.7 | 5.6 | 5.4 | 5.2 | 5.4 | 5.7 |
| Other Residents Males - Rate | 8.0 | 8.6 | 8.3 | 8.9 | 9.4 | 8.4 | 8.3 | 7.4 | 7.3 | 7.0 | 7.0 | 6.9 | 7.1 |
| Status First Nations Females - Incident Cases | 346 | 396 | 357 | 357 | 433 | 437 | 411 | 404 | 389 | 403 | 415 | 386 | 435 |
| Status First Nations Males - Incident Cases | 283 | 328 | 350 | 361 | 324 | 376 | 381 | 337 | 368 | 397 | 361 | 358 | 423 |

Fiscal Year

**Notes:** Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE 4.18

## Age-standardized Diabetes Prevalence Rate, Status First Nations and Other Residents, BC, 2005/06 to 2017/18




| | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations - Rate | 85.0 | 88.4 | 90.9 | 93.8 | 95.8 | 98.7 | 100.5 | 102.1 | 103.6 | 105.2 | 105.8 | 105.4 | 106.4 |
| Other Residents - Rate | 59.5 | 62.4 | 64.8 | 67.5 | 70.6 | 72.8 | 74.9 | 76.1 | 77.1 | 77.8 | 78.4 | 78.9 | 79.7 |
| Status First Nations - Prevalent Cases | 6,617 | 7,188 | 7,649 | 8,151 | 8,687 | 9,304 | 9,872 | 10,308 | 10,769 | 11,224 | 11,669 | 12,088 | 12,583 |

Fiscal Year

**Notes:** Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE 4.19

## Age-standardized Diabetes Prevalence Rate, Status First Nations and Other Residents, by Sex, BC, 2005/06 to 2017/18


| | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations Females - Rate | 87.3 | 91.0 | 92.6 | 95.1 | 97.3 | 100.2 | 101.7 | 103.2 | 104.4 | 105.9 | 106.7 | 106.5 | 107.0 |
| Status First Nations Males - Rate | 82.0 | 85.2 | 89.2 | 92.1 | 93.9 | 96.7 | 98.9 | 101.3 | 102.9 | 104.6 | 104.9 | 104.4 | 106.1 |
| Other Residents Females - Rate | 52.9 | 55.6 | 57.7 | 60.1 | 62.8 | 64.8 | 66.9 | 67.9 | 68.9 | 69.6 | 70.1 | 70.8 | 71.6 |
| Other Residents Males - Rate | 66.6 | 69.8 | 72.4 | 75.5 | 78.9 | 81.4 | 83.5 | 84.7 | 85.8 | 86.6 | 87.2 | 87.7 | 88.3 |
| Status First Nations Females - Prevalent Cases | 3,684 | 3,999 | 4,228 | 4,479 | 4,791 | 5,118 | 5,403 | 5,640 | 5,878 | 6,106 | 6,360 | 6,582 | 6,823 |
| Status First Nations Males - Prevalent Cases | 2,933 | 3,189 | 3,421 | 3,672 | 3,896 | 4,186 | 4,469 | 4,668 | 4,891 | 5,118 | 5,309 | 5,506 | 5,760 |

Fiscal Year

**Notes:** Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

Figure 4.17 reveals that Status First Nations males and females have similar diabetes incidence rates, and that these rates are like the rate for Other Resident males. This figure also shows that Status First Nations females have a much higher diabetes incidence rate than Other Resident females, and this accounts for most of the gap between the First Nations and Other Resident populations seen in Figure 4.16.

Analyses by region show that the diabetes incidence rate among Status First Nations in 2017/18 ranged from a low of 6.3 per 1,000 population in Northern to a high of 9.2 per 1,000 population in Fraser (see Appendix D).

Figure 4.18 presents the annual diabetes prevalence per 1,000 population and indicates that the rate of increase has slowed in BC. The gap between Status First Nations and Other Residents has not decreased over time, but reducing the Status First Nations diabetes incidence rate over the next 10 years should help to narrow the gap in diabetes prevalence. Some of the increase in prevalence shown here is likely due to well-supported health and wellness journeys for those living with diabetes, leading to longer lives.

Figure 4.19 reveals that while both male and female Status First Nations people have higher diabetes prevalence than their Other Resident counterparts, this disparity is particularly pronounced for females—similar to what was seen in the incidence data shown in Figure 4.17. The diabetes prevalence rate among Other Resident females (71.6 per 1,000 population) is the lowest of the four groups shown, while the rate for Status First Nations females (107.0 per 1,000 population) is the highest.

*“Doctors tell me to eat from the four food groups: I can’t afford to eat what they tell me to eat. We were healthier when we gathered our own traditional foods that didn’t have the five sins (sugar, flour, salt, alcohol, lard). It took a lot of physical exercise to gather our food, the food was fresh off the land and water and we prayed for our food. Food is medicine, medicine is food.”*

**– Lucy Barney, T’it’q’et First Nation**


Additional diabetes prevalence data analyzed by health authority for 2017/18, reveals similar patterns to the incidence rate. The population in the Northern region had the lowest rate per 1,000 population, while Fraser had the highest. See Appendix D for additional analyses.

First Nations have long affirmed that increasing self-determination and cultural revitalization will help to reverse the conditions that lead to chronic diseases such as diabetes, and this knowledge is supported by mainstream literature.[47] Likewise, it is critical to continue to address food security and food sovereignty to enable access to the best foods for wellness, including cultural foods. At the health system level, it is important to build competencies and knowledge for primary care providers about pharmaceutical treatment for pre-diabetes, allowing for early identification and treatment options. It is also important to ensure that programs, services, and policies are in place to address diabetes in pregnancy: screening, diagnosis, and treatment.[51] Universal first trimester screening for diabetes and then supportive management of diabetes has been found to support prevention of diabetes in future generations.

# SMOKING COMMERCIAL TOBACCO

| | | | |
|---|---|---|---|
| **INDICATOR** | Smoking commercial tobacco | | |
| **MEASURE** | Percentage of First Nations people who smoke commercial tobacco. | | |
| **SOURCE** | First Nations Regional Health Survey | | |
| **BASELINE** | Youth – 12.9 per cent<br>Adults – 40.5 per cent | **TARGET** | ↓ 30 per cent |

*"My son says mom, you better quit smoking, you know, you wanna be here with your grandbabies. What happened to this idealistic idea that you were going to play basketball with babies, and you were going to be doing all these things with the babies.*

**[Sandra is watching a video of her grandbaby and hears her own breathing]**

*Who's that making noise? Somebody is breathing in it, oh my God, that's me. I wanted to be a cool granny, you know? A real healthy granny. Oh my goodness, here I am, this smokestack Sandra Granny."*

**– Sandra Teegee, Takla Lake First Nation**[93]

In its natural form, tobacco has been an integral element of some First Nations cultures for centuries, and is used in traditional ceremony, prayer, and healing rituals. The tobacco plant has long been considered sacred, medicinal, and beneficial for promoting spiritual balance and wholistic wellness, and so was traditionally treated and used with respect—similar to sweetgrass, cedar, and sage.[52,53] Unfortunately, as with many other traditional medicines and practices, colonialism led to exploitation and commercialization of the tobacco plant and the lands on which it grows, as well as its widespread use for non-traditional purposes (e.g., recreation).[54]

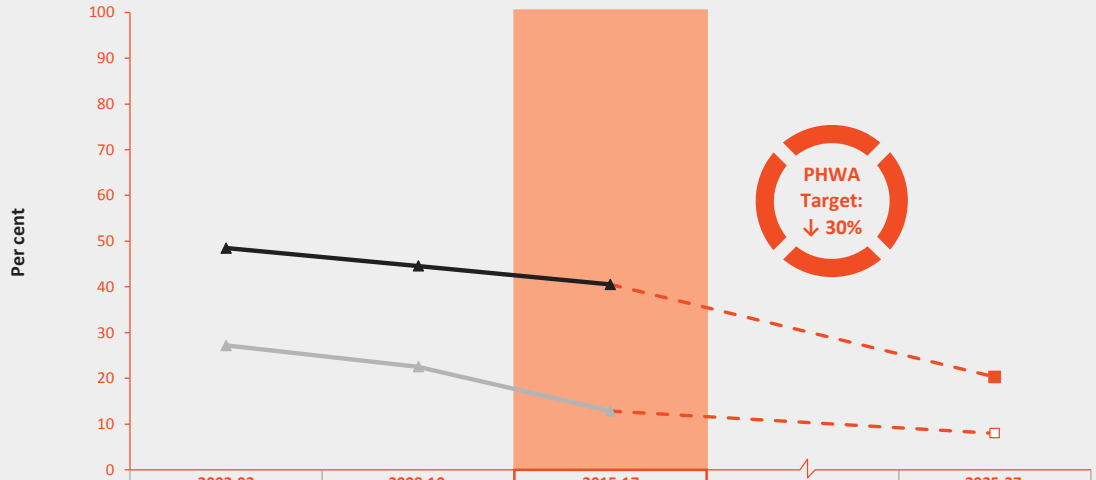
The dangers and innumerable health detriments of smoking commercial tobacco and exposure to second-hand smoke are widely known.[55,56,57,58] Although the health risks associated with tobacco misuse have been well known since the 1960s,[59] smoking remains one of the leading causes of preventable disease and premature death in this country.[60] There is a disproportionately high rate of tobacco use among First Nations people, which is attributable in part to historical and ongoing effects of colonialism, land dispossession, and loss of traditional practices.[61]

While there have been well-documented, evidence-based strategies to prevent, reduce, and cease tobacco use in Canada, there is a paucity of evidence or literature to guide how best to employ interventions in First Nations communities.[62] This indicator focuses on rates of commercial tobacco use among First Nations peoples, and does not include the use of ceremonial tobacco in traditional practices.

As shown in Figure 4.20, the proportion of First Nations youth and adults living on reserve who smoke commercial tobacco has been decreasing over time—particularly for youth. By 2015-17 it reached a low of 40.5 per cent for adults and 12.9 per cent for youth. However, there is growing concern about the appeal and increasing rates of vaping among youth.[63] Since this measure does not include vaping, it is uncertain whether the sharp decrease in smoking commercial tobacco among youth shown here is due to a true decrease in nicotine use, or a transfer of risk from smoking to vaping. ***The target set for the next 10 years is to decrease the proportion of First Nations youth and adults who smoke commercial tobacco by 30 per cent.***

FIGURE 4.20

**Percentage of First Nations Youth and Adults On Reserve Who Smoke Commercial Tobacco, BC, 2002-03 to 2025-27**

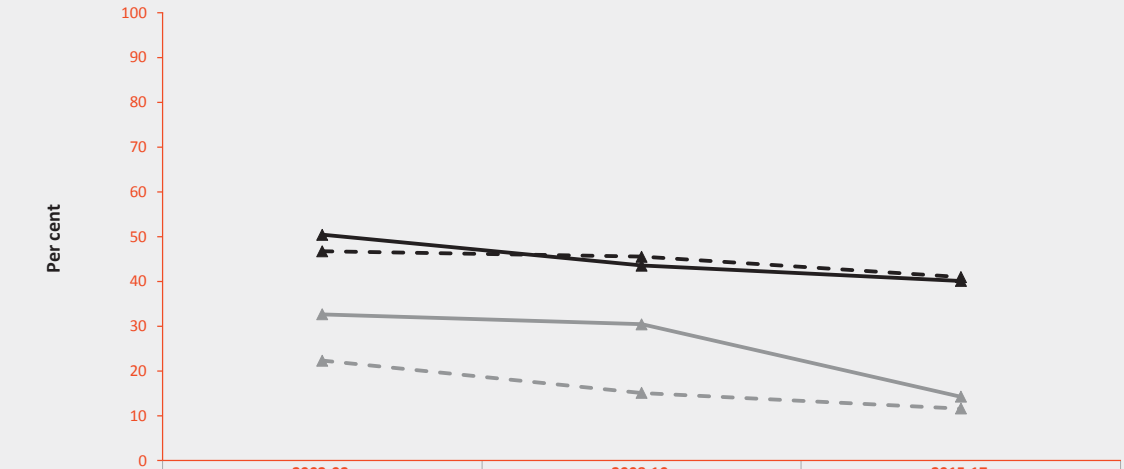



| | 2002-03 | 2008-10 | 2015-17 | | 2025-27 |
|---|---|---|---|---|---|
| Youth - Per cent | 27.2 | 22.5 | 12.9 | | |
| Adults - Per cent | 48.5 | 44.6 | 40.5 | | |
| Youth - Target | | | 12.9 | | 9.0 |
| Adults - Target | | | 40.5 | | 28.4 |

**Notes:** Includes responses of survey participants who reported that, at the present time, they smoked cigarettes "daily" or "occasionally". "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

FIGURE 4.21

## Percentage of First Nations Youth and Adults On Reserve Who Smoke Commercial Tobacco, by Sex, BC, 2002-03 to 2015-17




| | 2002-03 | 2008-10 | 2015-17 |
|---|---|---|---|
| Youth - Females | 32.6 | 30.4 | 14.2 |
| Youth - Males | 22.3 | 15.1 | 11.6 |
| Adults - Females | 50.4 | 43.5 | 40.1 |
| Adults - Males | 46.7 | 45.5 | 41.0 |

Survey Years

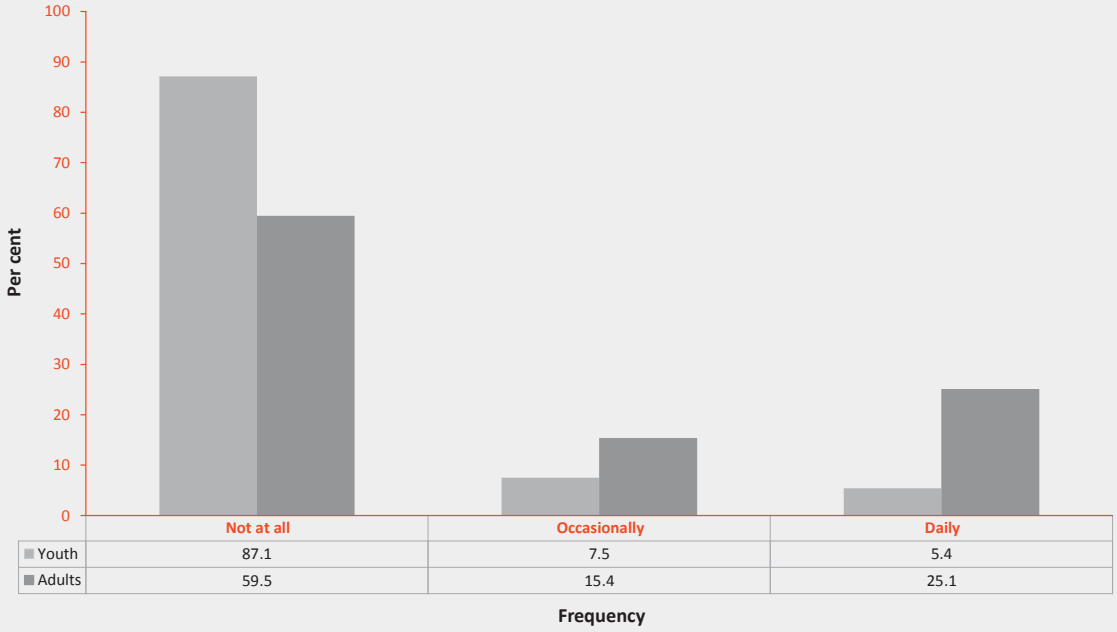
**Notes:** Includes responses of survey participants who reported that, at the present time, they smoked cigarettes "daily" or "occasionally". "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

Figure 4.21 shows that the rates of commercial tobacco smoking for First Nations adult males and females are similar and both have decreased over time from 2002-03 to 2015-17, down to a low of 40.1 per cent for adult females and 41.0 per cent for adult males. Among First Nations youth, the rates were higher for females than males during this time period; however, the female rate decreased at a faster rate, which is narrowing the gap between male and female youth.

Additional analyses by health authority indicates some variation between health authorities in the rate of First Nations people who smoke commercial tobacco. The region with the lowest percentage for adults is Vancouver Coastal (32.9 per cent), and for youth Island (10.0 per cent); the highest percentages for both age groups are found in the Northern region (48.8 per cent of adults and 16.3 per cent of youth) (see Appendix D).

FIGURE 4.22

## Percentage of First Nations Youth and Adults On Reserve Who Smoke Commercial Tobacco, by Frequency, BC, 2015-17




| | Not at all | Occasionally | Daily |
|---|---|---|---|
| Youth | 87.1 | 7.5 | 5.4 |
| Adults | 59.5 | 15.4 | 25.1 |

**Notes:** "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

Figure 4.22 shows that the majority of First Nations youth and adults on reserve do not smoke commercial tobacco at all (59.5 per cent of adults and 87.1 per cent of youth).

To decrease commercial tobacco use among First Nations, programs and interventions should be specific to the needs of First Nations people and be rooted in traditional teachings.

# SERIOUS INJURIES

| | | | |
|---|---|---|---|
| **INDICATOR** | Serious injuries | | |
| **MEASURE** | Rate of serious injuries requiring hospitalization expressed as a rate per 10,000 population. | | |
| **SOURCE** | First Nations Client File | | |
| **BASELINE** | 59.3 per 10,000 population | **TARGET** | ↓ 25 per cent |

The impacts of colonialism undermine First Nations roots of wellness and can lead to decreased physical health outcomes, including high rates of injury. Geographic remoteness, a harsher climate for those in northern and interior regions, poor housing conditions, and increased substance use, can all also influence disparities in injury rates among First Nations.[31] Injuries can have profound impacts on families. In addition to the physical, mental, and emotional impacts, a parent or caregiver becoming disabled as a result of an injury can lead to financial challenges within the family.[64] Additionally, other family members are often relied on by the injured for different types of support, such as bodily care, child care, and transportation to medical appointments, among others.[64]

**Unintentional injuries** are injuries that are not purposefully inflicted by the individual or anyone else, such as motor vehicle crashes, falls, accidental poisonings, sport-related injuries, and many others.[65] **Intentional injuries** include interpersonal violence, self-harm, and other injuries that are the result of purposeful actions. Injuries have direct costs (e.g., the cost of diagnosis, treatment, physical rehabilitation, loss of income) and indirect costs (e.g., the value of economic output lost due to injury or premature death).[65] It is estimated that the total cost of injuries in BC is $3.7 billion per year, with 83 per cent of that attributed to unintentional injuries.[65]

In the PHWA, the rate of hospitalization due to serious injuries is used to monitor the rate of serious injuries in BC. This measure includes only injuries that are serious enough to warrant admission to hospital or an overnight stay in hospital but does not include those who die from their injury (deaths due to injury will be examined later in this chapter). Data for this indicator do include overdose-related hospitalizations, such as opioid overdoses but do not include overdose-related deaths.

FIGURE 4.23

## Rate of Serious Injuries Requiring Hospitalization, Status First Nations and Other Residents, BC, 2005 to 2027

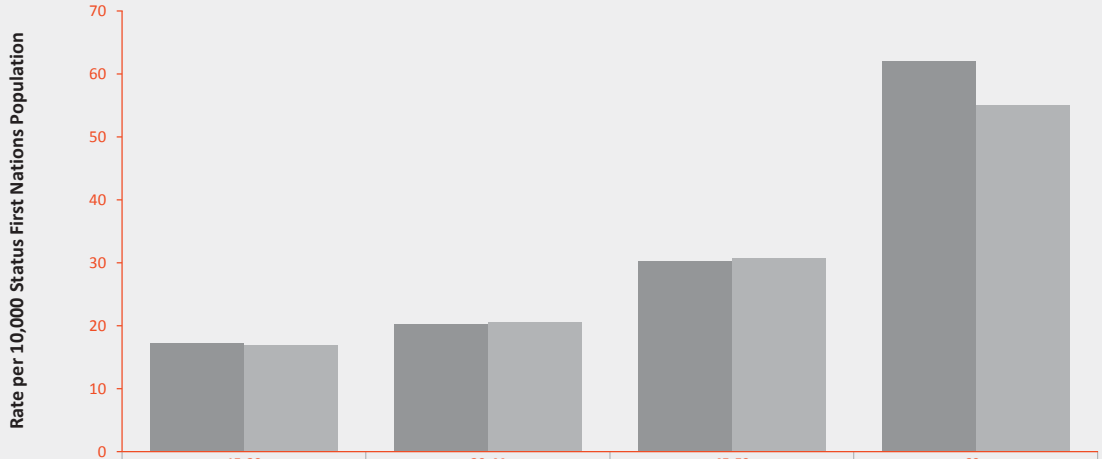

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | | 2027 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations - Rate | 61.0 | 55.2 | 59.4 | 56.9 | 60.5 | 62.5 | 66.2 | 58.2 | 55.5 | 61.3 | 60.4 | 58.3 | 59.3 | | |
| Other Residents - Rate | 37.2 | 36.7 | 35.6 | 36.3 | 38.1 | 39.2 | 39.7 | 40.0 | 40.3 | 39.5 | 40.0 | 39.8 | 38.4 | | |
| Status First Nations - Events | 671 | 641 | 713 | 720 | 811 | 884 | 995 | 922 | 929 | 1,083 | 1,127 | 1,152 | 1,241 | | |
| Target | | | | | | | | | | | | | 59.3 | | 44.5 |

**Notes:** "Serious injuries requiring hospitalization" are defined as injuries requiring overnight stay, excluding day surgeries. Patients who died of their injury are not included. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 Population. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

Figure 4.23 shows that there has not been substantial improvement in the rate of serious injuries requiring hospitalization for Status First Nations in BC over the last 12 years, and the gap between Status First Nations and Other Residents is not being reduced. ***The target for the next 10 years is to decrease the rate of serious injuries among First Nations by 30 per cent.***

FIGURE 4.24

## Rate of Serious Injuries Requiring Hospitalization, Status First Nations, by Sex and Age, BC, 2013-17



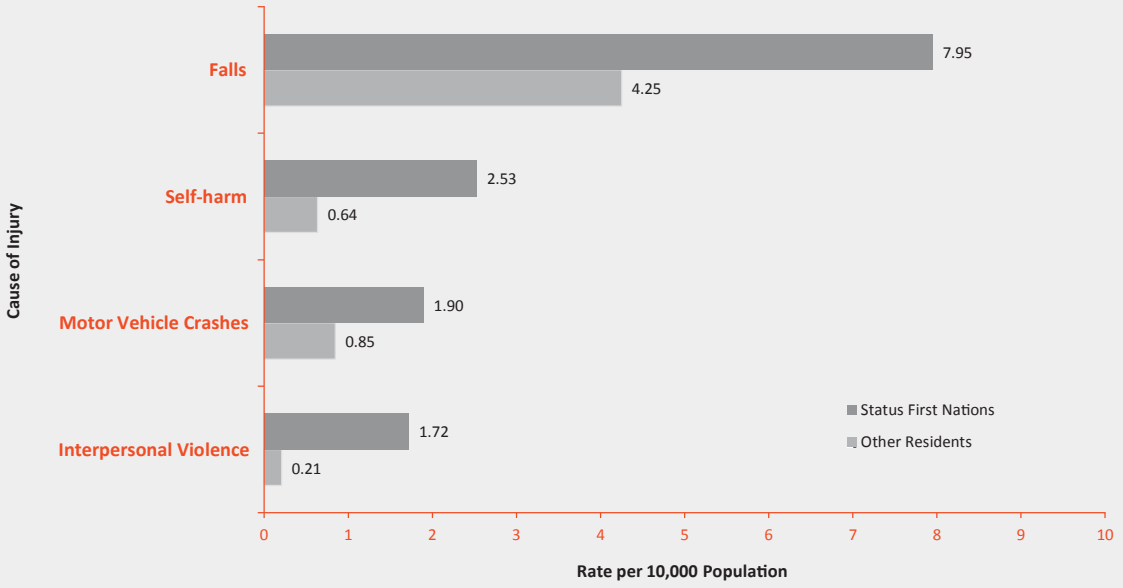

| | 15-29 | 30-44 | 45-59 | 60+ |
|---|---|---|---|---|
| Females - Rate | 17.3 | 20.2 | 30.3 | 62.1 |
| Males - Rate | 16.8 | 20.6 | 30.7 | 55.0 |
| Females - Events | 1,755 | 1,704 | 2,485 | 3,268 |
| Males - Events | 1,786 | 1,758 | 2,351 | 2,264 |

Age Group

**Notes**: "Serious injuries requiring hospitalization" are defined as injuries requiring overnight stay, excluding day surgeries. Patients who die of their injury are not included. An event is one hospitalization. A patient may have multiple events during the reporting period. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE 4.25

## Rate of Top Four Serious Injuries Requiring Hospitalization, Status First Nations and Other Residents, by Cause of Injury, BC, 2013-17




**Notes:** "Serious injuries requiring hospitalization" are defined as injuries requiring overnight stay, excluding day surgeries. Patients who died of their injury are not included. An event is one hospitalization. A patient may have multiple events during the reporting period. "Motor vehicle crashes" include injuries of cyclists and pedestrians. Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

Figure 4.24 shows that in 2013-17, Status First Nations age 15–29, 30–44, and 45–59 had similar numbers and rates per 10,000 population of serious injuries requiring hospitalization for males and females. For those age 60 and up, Status First Nations females had a higher rate and number of serious injuries (62.1 per 10,000 and 3,268 serious injuries) than Status First Nations males (55.0 per 10,000 and 2,264 serious injuries). The chart also shows that the rate of serious injuries increased over the life course, with the largest burden in the 60+ population, due in part to the impact of falls, which are most often experienced by the elderly (see Figure 4.25).

Figure 4.25 shows the top four causes of serious injuries requiring hospitalization for 2013-17 among Status First Nations people (see Appendix D for additional causes). It shows that the highest rate of serious injury hospitalization per 10,000 population among Status First Nations was due to falls, followed by self-harm, motor vehicle crashes, and interpersonal violence. These rates were all much higher than the rates for Other Residents, with interpersonal violence being more than eight times higher for Status First Nations, and self-harm being more than four times higher.

The lasting impact of colonial policies and institutions contributes to increased risk of experiencing violence and injury among First Nations and other Indigenous groups. Statistics Canada has found that even when all other differentiating factors (such as economic determinants) are accounted for, Indigenous women and girls are still at a significantly higher risk of violence than non-Indigenous women.[66] Among the First Nations population, lower income, lower educational level, worse housing conditions, and more hazardous types of employment are associated with increased risk of hospitalization from unintentional fall-related injuries.[67] Unintentional fall injuries among First Nations women and older adults are likely associated with age-related physical frailties such as osteoporosis. Fall injuries among First Nations males and youth are more strongly influenced by factors such as occupation, recreational activities, and substance use.[68] Self-harm and interpersonal violence have been found to be related to employment, occupation (risk attached to the job/tasks), and education (high school completion).[69]

Additional analyses by health authority showed that the rate of serious injuries per 10,000 population in 2013-17 was higher for the Status First Nations population in the Northern health region (see Appendix D). This is consistent with other evidence showing that the Northern region has the highest rate of serious injuries due to many higher risk factors. For example, motor vehicle crash injuries can be more serious in northern and rural/remote BC due to higher highway speeds, less frequented roads, longer distances to emergency care, and vehicles with greater risks.[70] Other evidence shows that injury hospitalization increases as proportion remoteness increases, linked with higher proportions of crowded housing, housing in poor condition, participating in industries with greater risk of a work injury claim, and being at higher latitude.[71]

To begin addressing injury disparities, programs, services, and strategies must be grounded in cultural teachings and be collaborative as well as culturally safe. Initiatives targeting falls among Status First Nations females age 60 and up will be a necessary step to achieving the indicator target.

# LIVING LONG LIVES

| | | | |
|---|---|---|---|
| **INDICATOR** | Life expectancy | | |
| **MEASURE** | Life expectancy at birth. | | |
| **SOURCE** | First Nations Client File | | |
| **BASELINE** | 73.4 years | **TARGET** | ↑ 2 per cent |

The ability for BC First Nations to live long lives is important for current and future generations. It means more opportunities for transmission of knowledge, language, and culture to the next generation. From a public health perspective, life expectancy is a measure of the length of a person's life; specifically, the expected number of years of life a person born today could expect to live, based on the overall current conditions of the population.[73] In this report, it is calculated as the expected years of life at birth. This is a common indicator of the general health status of a population, and was one of the original seven indicators monitored in the TCA:FNHP and will continue to be monitored as part of the PHWA. It is a measure of the length (quantity) of life and does not indicate quality of life or the number of years spent in good health.[74]

Determinants of health produce disparities among lifestyle elements like physical activity and healthy eating, which in turn impact rates of disease and other health conditions.[75] The cumulative result of these influences is a shorter life expectancy for Status First Nations than for Other Residents. A previous PHO report showed that for 2002-06, life expectancy was 5.7 years shorter for Status First Nations than for Other Residents.[10]

*"I was feeling so grateful to our Elders. That they shared their knowledge with me. Despite the Indian Act, they still sang our songs, hunted, got food for the winter. Makes me proud. They must have had fear in their hearts. Then I felt happiness. Because that didn't stop us. I sit here today feeling happy and grateful."*

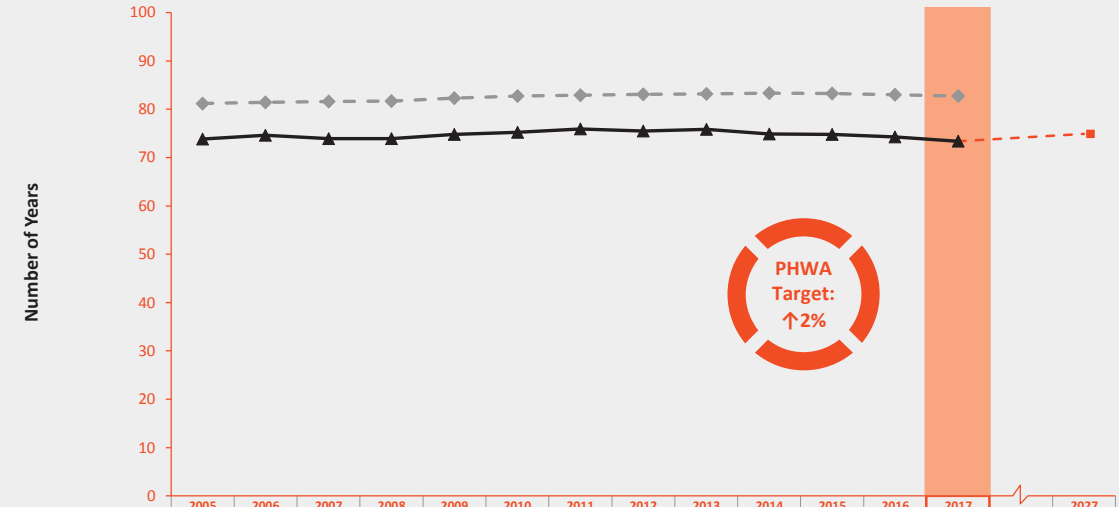
**– Edwin Bicadi, Southern Stl'atl'imx, Líl̓wat Nation; *We Walk Together* gathering - Vancouver Coastal Region[72]**

Elder in 'Namgis Territory, 2018.

Up to 2014, BC historically had one of the highest life expectancy rates at birth of all the provinces and territories in Canada.[76] However, since 2014, life expectancy at birth in BC has been decreasing, largely due to the significant and sustained number of unintentional overdose deaths that have resulted from the highly toxic illegal drug supply in the province.[77] In 2016, a multi-sector response was launched by the provincial government and its partners to keep people who use drugs safe from harm. The fatalities resulting from the crisis have had a disproportionate impact on a few sub-populations in BC, including Status First Nations people. Despite continuous efforts in BC to resolve the overdose crisis, there has been minimal success in stopping the rising death toll since the crisis started,[78] and the Status First Nations death rate from opioid-related overdoses continues to rise: it increased by 21 per cent from 2017 to 2018.[79] In 2018, Status First Nations in BC were 4.2 times as likely to die due to an overdose compared to Other Residents.[79]

FIGURE 4.26

## Life Expectancy at Birth, Status First Nations and Other Residents, BC, 2005 to 2027




| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | | 2027 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations | 73.9 | 74.6 | 74.0 | 73.9 | 74.8 | 75.3 | 75.9 | 75.5 | 75.8 | 74.9 | 74.8 | 74.3 | 73.4 | | |
| Other Residents | 81.2 | 81.4 | 81.6 | 81.7 | 82.3 | 82.7 | 82.9 | 83.1 | 83.1 | 83.3 | 83.3 | 83.0 | 82.7 | | |
| Target | | | | | | | | | | | | | 73.4 | | 74.9 |

**Notes:** "Life expectancy" is the expected number of years of life remaining at a given age; in this case, at birth. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

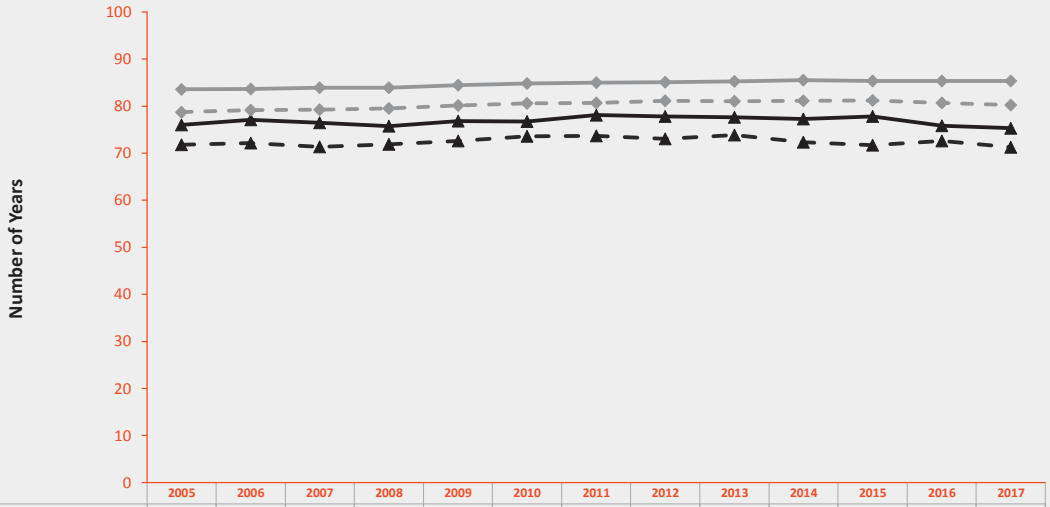
Figure 4.26 shows the decline in life expectancy at birth beginning in recent years for British Columbians in association with the overdose crisis; however, the decrease appears earlier and more pronounced among the Status First Nations population. As this chart shows, life expectancy at birth for Status First Nations has decreased from 75.9 years in 2011 to 73.4 years in 2017. ***The target for the next 10 years is to increase life expectancy among First Nations by 2 per cent***.

Figure 4.27 shows that Status First Nations males and females both have lower life expectancies at birth than their Other Resident counterparts, and that the overdose crisis is further widening this gap. Life expectancy at birth is lowest among Status First Nations males for all years examined, both before the overdose crisis began and after.

Additional analyses by health authority show that life expectancy at birth for Status First Nations residents in 2017 was considerably lower in the Vancouver Coastal region than in the other four regions (see Appendix D).

FIGURE 4.27

## Life Expectancy at Birth, Status First Nations and Other Residents, by Sex, BC, 2005 to 2017




| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations Females | 76.0 | 77.0 | 76.4 | 75.8 | 76.9 | 76.7 | 78.1 | 77.8 | 77.6 | 77.3 | 77.8 | 75.9 | 75.3 |
| Status First Nations Males | 71.8 | 72.1 | 71.4 | 71.8 | 72.6 | 73.6 | 73.6 | 73.0 | 73.8 | 72.3 | 71.7 | 72.6 | 71.3 |
| Other Residents Females | 83.6 | 83.6 | 83.9 | 83.9 | 84.4 | 84.8 | 85.0 | 85.1 | 85.2 | 85.5 | 85.3 | 85.3 | 85.3 |
| Other Residents Males | 78.7 | 79.2 | 79.3 | 79.5 | 80.1 | 80.6 | 80.7 | 81.1 | 81.0 | 81.1 | 81.2 | 80.7 | 80.2 |

Year

**Notes:** "Life expectancy" is the expected number of years of life remaining at a given age; in this case, at birth. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

It can take many years to change life expectancy, particularly with the overdose crisis still underway. Action to address the crisis is in motion throughout BC, and in 2016, FNHA developed the *Framework for Action: Responding to the Overdose/Opioid Public Health Emergency for First Nations*.[80] Since the release of this framework, FNHA has been collaborating with First Nations partners including health authorities, the provincial and federal governments, and other agencies in BC, with the aim of ensuring that response efforts are trauma-informed, guided by cultural safety and humility, and appropriate for the needs of First Nations communities.

These organizations have worked to implement harm reduction strategies and initiatives across BC. For example, FNHA has equipped over 2,430 people from more than 175 First Nations communities with the skills and tools to recognize and respond to an overdose, and all nursing stations are able to dispense buprenorphine/naloxone, a first-line treatment for opioid use disorder.[79] Initiatives such as these will help to curb the decrease in life expectancy, and in complement with initiatives that support other influences of life expectancy (e.g., physical activity, healthy eating, reduced tobacco, and alcohol use) can assist in moving this indicator toward the target in future years.

# DEATHS DUE TO ALL CAUSES

| | | | |
|---|---|---|---|
| **INDICATOR** | Deaths due to all causes | | |
| **MEASURE** | All-cause age-standardized mortality rate, expressed as a rate per 10,000 population. | | |
| **SOURCE** | First Nations Client File | | |
| **BASELINE** | 116.2 per 10,000 population | **TARGET** | ↓ 15 per cent |

*"The good death [is] a person that's comfortable with dying.... That's going to be a good comfortable voyage, a good comfortable transformation, when they are humbly praying for you, as you're supposed to be going there to pray for them. So, I think that's beautiful when they have that good mind and good heart... and accept. Accept. Accept and not challenge it."*

**– Elder Eugene Harry (XiQuelem), Cowichan Tribes; Cultural Advisor, BC Aboriginal Child Care Society[81]**

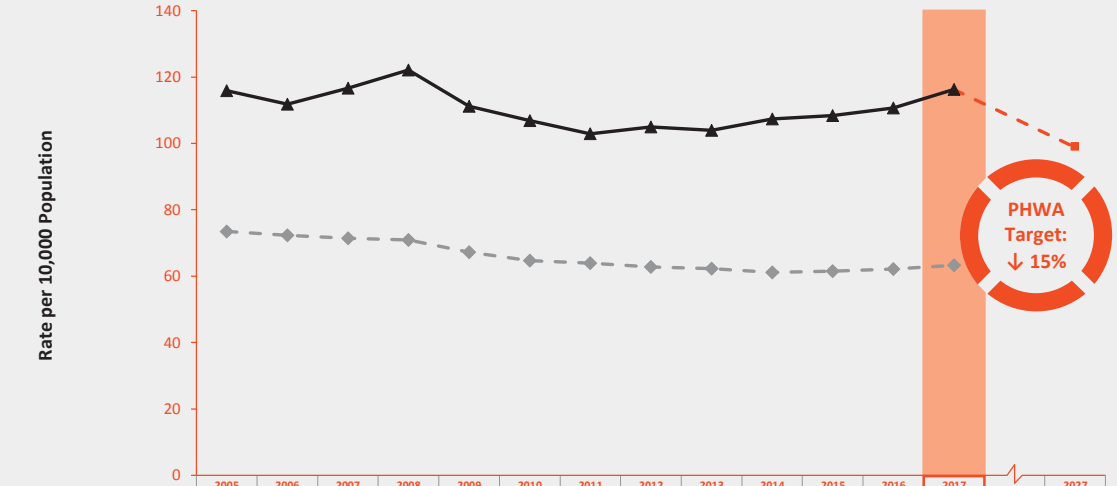
Practices and beliefs about death vary from family to family and nation to nation, but there are similarities in how First Nations people view death and dying. Death and dying are considered a process of life and tend to be openly integrated and ingrained in communities. For many, death means that a person is going home.[82] However, for families and Nations to be healthy and vibrant, individuals need to be supported to live well, until it is time to take this next step in their life journey. In contrast to life expectancy, which quantifies life, the mortality rate quantifies the deaths in a population. Much like life expectancy, it only captures quantity, and so does not reflect the quality of the death experience for an individual or their family and community.

In this report, deaths—or mortality rate—is calculated as an age-standardized mortality rate (ASMR), which accounts for differences in the age distribution of populations being compared. This is necessary when comparing the Status First Nations population of BC to Other Residents, because the average age of the Status First Nations population is younger.[83] Age-standardized mortality rate was one of the original indicators monitored for the TCA:FNHP, and will continue to be measured and monitored in the PHWA for the next 10 years.

Figure 4.28 shows that the age-standardized all-cause mortality rate for Status First Nations has been increasing since 2013, reaching a high of 116.2 deaths per 10,000 population by 2017. While the rate has also been increasing for Other Residents since 2014, the increase has been more pronounced for the Status First Nations population, resulting in an increase in the gap between Status First Nations and Other Residents. The gap between these populations was 39.0 percentage points in 2011, and had increased to 52.9 percentage points in 2017. This is similar to findings shown in Figure 4.26 for life expectancy at birth and is at least partially attributable to the disproportionate burden of the ongoing overdose crisis in BC for Status First Nations. ***The target for this indicator for the next 10 years is to decrease ASMR for First Nations by 15 per cent.***

FIGURE 4.28

## Age-standardized All-cause Mortality Rate, Status First Nations and Other Residents, BC, 2005 to 2027




| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | | 2027 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations - Rate | 115.8 | 111.8 | 116.6 | 122.1 | 111.2 | 106.8 | 102.9 | 105.0 | 104.0 | 107.4 | 108.4 | 110.6 | 116.2 | | |
| Other Residents - Rate | 73.5 | 72.3 | 71.4 | 70.9 | 67.3 | 64.7 | 63.9 | 62.8 | 62.3 | 61.1 | 61.6 | 62.1 | 63.3 | | |
| Status First Nations - Deaths | 720 | 707 | 733 | 765 | 747 | 749 | 750 | 794 | 787 | 899 | 937 | 999 | 1,112 | | |
| Other Residents - Deaths | 29,356 | 29,828 | 30,381 | 31,131 | 30,498 | 30,386 | 31,012 | 31,553 | 32,254 | 32,718 | 34,097 | 35,446 | 37,167 | | |
| Target | | | | | | | | | | | | | 116.2 | | 98.8 |

**Notes:** Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

In addition to measuring ASMR, the PHWA will also monitor **potential years of life lost (PYLL)**. PYLL is a measure of premature death that estimates the average years of life lost in individuals who would have otherwise lived an optimal life expectancy (e.g., 86 years).[84] This is an important measure because it better illustrates the effects of deaths in a younger population. Currently the First Nations population is much younger than the overall population of BC; in 2006, 46 per cent of the First Nations population was under age 25, compared to 29 per cent of Other Residents.[10] While these are quantitative aggregated statistics, they should be understood as much more—each year 'lost' is a year that a family and community did not have with their loved one, a child or youth that did not have a chance to reach adulthood, or a parent that did not get to see their child grow up.

Figure 4.29 presents the PYLL standardized rate for 2005 to 2017. The rate represents the average number of life years lost among 1,000 people. It shows that at a rate of 244.8 years lost per 1,000 population in 2017, the burden of life lost for Status First Nations is more than double that of Other Residents (104.9 years lost per 1,000 population). It also represents nearly 250 'years' that families and communities will not get to spend with their community members and loved ones, as a result of lives being cut short. Similar to Figure 4.28, the gap between these populations has been widening since 2013, and much of the widening is due to the overdose crisis discussed earlier.

FIGURE 4.29

## Potential Years of Life Lost Standardized Rate, Status First Nations and Other Residents, BC, 2005 to 2017


| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations | 239.2 | 222.0 | 228.4 | 227.9 | 214.4 | 206.1 | 198.2 | 204.9 | 195.6 | 217.5 | 219.4 | 228.1 | 244.8 |
| Other Residents | 117.5 | 114.3 | 112.7 | 111.2 | 105.5 | 101.6 | 99.8 | 97.3 | 98.4 | 97.0 | 96.6 | 101.8 | 104.9 |

Year

**Notes:** "Potential years of life lost" represents the average number of years of life lost due to premature death before age 86 by any cause, per 1,000 residents. Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

Additional analyses of PYLL show that the rates for both male and female Status First Nations are more than double the rates for Other Residents and are increasing. They also show that—similar to life expectancy—the population in Vancouver Coastal is experiencing the greatest challenges.

Analyses of the causes of the years of life lost for Status First Nations and Other Residents in BC for 2013-17 show that there is a disproportionate burden on Status First Nations for almost all causes of death. While neoplasms (cancers) and cardiovascular diseases are the top two contributors among both First Nations and Other Residents, contributions by other causes are more evenly and proportionally distributed among Other Residents than in First Nations (with digestive diseases and self-harm as the third and fourth contributors among First Nations). See Appendix D for these additional analyses.

# DEATHS DUE TO ALCOHOL

| | | | |
|---|---|---|---|
| **INDICATOR** | Deaths due to alcohol | | |
| **MEASURE** | Alcohol-attributable mortality rate, expressed as a rate per 10,000 population. | | |
| **SOURCE** | First Nations Client File | | |
| **BASELINE** | 14.2 per 10,000 population | **TARGET** | ↓ 30 per cent |

Deaths due to alcohol are a very "downstream" and deficit-focused indicator of population health. However, to catalyze change at systemic and structural levels, it is important to continue to draw attention to the far-reaching impacts of alcohol on First Nations families, communities, and Nations, due to the legacy of systematic oppression, racism, and separation from land and culture.[85,86] This indicator speaks to a very challenging aspect of life among First Nations communities. The people represented as numbers in these charts have suffered greatly because of Canadian colonial policies and processes. Without their own healing traditions, some have had to turn to alcohol as a source of relief from that pain and as a result, lost their life.

Peoples' experiences and relationship with alcohol are varied and diverse both from one another and throughout their own life journey. Some people decide not to drink at all or choose minimal recreational use. For some people alcohol use can become problematic, and harmful to their social, emotional, mental, spiritual, and physical health and wellness. For others, they may experience alcohol addiction and severe alcohol dependence. No matter what relationship a person has with alcohol, harm reduction can be part of First Nations' health and wellness journeys. Harm reduction recognizes that people who use alcohol deserve to be safe and receive support. First Nations harm reduction integrates cultural strengths, knowledge, traditional values, and appropriate cultural supports.[87]

Canada's Low-Risk Alcohol Drinking Guidelines suggest that men should consume no more than three drinks per day, and women should consume no more than two drinks per day, to reduce long-term health risks.[88] High levels of alcohol consumption are associated with higher risks for chronic conditions such as heart disease, cirrhosis, and cancers, and acute problems such as injuries, violence, and suicide.[89]

# OVERCOMING TRAUMA AND ALCOHOLISM: A SIXTIES' SCOOP SURVIVOR'S STORY[92]

*"I'm a Sixties' Scoop survivor and grew up feeling anxious and disconnected from my family, community and culture. As a teenager, I experienced two severe traumatic events that led to my developing chronic PTSD that went undiagnosed. For many years, I coped by distracting myself with school and then work and family responsibilities.*

*Later as an adult, I experienced significant changes in a short period, including the deaths of two of the most important people in my life. Again, I tried to bury myself in my work but over several years, I became depressed, unable to sleep and reluctant to seek help. I started to increase my alcohol use in the evenings, drinking initially to self-medicate my anxiety, grief and insomnia. Eventually, my alcohol use became problematic and impaired my ability to meet life's demands.*

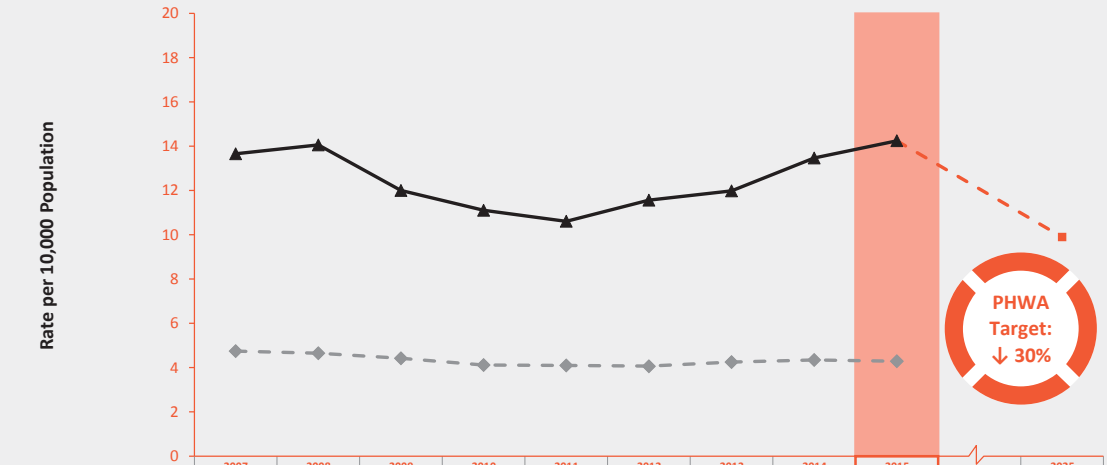
*Being First Nations delayed my seeking treatment, because I had internalized the stigma of being an alcoholic. I eventually deteriorated to the point where it became necessary for me to seek residential treatment.*

*I completed a program where both my alcohol use and chronic PTSD were addressed. I've been on my recovery journey now for over 4½ years. I have the tools to manage my anxiety, mood and trauma symptoms without having to use substances. I have a stronger identity as a First Nations person, my self-esteem has improved and most importantly, I am able to be clear and present to meet all of my responsibilities. I've become a valuable, contributing member of the communities I belong to. Best of all, having worked so hard to achieve and maintain my wellness, I feel a strong connection to the world around me."*

**– Anonymous**

FIGURE 4.30

## Alcohol-attributable Mortality Rate, Status First Nations and Other Residents, BC, 2007 to 2025




| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | | 2025 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations - Rate | 13.7 | 14.1 | 12.0 | 11.1 | 10.6 | 11.6 | 12.0 | 13.5 | 14.2 | | |
| Other Residents - Rate | 4.7 | 4.7 | 4.4 | 4.1 | 4.1 | 4.1 | 4.3 | 4.4 | 4.3 | | |
| Status First Nations - Count | 120 | 122 | 105 | 109 | 107 | 113 | 115 | 135 | 146 | | |
| Target | | | | | | | | | 14.2 | | 9.9 |

Year

**Notes:** The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

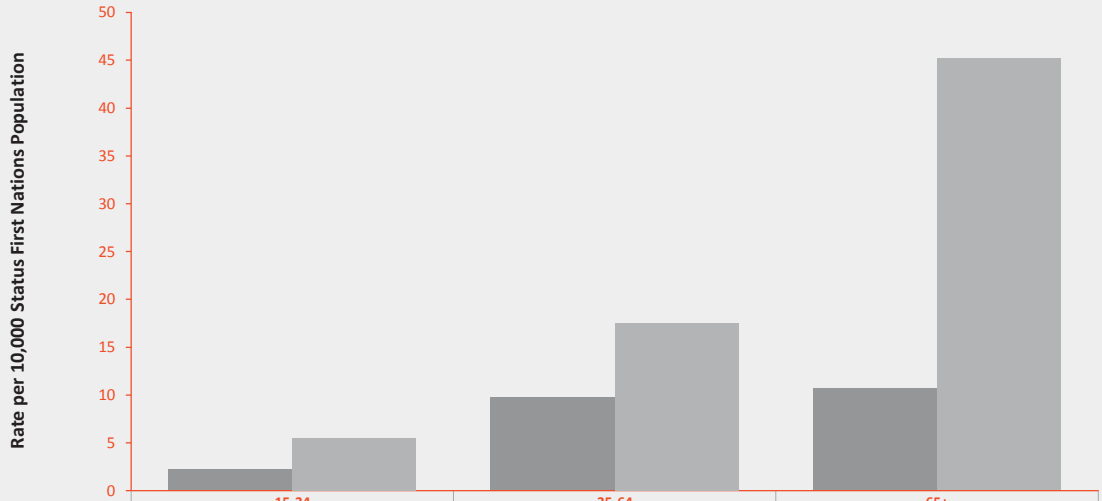
National data have identified that First Nations are more likely to not drink compared to other Canadian residents: 31 per cent of off-reserve First Nations across Canada report they are non-drinkers, compared to 24 per cent of the Other Resident population.[90] However, these data also show that among First Nations people who drink, the rate of heavy drinking (defined as five or more drinks on one occasion at least once a month) is higher among the First Nations population than Other Residents: 35 per cent for off-reserve First Nations people and 23 per cent for Other Residents.[90]

This indicator uses the measurement of **alcohol-attributable deaths** to determine the number of deaths in BC that occurred directly and indirectly from alcohol use. This is done using **population attributable fractions for alcohol**, which captures deaths from conditions linked to alcohol use (such as alcohol-related cancers, communicable diseases and others).[j] This measure was chosen for use in this report as it is a more comprehensive view of the harmful impact of alcohol use on Status First Nations than deaths directly caused by alcohol use.

j It should be noted that the alcohol attributable fractions were developed by researchers examining population data, not based solely on Indigenous or First Nations population data.

FIGURE 4.31

## Alcohol-attributable Mortality Rate, Status First Nations, by Age and Sex, BC, 2011-15




| | 15-34 | 35-64 | 65+ |
|---|---|---|---|
| Females - Rate | 2.3 | 9.8 | 10.7 |
| Males - Rate | 5.4 | 17.5 | 45.3 |
| Females - Deaths | 29 | 146 | 30 |
| Males - Deaths | 73 | 246 | 92 |

Age Group

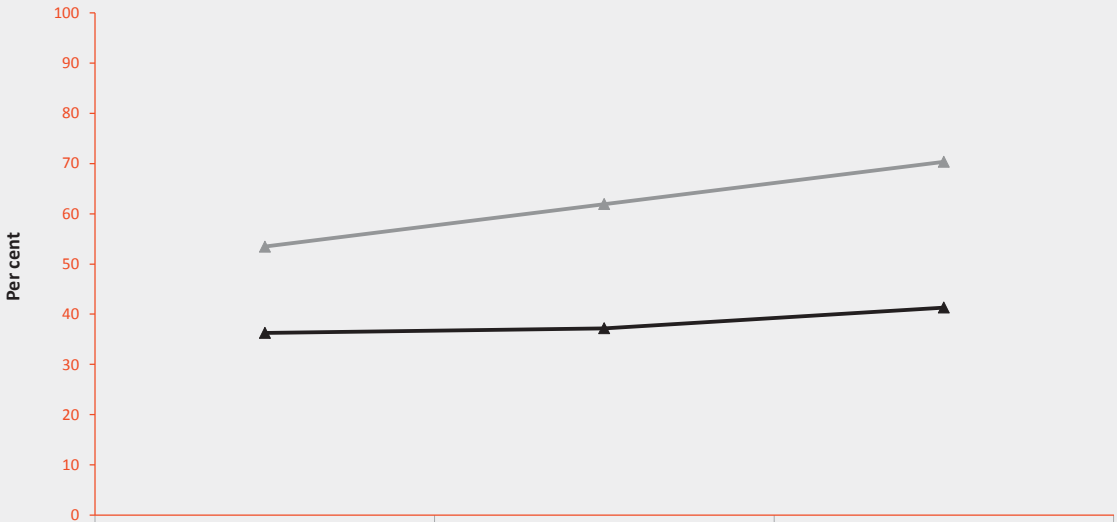
**Notes:** The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

As shown in Figure 4.30, the alcohol-attributable mortality rate (deaths linked to alcohol) has increased among Status First Nations, from 10.6 per 10,000 population in 2011, up to 14.2 per 10,000 in 2015. This rate is more than three times higher than the rate for Other Residents. ***The target for the next 10 years is to decrease alcohol-attributable mortality among First Nations by at least 30 per cent.***

As shown in Figure 4.31, the alcohol-attributable mortality rate among Status First Nations for 2011-15 was higher among males for all age groups. The number of alcohol-related deaths and the associated mortality rate among Status First Nations males age 15–34 is more than double the rate of females of that age. Among Status First Nations age 65 and up, males are more than four times as likely to die from an alcohol-related death than females of that age.

FIGURE 4.32

## Percentage of First Nations Youth and Adults On Reserve Who Did Not Consume Alcohol in the Last 12 Months, BC, 2002-03 to 2015-17




| | 2002-03 | 2008-10 | 2015-17 |
|---|---|---|---|
| Youth | 53.5 | 61.9 | 70.3 |
| Adults | 36.3 | 37.2 | 41.3 |

Survey Years

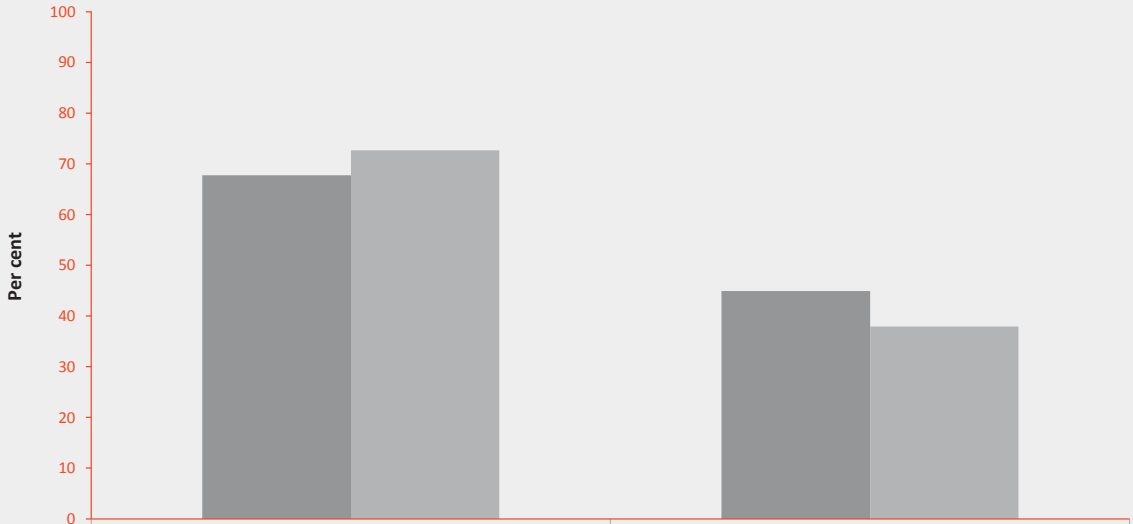
**Notes:** Includes responses of survey participants who reported that they had not had a drink of beer, wine, liquor, or any other alcohol beverage in the past 12 months. "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

Additional analyses of the alcohol-attributable mortality rate among Status First Nations for 2011-15 by health authority shows that the highest rate per 10,000 population is in Vancouver Coastal, at 15.4 deaths per 10,000 population. These analyses also indicate that the two conditions/causes responsible for the most deaths related to alcohol were digestive conditions (e.g., liver cirrhosis) at a rate of 4.4 per 10,000 population, and injuries (both intentional and unintentional) at 3.3 per 10,000 (see Appendix D).

Despite these findings, analyses of on-reserve First Nations survey results show that many do not drink alcohol at all. As shown in Figure 4.32, the percentage of those who did not drink alcohol in the last 12 months is increasing over time among both youth and adults. Figure 4.33 shows that male youth are more likely to abstain from drinking alcohol than female youth, while female adults are more likely to abstain than male adults.

FIGURE 4.33

## Percentage of First Nations Youth and Adults On Reserve Who Did Not Consume Alcohol in the Last 12 Months, by Sex, BC, 2015-17




| | Youth | Adults |
|---|---|---|
| Females | 67.8 | 44.9 |
| Males | 72.7 | 37.9 |

**Notes:** Includes responses of survey participants who reported that they had not had a drink of beer, wine, liquor, or any other alcohol beverage in the past 12 months. "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

Additional analyses show that almost half of First Nations adults on reserve in the Interior region did not drink alcohol in the last 12 months (47.0 per cent). Among youth, the Island region had the highest proportion of youth who did not drink in the past 12 months (81.3 per cent) (see Appendix D).

In partnership with the BC Ministry of Health, FNHA released *A Path Forward: BC First Nations and Aboriginal People's Mental Wellness and Substance Use – 10 Year Plan*,[85] a community-based plan to address mental wellness and substance use. The hope of this plan is that a balance of customs, values, and beliefs, and mainstream approaches will sustain a new era for mental wellness and reduce problematic substance use for First Nations in BC across the life span.

## CONCLUSION

The PHWA illuminates the complex factors that create health and wellness outcomes. This chapter examined 13 indicators that represent health outcomes for First Nations in BC. It showed that in many ways, First Nations children and families are living healthy, vibrant lives in strong, self-determining communities, and it identified some areas that require increased efforts. Specific actions are required at a systems level to support First Nations babies, children, and youth and their families — many of the disparities highlighted in this agenda can be attributed to the socio-economic, environmental, political, and historical conditions in which they live. Moreover, high quality, holistic, wellness-focused, and culturally relevant health and wellness promotion programs provide a promising avenue for addressing these health disparities, giving children the best start in life. These aspects must be addressed before improvements will be seen for these indicators.

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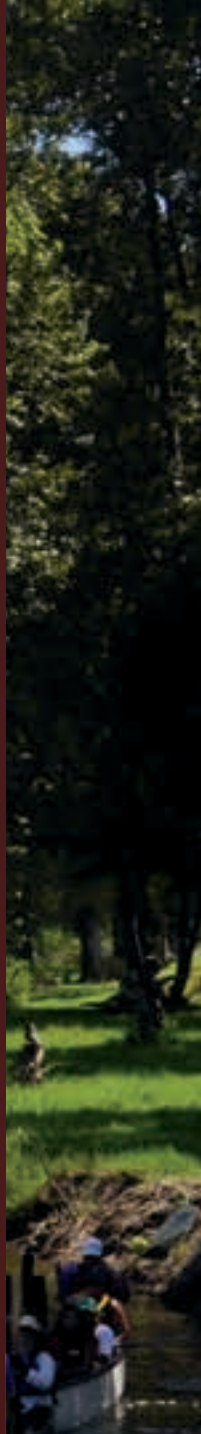
TRIBAL CANOE JOURNEY, FRASER SALISH REGION.



## CHAPTER 5

# PADDLING TOGETHER: ONE HEART, ONE MIND

The journey of the first 10 years of the *Transformative Change Accord: First Nations Health Plan* (TCA: FNHP) has elevated the strength and resilience of First Nations people and strengthened partnerships across organizations to address the challenges facing First Nations in BC together. In assembling this first report of the First Nations Population Health and Wellness Agenda (PHWA), our Steering Committee has learned from Elders, Knowledge Keepers, communities, our partners, and from one another, and we have grown stronger in our partnership and our respective roles as the Watchmon and allies. We offer this final chapter to provide an overview of key findings presented in the report, discuss our learning, and share teachings. We also offer pathways for improving First Nations health and well-being, and for moving forward in a new era of collaboration and partnerships.

*"Know your culture, have a connection back to the land…."*

*"It begins with our children. Rebuild the strengths of our families."*

*"Our communities know what's going to work, we can do better for ourselves."*

– Voices from members of the First Nations Health Council, 2019[1]

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## FNHA's Chief Medical Officer and the Provincial Health Officer Honour Ancestors, Elders, Knowledge Keepers, Communities, and Nations

*We recognize Ancestors, Elders, Knowledge Keepers, communities, and Nations as the holders and stewards of sacred knowledge, languages, ceremonies, and cultural practices. We extend heartfelt gratitude to the Ancestors, knowledge seekers, Knowledge Keepers, and Elders for their concerted efforts—in the face of adversity—to preserve, revitalize, and strengthen their distinct ways of knowing.*

*“The social determinants of health, in terms of living well, means that our grandmothers and our aunties are making the most important decisions about their family.”*

*“Respected Elders, the men and the women, are teaching their children and their grandchildren what they need to know to succeed in the two worlds in which we live.”*

**– Voices from members of the First Nations Health Council, 2019**[1]

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First Nations in BC and the Province of BC have committed to changing how we measure and report on First Nations health and wellness, and this report is only one step in that ongoing journey. Historically, deficit-based reports emphasized what First Nations people lack, highlighting sickness and disease, and what is needed to “catch up” to other residents of BC. While this report shifted toward a more strengths-based approach, we are inhibited by legislation that perpetuates racist misunderstandings and terminologies, and by databases that quantify “health” by measuring the number and severity of biological illness, injury, and disease.

What we measure influences what we do. It is time for a much larger systemic shift to a wellness focus and an approach that acknowledges that First Nations people home and away from home are strong and resilient despite the colonial practices and policies that have ravaged communities. Over the last 15 years, there have been several key agreements and commitments, and many partnerships have been forged across sectors and levels of government. These have been foundational tools and teachings for the next part of our journey, and BC is now primed for a paradigm shift and a new way forward.

# OBSERVATIONS, TEACHINGS, AND EXPERIENCES

In this report, we presented the 22 PHWA indicators, organized by spheres of wellness, and established their baselines and targets for the next 10 years. Some indicators show positive health outcomes emerging while others identify areas that require more support.

**The dashboards in this chapter provide a snapshot of the 22 indicators presented in the previous pages.**

For each indicator, the dashboard shows:

- The baseline data.
- Targets for the next 10 years.
- Overall progress/trends.
- If there are gaps with other residents of BC.
- If there are disparities between the sexes and regions.

## Healthy, Self-Determining Nations and Communities

In this chapter, we examined three indicators that are fundamental roots of wellness. Self-determination has been cited as the most important determinant of health for First Nations peoples, influencing all aspects of community and nation wellness, and influencing other determinants of health, including education, housing, and safety. Evidence has demonstrated a link between an individual having control over their life (the capability to lead the life they most want to lead) and good health, while low perceived life control or autonomy has been linked to various health issues, including chronic diseases, accidents, mental illness, and suicide.[2,3] However, this is a challenging concept to measure and monitor. Similarly, connection to—and health of—the land is essential to health and wellness for First Nations but is also challenging to measure. The PHWA team is working to establish a measure for monitoring ecological health that reflects First Nations perspectives through the exploratory work of *We Walk Together: Exploring Connections to Land, Water, and Territor*y and the project's regional gatherings with Elders, Knowledge Keepers, and youth. We look forward to being able to report on these two indicators in future publications. The third indicator explored was cultural wellness, which is a composite measure comprising language, participation in cultural community events, traditional spirituality, traditional medicines, and traditional foods. Our findings showed that First Nations adults in BC reported a high level of cultural wellness (3.5 on a scale of 5) in 2015-17.

FNHA staff members gather in Squamish Territory.

| | BASELINE[k] | 10-YEAR TARGET | | OVERALL PROGRESS | GAP[l] | PROGRESS | | DISPARITY | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | MALES | FEMALES | SEX | REGION |
| **HEALTHY, SELF-DETERMINING NATIONS AND COMMUNITIES: LAND, FAMILY, COMMUNITY, NATIONS** | | | | | | | | | |
| SELF-DETERMINATION | — | Establish and implement a measure | | — | — | — | — | — | — |
| CONNECTION TO LAND | — | Establish and implement a measure | | — | — | — | — | — | — |
| CULTURAL WELLNESS<br>Knowledge of a First Nations language, participation in cultural activities, importance of traditional spirituality, use of traditional medicine, consuming traditional food | 3.5 | ↑20% | 4.2 | ✓ | N/A | N/A | N/A | ⚥ | |

✓ Positive Trend
≈ No/minimal change
✕ Trend is worsening

Gap is minimal
Gap is moderate
Gap is large/worsening

⚥ Little/no disparity by sex
⚥ Moderate disparity by sex
⚥ Substantial disparity by sex

Little/no disparity by region
Moderate disparity by region
Substantial disparity by region

[k] Baselines are set between 2015-2018 depending on data source.

[l] Gap with Other Residents of BC.

Gitanmaax Health and Wellness Centre.

A family plays together at an Aboriginal Head Start On Reserve program.

## Supportive Systems

In this chapter, we examined six indicators that are additional roots of wellness, with three focusing on the socio-economic determinants of health and wellness, and three focusing on the health care system.

Socio-economic determinants monitored in this report include food insecurity, acceptable housing, and education. Approximately half (53.8 per cent) of First Nations living off reserve had acceptable housing in 2016, meaning it was adequate (did not require major repairs), affordable (less than 30 per cent of household income), and suitable (appropriate size for number of people). The percentage of Indigenous students graduating within eight years of entry into Grade 8 has been steadily increasing over time, reaching a high of 69.4 per cent in 2016/17.

Indicators of the appropriateness and effectiveness of the health care system included avoidable hospitalizations, cultural safety in receiving health care services, and the number of registered First Nations physicians in BC. We found that the rate of avoidable hospitalizations has been slightly decreasing over the last decade for Status First Nations, but that the rate was still more than double that of Other Residents in 2017. Among Status First Nations surveyed in health care settings, 68.8 per cent in acute care and 69.5 per cent in the emergency department reported that their health care provider was respectful of their culture and traditions; however, these data may not be fully representative of many First Nations people's experiences. Lastly, analyses showed that while First Nations people make up 3.8 per cent of the population in BC, there were only 43 First Nations physicians registered in BC in 2019, comprising 0.32 per cent of all registered physicians in BC.

Aboriginal Head Start On Reserve Program.

| | BASELINE | 10-YEAR TARGET | | OVERALL PROGRESS | GAP | PROGRESS | | DISPARITY | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | MALES | FEMALES | SEX | REGION |
| **SUPPORTIVE SYSTEMS: ENVIRONMENT, SOCIETY, CULTURE, ECONOMY, AND HEALTH SYSTEMS** | | | | | | | | | |
| **FOOD INSECURITY**<br>Proportion of households who could not afford to eat balanced meals | 43.5% | ↓20% | 34.8% | ≈ | — | N/A | N/A | N/A | |
| **ACCEPTABLE HOUSING**<br>Proportion of households with acceptable (adequate, suitable, affordable) housing | 54.3% | ↑20% | 65.2% | ≈ | ○ | N/A | N/A | N/A | |
| **EDUCATION**<br>Proportion of students who complete high school within 8 years | 69.4% | ↑20% | 83.3% | ✓ | ✓ | ✓ | ✓ | ⚥ | |
| **AVOIDABLE HOSPITALIZATIONS**<br>Rate per 10,000 population | 78.0 | ↓15% | 66.3 | ≈ | ● | ≈ | ≈ | ⚥ | |
| **CULTURAL SAFETY AND HUMILITY**<br>Experience in health care | | | | | | | | | |
| Acute Care | 68.8% | ↑25% | 86.4% | ✓ | N/A | — | — | — | |
| Emergency department | 69.5% | | | | | | | | |
| **CERTIFIED, PRACTICING FIRST NATIONS HEALTH CARE PROVIDERS**<br>Number of registered First Nations physicians in BC | 0.32% | ↑100% | 0.64% | ✗ | ● | — | — | — | — |

✓ Positive Trend
≈ No/minimal change
✗ Trend is worsening

○ Gap is minimal
○ Gap is moderate
● Gap is large/worsening

⚥ Little/no disparity by sex
⚥ Moderate disparity by sex
⚥ Substantial disparity by sex

Little/no disparity by region
Moderate disparity by region
Substantial disparity by region

## Healthy, Vibrant Children and Families

In this chapter, we explored 13 indicators of health and wellness outcomes. This includes measures that focus on healthy beginnings, children and youth, families, and communities.

Indicators of healthy beginnings included healthy birth weights and infant mortality rate. We found that there has not been a substantial change in the percentage of First Nations newborns born at a healthy birth weight for sex and gestational age from 2005 to 2017. Since there has been some improvement in this measure among Other Residents during this time, the gap between these populations has slightly increased. Since the last interim update of the TCA:FNHP, there has been a successful reduction in infant mortality among Status First Nations in BC,[m] but overall it is higher than it was in the early 2000s and the gap between the Status First Nations population and the Other Residents population has increased.

The health and well-being of children and youth were explored through the indicators of children's oral health, healthy childhood weights, and youth/young adult suicide rate. In examining family health, we also reviewed indicators of physical activity and smoking. We found that, while it is improving over time, less than half (45.7 per cent) of Aboriginal kindergarten children screened in BC had healthy (caries free) teeth in 2015/16. Our analyses also showed that less than one-third (30.5 per cent) of First Nations children age 2–11 had a healthy BMI in 2015-17, and that this trend is worsening over time. There has been a great deal of fluctuation in the rate of suicide among Status First Nations youth/young adults (age 15–24) over the last 20 years. While overall the trend has been decreasing, the rate has increased since 2010-14, up to 3.3 per 10,000 population in 2013-17, which has resulted in an increased gap, and a suicide rate among Status First Nations youth/young adults that is now four times higher than the rate among Other Residents. In 2015-17, over half (55.3 per cent) of children and youth living on reserve met the national recommended guidelines for physical activity. The proportion of First Nations youth living on reserve who smoke commercial tobacco "occasionally" or "daily" has been decreasing over time, and by 2015-17 reached a low of 12.9 per cent.

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[m] As identified in the Healthy Birth Weights section, due to an issue in timely identification of Status First Nations infants in provincial datasets, some infants who are Status First Nations may be included in Other Residents data. This impacts all figures related to this indicator. See Appendix B for more information.

The health of families and adults was examined through the indicators of mental and emotional well-being, physical activity, diabetes incidence rate, smoking, and serious injuries. The proportion of First Nations adults who feel in balance physically, emotionally, mentally, and spiritually has increased slightly to just over half (53.4 per cent) in 2015-17. In the same year, 77.2 per cent of First Nations adults living on reserve met the national recommended guidelines for physical activity. Overall there is a downward trend in the diabetes incidence rate among Status First Nations, but there was a noticeable increase in the most recent year, which increased the gap with Other Residents considerably in 2017/18. The proportion of First Nations adults living on reserve who smoke commercial tobacco "occasionally" or "daily" has been decreasing and reached 40.5 per cent by 2015-17. There has not been substantial improvement in the rate of serious injuries requiring hospitalization for Status First Nations in BC over the last 12 years, and the reduction of the gap with Other Residents from earlier years was not sustained.

The overall health of communities and the First Nations population included indicators of life expectancy, mortality, and mortality due to alcohol. Life expectancy for Status First Nations has decreased from 75.9 years in 2011 to 73.4 years in 2017. This decline is associated with the ongoing overdose crisis in BC; however, the decrease appears earlier and more pronounced among the Status First Nations population than Other Residents. The age-standardized all-cause mortality rate for Status First Nations has been increasing since 2013, reaching a high of 116.2 deaths per 10,000 population by 2017. While the rate has also been increasing for Other Residents, it has been more pronounced for the Status First Nations population, resulting in an increase in the gap between them. The alcohol-attributable mortality rate (deaths linked to alcohol) has increased among Status First Nations, up to 14.2 per 10,000 in 2015, and the rate is now more than three times higher than the rate for Other Residents.

| | BASELINE | 10-YEAR TARGET | | OVERALL PROGRESS | GAP | PROGRESS | | DISPARITY | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | MALES | FEMALES | SEX | REGION |
| **HEALTHY, VIBRANT CHILDREN AND FAMILIES – PHYSICAL, MENTAL, SPIRITUAL, AND EMOTIONAL WELLNESS** | | | | | | | | | |
| **HEALTHY BIRTH WEIGHTS**<br>Percentage of babies born at a healthy birth weight for sex and gestational age | 73.4% | ↑10% | 80.7% | ≈ | ● | N/A | N/A | N/A | |
| **INFANT MORTALITY RATE**<br>Rate per 1,000 live births | 5.8 per 1,000 | ↓30% | 4.1 per 1,000 | ≈ | ● | N/A | N/A | N/A | |
| **CHILDREN'S ORAL HEALTH**<br>Percentage of kindergarten children who are cavity-free | 45.7% | ↑40% | 64.0% | ≈ | — | — | — | — | |
| **HEALTHY CHILDHOOD WEIGHTS**<br>Percentage of children age 2–11 with a healthy/ moderate body mass index | 30.5% | ↑30% | 39.7% | ✗ | — | ✗ | ✗ | | |
| **YOUTH/YOUNG ADULT (AGE 15-24) SUICIDE**<br>Rate per 10,000 population | 3.3 | ↓40% | 2.0 | ✗ | ● | ✗ | ≈ | | |
| **MENTAL AND EMOTIONAL WELL-BEING**<br>Percentage who feel balanced physically, emotionally, mentally, and spiritually | 53.4% | ↑20% | 64.1% | ≈ | N/A | ✓ | ≈ | | |
| **PHYSICAL ACTIVITY**<br>Percentage meeting the recommended physical activity guidelines | | | | | | | | | |
| Children and Youth | 55.3% | ↑30% | 71.9% | ≈ | — | ✓ | ≈ | | |
| Adults | 77.2% | ↑10% | 84.9% | | | | | | |
| **DIABETES INCIDENCE**<br>Rate per 1,000 population | 7.7 | ↓20% | 6.2 | ≈ | ● | ≈ | ≈ | | |
| **SMOKING**<br>Percentage who smoke commercial tobacco | | | | | | | | | |
| Youth | 12.9% | ↓30% | 9.0% | ✓ | — | ✓ | ✓ | | |
| Adults | 40.5% | | 28.4% | | | | | | |
| **SERIOUS INJURIES**<br>Rate of serious injuries requiring hospitalization per 10,000 population | 59.3 | ↓25% | 44.5 | ≈ | ● | — | — | | |
| **LIFE EXPECTANCY**<br>At birth | 73.4 years | ↑2% | 74.9 years | ✗ | ● | ✗ | ✗ | | |
| **MORTALITY RATE**<br>Rate of deaths due to all causes per 10,000 population | 116.2 | ↓15% | 98.8 | ✗ | ● | — | — | — | — |
| **ALCOHOL-ATTRIBUTABLE MORTALITY**<br>Rate per 10,000 population | 14.2 | ↓30% | 9.9 | ✗ | ● | — | — | | |

✓ Positive Trend
≈ No/minimal change
✗ Trend is worsening

● Gap is minimal
● Gap is moderate
● Gap is large/worsening

Little/no disparity by sex
Moderate disparity by sex
Substantial disparity by sex

Little/no disparity by region
Moderate disparity by region
Substantial disparity by region

# THE PHWA: NEW DIRECTIONS AND OPPORTUNITIES

As discussed in Chapter 1, the First Nations health data landscape in BC is evolving and improving. The PHWA will adopt an iterative and adaptable approach, which will allow for continual input, and modifications and improvements to the data and indicators as new opportunities arise. In line with two-eyed seeing, we will continue to look for ways to privilege and honour First Nations teachings, protocols, knowledges, and stories.

## Future Analyses

The following topic areas have been identified as areas to build on and explore over the next 10 years:

- **Community connectedness/connections to people:** As expressed by Knowledge Keeper Yvonne Tumangday of Stó:lō Nation, a central component of First Nations holistic health and wellness includes strong, respectful relationships with others and a sense of belonging. Finding ways to honour and highlight this important aspect of First Nations health and wellness will be explored in future iterations of this agenda.
- **Family unity:** Families are the heart of healthy Nations and communities. Colonialism disrupted family relationships in devastating ways that live on today. Further action is required to address the circumstances that bring First Nations children in contact with child welfare systems in such disproportionate numbers.[4] There is need for a strength-based indicator that measures the success of self-determination efforts and prevention measures such as family preservation, connectedness with family and community, and/or reunification.
- **From food insecurity to food sovereignty:** The concept of food insecurity has been criticized for focusing too heavily on food supply without adequately addressing First Nations cultural, political, spiritual, and ecological relationships with food.[5] In the future, the indicator of food insecurity will align more with and support the growing First Nations food sovereignty movement, which highlights the sacredness of food, self-determination of food systems, and participation in land-based, food-related activities.[6]
- **Justice:** As a consequence of historical and present-day colonialism, institutional discrimination, and the resulting intergenerational trauma, First Nations people are profoundly overrepresented in provincial and federal prisons.[7] This is especially the case for First Nations women and youth.[8] An indicator is needed that tracks the transition towards First Nations governance of their own systems of justice as well as promising reforms to mainstream justice systems that support decreasing rates of incarceration for First Nations in BC.
- **First Nations matriarchs:** First Nations women are leaders and matriarchs who embody the teachings and wisdom of their Elders and ancestors. They support one another, hold each other up, and celebrate each other's achievements and wellness. First Nations women nurture and teach the children, who will be the leaders of tomorrow. An indicator is needed that tracks how women and girls are supported to exercise their roles and responsibilities, restoring the rightful place of First Nations matriarchs in BC.

Paddlers pull together during a canoe journey, in the Fraser Salish Region.

## Linkages and Future Directions

The National Inquiry into Missing and Murdered Indigenous Women and Girls (MMIWG) has put forward a Call to Action, highlighting the collective responsibility and moral obligation that we share to break down the systemic barriers that perpetuate gender inequities and eliminate the violence that they have caused.[9] While the PHWA did not address gender differences and inequities, there is a separate report forthcoming in 2020 from the partnership between the offices of the Chief Medical Health Officer and Provincial Health Officer, which will focus specifically on the health and wellness of First Nations women and girls in BC.

It is also important to note that the PHWA indicators form a key pillar of the *Tripartite Framework Agreement on First Nation Health Governance* evaluation. The findings released in the First Nations PHWA reports over the next 10 years will make up the core content of the health and wellness outcomes section of the Framework evaluation. The other two pillars of the evaluation include 1) governance, tripartite relationships, and integration and 2) health and wellness system transformation.

*The Memorandum of Understanding (MOU): Tripartite Partnership to Improve Mental Health and Wellness Services and Achieve Progress on the Determinants of Health and Wellness*, demonstrates early progress and interest to pursue a path that addresses the root causes and social determinants of health. The MOU focuses on mental health and wellness as a starting and unifying point for a larger discussion on the social determinants of health and strategies to address systemic change. There is a commitment within the MOU to develop a 10-year tripartite social determinants of health strategy.[11]

Continued First Nations and partner engagement will occur in future stages of the PHWA journey. The First Nations health data landscape in BC is evolving daily as First Nations achieve self-determination of their own data, and as FNHA builds its capacity to support the data governance of Nations while also acting as a data steward at the provincial level.

*“There is a saying among Indigenous people: "We do not inherit our world; we borrow it from our children." We know this to be true or we would not exist at all. For generations, Indigenous peoples across the world have held the earth, the knowledge, the spirit, and the strength of our peoples in a sacred trust for the generation they would never know.”* [12]

*“We have learned over the last 15 years that we do not yet have all the right people ‘in the canoe’ to advance First Nations health. We could do better at paddling together, in the same direction, and at the same time. The next stage of our journey in examining the roots of wellness requires us to address who is in the canoe and how we can all move forward with one heart and one mind.*

*The navigation route towards healthy, self-determining and vibrant BC First Nations children, families and communities is highly complex. There are still many rocks, eddies, and currents in our way. Solutions can be difficult to define, are interdependent and multi-causal, and rarely fall under a single organizational mandate. Integrated actions are needed, which pursue change systematically and build on one another. PHWA reports over the next 10 years will help to measure progress and uphold mutual accountability as we move forward together.”*

**– Dr. Evan Adams (Tlesla Il), Tla’amin Nation; Chief Medical Officer, First Nations Health Authority**

*“[The grandmothers] have the three canoes and they do the ocean journey. I really love that ocean journey because it’s bringing all of the people together. The strength of the people. That’s how our people lived, we all lived together. We didn’t live in a box, we didn’t live in a little house all by ourselves. We had communal living and we ate together and we took care of one another.”*

**– Yvonne Tumangday, Stó:lō Nation; *We Walk Together* gathering - Fraser Salish Region**

# ACTIONS TO NOURISH FIRST NATIONS ROOTS OF WELLNESS

It is our hope that this agenda presents compelling First Nations and Western evidence to further support the recognition of the need to work collaboratively across many systems and silos to achieve health, wellness, and reconciliation. We believe that the key factors that will determine our success from 2020-2030 will be our ability to come together to paddle with one heart and one mind to restore First Nations self-determination. As we take off on the next 10 years of this journey, we see exciting opportunities on the horizon to do just that.

We invite you, our diverse audiences, to bear witness to this work and enter into a space of collaboration with us.

We invite you to honour each data point, which represents a strong, resilient First Nations individual who is a member of a family, community, and a proud Nation.

We invite you to reflect on this baseline report and identify where you can influence the nourishment of roots of wellness and/or the removal of barriers to determinants of Indigenous peoples' health.

We invite members of the Tripartite Committee on First Nations Health, various levels of government, First Nations organizations, and other government partners to join us and commit to "paddling with one heart and one mind" towards First Nations health and wellness in BC.

**FNHA's Chief Medical Officer and the Provincial Health Officer call on systems partners and institutions to work with First Nations organizations and collectives to advance First Nations roots of wellness in 7 key areas.**

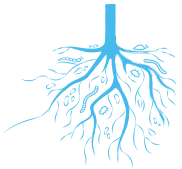
### 1. Advance and support First Nations self-determination

Individual and political self-determination is a fundamental First Nations root of wellness. First Nations self-determination has been eroded by colonial practices, policies, and legislation, and the impacts of this erosion are reflected in undernourished roots of wellness, lack of supportive systems, and poor health outcomes. To restore self-determination, First Nations must exercise full jurisdiction and governance over themselves, their lands, economies, justice, and social services. The PHWA calls for activities that support the empowerment of individual people to lead their own health and wellness journeys.

- **Federal:** We call on the Government of Canada, in meaningful partnership with First Nations, to pass private members Bill C-262, or an equivalent bill, to enact legislation that will require the federal government to align its existing and new legislation with the United Nations Declaration on the Rights of Indigenous Peoples.

- **Provincial:** We call on the Province of British Columbia to link the implementation and monitoring of the Declaration on the Rights of Indigenous Peoples Act with the First Nations PHWA as a way to monitor the impacts of increased self-determination on First Nations roots of wellness and health outcomes.
- **Municipal:** We call on BC municipal governments to review practices, policies, and bylaws and take actions in meaningful partnership with local First Nations, on whose territory they now reside, to promote local First Nations self-determination. Municipalities and local BC First Nations should collaboratively identify opportunities to nourish local BC First Nations' roots of wellness and develop mechanisms to regularly demonstrate reciprocal accountability on progress towards increased shared decision-making and First Nations self-determination.

### 2. Advance First Nations data governance



We call on system partners who possess data that relates to First Nations health and wellness in the broadest sense to uphold First Nations data governance principles to make the data accessible to First Nations and their organizations. Goals of this work include supporting self-determination, Nation-rebuilding, and further development of institutions. FNHA is uniquely positioned to support the data governance of Nations, while providing a strong voice on First Nations population health at the provincial level through a stewardship and Watchmon role.

### 3. Catalyze intersectoral actions to build supportive, culturally safe systems, with particular attention given to connection to land

The PHWA illustrates that Western systems must be supportive and culturally safe in order to advance the health of First Nations. To do so, there is a need for unified, coordinated actions across diverse systems and organizations to remove systemic barriers to wellness. In particular, these collaborations must attend to First Nations connection to land, which is a foundation of wellness. We challenge health, social, and environmental sectors to work together in new and innovative ways.

Achieving the targets set out within the PHWA requires both intra-organizational alignments and inter-organizational collaboration and partnership. First Nations organizations and collectives must continue to pursue alignment and support one another in collective efforts to nourish roots of wellness. BC's Provincial Government must create internal mechanisms to collaborate effectively between ministries and make efforts to include ministries that influence First Nations' connection to land.

- Federal and provincial governments must partner with First Nations organizations and collectives to collaborate efficiently across sectors with the goal of achieving the targets outlined in the PHWA.
- First Nations organizations and collectives and governmental bodies implicated in the following areas are key stakeholders in this intersectoral work: health, education, housing, justice, social development, poverty reduction, natural resources/climate change, economic development, and child welfare.

### 4. Advance the roots of health and wellness of the next generation: First Nations babies, children, and youth

We call for a unified and intersectoral approach that develops mechanisms, in meaningful partnership with First Nations organizations and collectives, to amplify the voices of First Nations children, youth, parents, and grandparents, to guide specific actions and investments that advance the roots of wellness of the next generation.

Priority areas for collaboration across systems/organizations include the following:

- Revitalize child- and youth-focused ceremonies and cultural practices (i.e., naming ceremonies, puberty rites, First Nations birthing).
- Promote child and youth mental wellness by breaking silos and grounding collaborative work in *First Nation Health Authority's Policy on Mental Health and Wellness*.[10]
- Promote family unity by collaboratively addressing colonial practices and policies that undermine First Nations families.
- Increase land-based learning, healing, and stewardship opportunities for First Nations children and youth.

Systems and organizations implicated in advancing the roots of wellness of the next generation include, but are not limited to, the following:

- First Nations organizations and collectives (communities, Nations, First Nations Education Steering Committee, First Nations Health Authority).
- Federal – Indigenous Services Canada, Public Health Agency of Canada.
- Provincial – Ministry of Children and Family Development, Ministry of Mental Health and Addictions, Ministry of Health, Ministry of Education, Ministry of Public Safety and Solicitor General, health authorities, and others.

### 5. Embed First Nations wellness approaches in policies, programs, and services

We call on health authorities and provincial ministries to work with First Nations to meaningfully embed wellness-focused, strengths-based approaches in their policies, programs, and services, as well as new initiatives emblematic of a wellness approach.

### 6. Commit to cultural safety and humility across systems

We call on all systems partners to make commitments and/or continue to act on commitments signed in the Cultural Safety and Humility Declarations by embedding cultural safety and humility throughout the system and to evaluate those actions.

### 7. Increase access and attachment to culturally safe primary health care

We call on the health system to expand on their initial primary care investments and make policy changes to equitably increase access and attachment to culturally safe primary health care services, moving towards team-based models of care that are wholistic and rooted in culture and traditions.

# CONCLUSION

Through this report, we have presented a wholistic reporting framework for First Nations health and wellness in BC. We embedded the PHWA framework in an ecosystem metaphor because it aligns with the First Nations Perspective on Health and Wellness. Our natural laws teach us that all beings require balance to thrive. Whether we are plant or human, when our roots of wellness are adequately nourished and if we are free of harsh external conditions, we thrive.

In this agenda we have illuminated roots of wellness that have been severely undermined by Canadian colonial practices and policies—including self-determination, language, culture, and connection to land. We have highlighted systems, which have not yet fully achieved cultural safety and continue to present harsh conditions that impede First Nations vibrancy and health. Finally, we reported on health and wellness outcomes that act as signals of the condition and integrity of the soil and roots of wellness. These health and wellness outcomes demonstrate that the health of babies, children, youth, and adults is improving; however, there remains a significant journey ahead of us to reach our shared vision of healthy, vibrant, self-determining First Nations children, families, and communities. We invite you to join us and commit to paddling with one heart and one mind towards First Nations health and wellness in BC.

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APPENDIX A

# GLOSSARY

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| **Acute care** | generally refers to the rapid care and treatment of critical, sudden, urgent, or emergent incidents of injury or illness. Treatment is for a short period of time and patients are discharged as soon as they are healthy and stable (e.g., a broken bone).[12] |
| **Age-standardized mortality rate** | is the weighted average number of deaths due to all causes, expressed as a rate per 100,000 persons (or per 10,000 persons in this report), where the weight is calculated based on the age distribution of a standard population.[3] |
| **Alcohol-attributable deaths** | is the number of deaths linked to alcohol consumption.[4] |
| **Avoidable hospitalizations** | are also called "ambulatory care sensitive conditions." They are admissions to hospital related to disease or conditions that can usually be well managed at home or in communities, and should not require hospitalization (e.g., complications due to diabetes, asthma, hypertension, neurosis, depression, and abuse of alcohol or other drugs).[5] In this report it is calculated using an age-standardized rate of hospitalization, per 100,000 population younger than age 75.[6] |
| **Away from home** | refers to First Nations people in BC—with or without Status—who are not typically residing on reserve, and who may live in urban and rural parts of BC but are connected to their home community and to people who live on reserve. |
| **Biomedical perspectives** | belong to a reductionist medical model that exclusively focuses on illness, disease, and disability and understanding physical and biological causes and effects. They tend not to recognize the social, economic, political, or historical context of the individual.[7,8] |
| **Caries** | also known as dental cavities or tooth decay, is a localized and progressive bacterial infection that has caused damage to a tooth.[9] |
| **Cultural humility** | is a process of self-reflection to understand personal and systemic biases and to develop and maintain respectful processes and relationships based on mutual trust. Cultural humility involves humbly acknowledging oneself as a learner when it comes to understanding another's experience.[10] |

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| **Cultural safety** | is an outcome that is attained by respectful engagement that acknowledges and addresses inequalities and power imbalances in the societal structures and systems, such as the health care system. For example, a culturally safe health system is one in which care settings are environments absent of discrimination and racism, where individuals of any personal and cultural background feel safe receiving care and treatment.[11] |
| **Diabetes incidence** | is the number of new cases of diabetes diagnosed in a given period in a population.[12] |
| **Diabetes prevalence** | is the proportion of people living with newly and previously diagnosed diabetes in a population.[13] |
| **Elders** | are highly respected individuals within First Nations communities that possess deep historical, cultural, and spiritual knowledge and ancestral wisdom. They provide guidance, advice, and teachings to community members and honour traditional ways of knowing and being. The role of an Elder may differ from community to community.[14,15] |
| **First Nations** | is the preferred terminology for Indigenous peoples of North America and their descendants—in what is now Canada—who are neither Métis nor Inuit. First Nations people may be 'Status' (registered) or 'non-Status' as defined under the *Indian Act*.[16] |
| **First Nations Perspective on Health and Wellness** | is a wholistic vision of health and wellness, which is shared among First Nations cultures in British Columbia. The perspective incorporates the Indigenous determinants of health, recognizes the interconnectedness of mental, physical, emotional, and spiritual health and wellness, and broader contextual influences such as wisdom, respect, family, community, land, and much more.[17] For more information on the Perspective, please visit: https://www.fnha.ca/wellness/wellness-and-the-first-nations-health-authority/first-nations-perspective-on-wellness. |

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| **Food security** | means that everyone within a population has physical, social, and economic means or access to sufficient, safe, and nutritious food in order to satisfy their dietary needs and food preferences for healthy and active living. It recognizes the traditional and cultural food sources as well as procurement (hunting and fishing), preparation, and distribution practices among First Nations.[18,19] |
| **Healthy birth weight** | is between 2,500 and 4,000 grams (or between approximately 5 pounds 8 ounces and 8 pounds 13 ounces) for a singleton baby, without considering gestational age or sex.[20] |
| **Healthy birth weight for sex and gestational age** | is a measure of birth weight that accounts for differences that are expected based on sex and gestational age at birth. Healthy birth weight for gestational sex and age includes infants weighing between the 10th and 90th percentiles for their sex and gestational age. |
| **High birth weight** | is more than 4,000 grams for a singleton baby.[21] |
| ***Indian Act*** | is a Canadian federal statute, enacted in 1876, which sets out obligations of the Canadian government, determines the relationship between Indigenous people and the Canadian government, and regulates the management of reserve lands. The act is considered paternalistic and intrusive as it controls and determines eligibility requirements for "Indian Status." It has divided and separated families, discriminated against women, and has been a source of harm and injustice for First Nations and Indigenous peoples and communities.[16,22] |
| **Indian Hospitals** | formed a separate and segregated system of health care for Indigenous people, operated by Christian missionaries and then by the Canadian government throughout the 20th century. These facilities were underfunded, overcrowded, and racist in the treatment of Indigenous patients, and were substantively inferior in care and quality to non-Indigenous health care institutions throughout Canada.[23] |

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| **Indian Residential School System** | was a devastating system of government-funded and church-operated schools that were located across Canada as recently as 1996, created with the purpose of assimilating Indigenous children by removing children from their families and communities and prohibiting the children's cultural and spiritual development. These schools were known for prohibiting any and all cultural activities, and for inflicting a range of abuses (mental, emotional, physical, and sexual abuse) on the 150,000 Indigenous children who were forced to attend them. The system has created a legacy of harm and trauma with multi-generational impacts.[24,25,26] |
| **Indigenous** | is a collective term used to describe the three constitutionally recognized Indigenous populations in Canada – First Nations ('Status Indians'), Métis, and Inuit. While identifying each of these populations specifically by name is preferable, general concepts, self-identification, and/or database limitations can at times capture all of these groups in this inclusive term.[27] |
| **Indigenous determinants of health** | are the interrelated social, economic, and political factors that influence health and wellness outcomes for Indigenous people. These determinants and their outcomes are shaped by the legacy of colonialism that have produced health inequities between Indigenous and non-Indigenous people.[7, 28] |
| **Infant mortality** | is the death of a child during their first year of life (less than 365 days old).[29] |
| **Intentional injuries** | are injuries that occur with identifiable or purposeful intent by the individual or anyone else to cause harm (e.g., interpersonal violence, self-harm).[30] |
| **Inuit** | are an Indigenous people that live across the Northern and Artic regions, known as 'Inuit Nunangat' (the Inuit homeland). The regions include land, water, and ice, which are integral to the Inuit culture and way of life. The word 'Inuit' means 'people' in the Inuit language of Inuktitut.[31,32] |
| **Knowledge Keepers** | are recognized in their communities and nations for their traditional and spiritual knowledge, which has been passed down through generations. They preserve and share this knowledge, which serves as the basis of teaching traditions, customs, spiritual practices and beliefs, and laws.[33] |

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| **Land** | refers to the all-encompassing biophysical Indigenous understanding of land, which includes the surface, subsurface, air, and waters. While the word 'land' may vary in meaning for First Nations, Métis, and Inuit people, it generally incorporates wholistic ecological, social, and cultural elements.[34] |
| **Life course approach** | recognizes the determinants of health and their interactions, conditions, and outcomes throughout an individual's life, from birth to death. The life course approach focuses on assessing one's start to life, and to needs faced at critical periods during an individual's lifetime.[35,36] |
| **Life expectancy** | is the expected number of years of life remaining at a given age, based on the mortality statistics for a given observation period; for this report it is the expected years of life at birth ("life expectancy at birth").[37] |
| **Low birth weight** | is less than 2,500 grams for a singleton baby (including preterm babies).[38] |
| **Maternal health** | refers to a woman's mental, emotional, and physical health during pregnancy, childbirth, and the postpartum period.[39] |
| **Métis** | refers to a cultural group that is distinct from other Indigenous peoples in their culture, communities, and ethnic identity, and which emerged from marriages and unions between Indigenous and European people during the 18th and 19th centuries. According to the Métis National Council, a Métis person is someone who self-identifies as Métis, is of historic Métis Nation ancestry, and is accepted by the Métis Nation.[40,41] |
| **Mortality rate** | is a measure of the yearly total of deaths within a population.[42] |
| **Oral health** | is the health of the mouth, including teeth, gums, tongue, and surrounding area. Good oral health allows a person to engage in all aspects of everyday life, including eating, speaking, smiling, and showing facial expression with confidence and without pain or discomfort.[43,44] |

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| **Physical activity** | is any movement of the body that requires energy. This can include both leisure and work activities such as walking, swimming, and mowing the lawn, as well as higher intensity activities, such as running.[45] Also known as 'exercise'. |
| **Population attributable fractions for alcohol** | is the proportion of the total cases of deaths in a population that are linked to alcohol consumption, and therefore represents the proportion of deaths that would be reduced if alcohol was not used in that population.[13] |
| **Population health approach** | is a framework for understanding health that seeks to improve the health of an overall population by addressing inequities experienced within it between populations, among both causes and outcomes (e.g., differences in the determinants of health, differences in illness and disease rates).[46] |
| **Potential years of life lost** | is a measure of premature death that estimates the average years of life lost in individuals who would have otherwise lived an optimal life expectancy (e.g., 86 years).[47] |
| **Primary health care** | is essential health care that is often the first level of contact with the health system, and includes health promotion, prevention, curative, and rehabilitative services.[48] |
| **Reciprocal accountability** | is a shared responsibility among First Nations, as well as between First Nations and government partners, to achieve common goals. Everyone involved, including individuals and organizations, must be responsible for their commitments and for the effective operation of their part in the system as each part is interdependent and interconnected. This was a foundational concept for many First Nations traditional social systems, which required all community members to be accountable for their decisions and actions, and for their contributions to the community's wellness as a whole.[56] |
| **Reconciliation** | is establishing relationships based on mutual trust and respect between Indigenous and non-Indigenous peoples throughout Canadian society. It is an ongoing process that includes recognition of the injustices and harms of the past, providing support for Indigenous peoples to heal from colonization and its legacy, as well as action and commitment to create a future of equality, dignity, and peace.[49] |

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| **Self-determination** | means that Indigenous people are free to determine their political status, free to pursue their economic, social, and cultural development, and free to practice, develop, and teach their own spiritual and religious traditions, customs, and ceremonies.[50,51] |
| **Status Indian** | while outdated and inappropriate, this term is still used in the Canadian government to mean an Indigenous person who is registered under the *Indian Act*.[16] |
| **Strengths-based approach** | is an approach that recognizes and promotes the inherent strengths, skills, capacity, knowledge, resilience, and potential of individuals, their families, and communities, and considers how they can be used and built on.[52] |
| **Two-eyed seeing** | refers to learning to see from one eye with the strengths of Indigenous ways of knowing and from the other eye with the strengths of Western ways of knowing, and using both of these eyes together to gain a more comprehensive understanding.[53] |
| **Unintentional injuries** | are injuries that are not purposely or deliberately intended by the individual or anyone else (e.g., motor vehicle collisions, falls, accidental poisoning).[54] |
| **Wellness-based approach** | is concerned with keeping people well and supporting wellness through a wholistic approach rather than only responding to individual cases of illness and disease.[17] |
| **Wholistic health** | includes supporting the health of the whole person, i.e., the physical, mental, emotional, and spiritual aspects of their well-being.[55] |

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APPENDIX B

# DATA SOURCES AND METHODOLOGY

# GENERAL LIMITATIONS OF THE DATA FOR THE PHWA

With no one data source that comprehensively captures all the data presented in this report, it is necessary to make use of several available data sources, a practice which brings its own limitations. Many data sources differ in terms of the sample population, methods for identifying First Nations respondents, and the subject area, and all these factors restrict comparability. For example, with the First Nations Regional Health Survey (RHS), information was obtained from randomly selected community members, while other surveys, such as the BC Ministry of Health Dental Survey and the BC Ministry of Education's graduation data, rely on self-identification of "Aboriginal" affiliation. Much of the data obtained from BC Ministry of Health administrative databases were extracted by a data linkage with the First Nations Client File. Finally, a small amount of data was obtained from Statistics Canada, which uses census-derived questions to determine First Nations identity.

Self-identification as a method to identify First Nations may introduce bias, since the existence of racism can be an incentive not to self-identify, particularly at the point of care. This reluctance to answer questions on Aboriginal identity can introduce an element of undercounting, as well as the potential skewing of results for those who do identify. Another common limitation is the timeliness of the available data, and/or the differing time periods available among the data sources.

# DATA SOURCES AND METHODOLOGIES

## BC College of Physicians and Surgeons

**DATA PRESENTED:** number of certified, practicing First Nations health care providers in BC

Through a partnership initiative with the First Nations Health Authority (FNHA), a self-identifier was added to the annual BC licence renewal process with the BC College of Physicians and Surgeons in January 2019. Plans are underway for all regulatory colleges to collect these data to better understand the number of First Nations health care professionals in BC and their field of care. Until more comprehensive data are available, the Population Health and Wellness Agenda (PHWA) will rely on data that focus on First Nations physicians; therefore, the data presented is currently specific to the number of certified, practicing First Nations physicians in BC.

## First Nations Client File

The First Nations Client File (FNCF) is currently the best available method for accessing accurate health information for the identifiable majority of First Nations people residing in BC. The FNCF is a cohort of registered Status First Nations ("Status Indians") who have lived in BC at some point since 1992, and their unregistered children who may be eligible for Status under the *Indian Act*. The FNCF is created annually by the BC Ministry of Health and FNHA, and is the product of a multi-step probabilistic record linkage between an extract of the Indian Registry held by the federal body termed, at the time of report development, Indigenous and Northern Affairs Canada, the BC Ministry of Health Client Roster, and BC Vital Statistics Agency birth and death records.

Together, the FNCF and Client Roster serve as the denominator—or Status First Nations population—used in analyses throughout this report. For this report, linkages with the FNCF were made with three datasets within the BC Ministry of Health's HealthIdeas data warehouse—the Discharge Abstract Database (hospitals), Medical Services Plan (physician billing), and PharmaNet (pharmacy dispensing)—and with the Chronic Disease Registry.

The FNCF is stewarded by the FNHA and is in the custody of the BC Ministry of Health. It is managed by the Data and Information Planning Committee (DIPC), which consists of representatives from the FNHA, BC Ministry of Health, and Indigenous Services Canada. DIPC has ethical oversight responsibilities regarding the use of the FNCF and reviews each request for FNCF data access. The Committee has established processes and procedures for the submission and review of FNCF data access requests, balancing the need for high-quality First Nations health data with the need to protect individual and community privacy and to respect the principles of First Nations health information governance. First Nations health information governance refers to the structure, process, and protocols by which First Nations in BC have access to First Nations data, and it ensures that there is influential involvement by First Nations in decision-making regarding the appropriate and respectful collection, use, disclosure, and stewardship of that information. The intended use of the FNCF cohort is to provide information about the health and well-being of First Nations people to support health planning, surveillance, and evaluation.

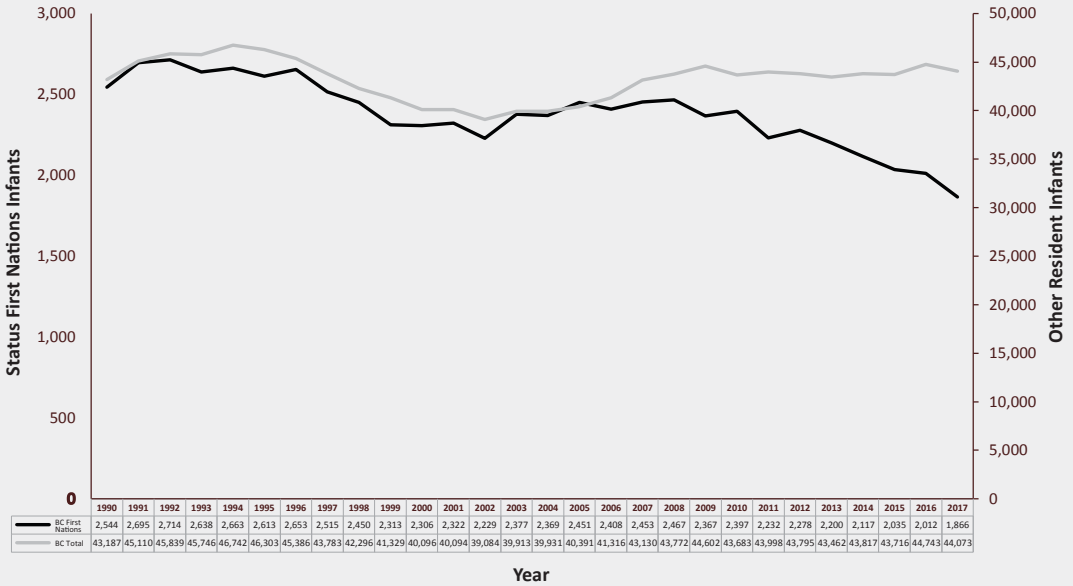
The intended use of the FNCF cohort is to provide information about the health and well-being of First Nations people to support health planning, surveillance, and evaluation.

As with any data analyses, this report has been subject to some challenges and limitations with the data presented. First, the datasets are continuously being updated and are subject to change as open or unresolved cases are resolved and/or corrected retroactively. Additionally, the standard population used to age-standardize rates was updated from the 1991 version used in other iterations of this report structure to the 2011 version now available. Therefore, while this report uses a methodology that is consistent with that used in previous reports, data for this report were re-run using updated datasets, and the findings are not directly comparable to previous reports. Second, there is a possibility that data on deaths that occur outside of BC will be missed, which can result in seemingly long-lived cohort members. Third, the FNCF count of Status First Nations in BC is dependent upon an individual's decision to register as a Status Indian, under the *Indian Act*, and legislative entitlement changes can affect an individual's eligibility to have status if they decide to register. As a result, the population within the FNCF may change from year to year for reasons other than births, deaths, and migration.

In addition to these usual challenges and considerations with data, an issue was identified in 2015 that has not yet been fully resolved. The limitation is that the completeness of the FNCF has been declining as a result of a data quality issue with Vital Statistics birth records (specifically Personal Health Number [PHN]

FIGURE A1

**Infants Under One Year of Age, Status First Nations and Other Residents, BC, 1990 to 2017**




| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BC First Nations | 2,544 | 2,695 | 2,714 | 2,638 | 2,663 | 2,613 | 2,653 | 2,515 | 2,450 | 2,313 | 2,306 | 2,322 | 2,229 | 2,377 | 2,369 | 2,451 | 2,408 | 2,453 | 2,467 | 2,367 | 2,397 | 2,232 | 2,278 | 2,200 | 2,117 | 2,035 | 2,012 | 1,866 |
| BC Total | 43,187 | 45,110 | 45,839 | 45,746 | 46,742 | 46,303 | 45,386 | 43,783 | 42,296 | 41,329 | 40,096 | 40,094 | 39,084 | 39,913 | 39,931 | 40,391 | 41,316 | 43,130 | 43,772 | 44,602 | 43,683 | 43,998 | 43,795 | 43,462 | 43,817 | 43,716 | 44,743 | 44,073 |

**Sources:** BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

data)—a pattern that seems to emerge in data after 2012. Accurate PHNs of parents on birth records are needed to calculate the eligibility of dependents for registered status. As a result, it appears—incorrectly—that the number of Status First Nations infants born has been decreasing since that time. Figure A1 shows this apparent, but false decrease, since 2012. This means that Status First Nations infants are increasingly underrepresented over time in BC. This will affect data presented of life expectancy and age-standardized mortality but will have the greatest impact on the accuracy of data presented regarding infants, including infant mortality rate and infant birth weight.

As a result, data from the FNCF should be used and interpreted with caution—particularly data focused on infants. FNHA, the Office of the PHO, Health System Information, Analysis, and Reporting Division (HSIAR) at the BC Ministry of Health, and the BC Vital Statistics Agency, are all committed to resolving data quality issues, and have formed a joint working group focused on improving data accuracy of PHNs and other data fields on Vital Statistics birth and death records. A second joint working group comprising FNHA and HSIAR has been tasked with ensuring that all processes to create the FNCF are rigorous, reproducible, and include quality checks.

## BC Ministry of Health Administrative Datasets

The FNCF is linked to several datasets at the BC Ministry of Health in order to produce analyses for this report, including BC Vital Statistics, Chronic Disease Registry, Discharge Abstract Database, and Patient Reported Experience Measures Survey. The ministry also provided data from the Kindergarten Dental Survey.

### BC CLIENT ROSTER

The Client Roster is a record of the people who use the BC health care system. For this report, the included population is limited to all people who live or have lived in BC over time, and have registered in the health care system (i.e., Medical Services Plan [MSP]) with a Personal Health Number (PHN). This dataset is used to derive the BC population on July 1st of each year as the denominator. There is a slight difference in population numbers derived from this dataset compared to national censuses.

### BC VITAL STATISTICS

DATA PRESENTED *(via linkage with the FNCF)*: infants born at a healthy weight, infant mortality rate, youth/young adult death by suicide, life expectancy, deaths due to all causes, deaths due to alcohol

One of the responsibilities of the BC Vital Statistics Agency (VSA) is administration of Vital Statistics data, such as births, deaths, and marriages in BC. The VSA uses the World Health Organization's International Classification of Diseases codes, Version 10 (ICD-10), to classify related health data. In this report, the VSA data were used to examine healthy birth weights, infant mortality, life expectancy, all-cause mortality rate, potential years of life lost, suicide mortality rate, and alcohol-attributable mortality rate. Geographic analyses of data by health authority regarding low weight singleton births and infant mortality are based on the residence of the mother at birth time. Geographic analyses for other data presented are based on the residence of the individual. Analyses that used VSA data to examine life expectancy at birth in BC

were conducted using the Chiang method;[1] therefore, the variance of the life expectancy is the weighted sum of the variance of the probability of survival across all age intervals.

### CHRONIC DISEASE REGISTRY

**DATA PRESENTED** *(via linkage with the FNCF)*: diabetes incidence and prevalence

The Office of the PHO uses BC Ministry of Health administrative datasets (i.e., Discharge Abstract Database, Medical Services Plan, and PharmaCare data) to compile information related to people living with chronic conditions and diseases, to form the Chronic Disease Registry. Data include the person's sex, age, residence, date of birth, as well as the date of case identification (may not necessary be the date of clinical diagnosis). Geographic analyses of data by health authority are based on the residence of the individual.

### DISCHARGE ABSTRACT DATABASE

**DATA PRESENTED** *(via linkage with the FNCF)*: avoidable hospitalizations, serious injuries

The Discharge Abstract Database records detailed patient information from hospitals, including ICD-10 diagnoses codes that describe the causes and types of injury. This database reflects data for those individuals who were admitted to hospital, and includes discharges, transfers, and deaths. The record ends when the patient is discharged from hospital. If the patient is transferred to a new facility, a new record is created at that facility. Hospitalization is used as a proxy measure for a serious injury. Geographic analyses of data by health authority for both measures are based on the residence of the individual. To avoid multiple counts of the same injury, when a patient was hospitalized more than once during a fiscal year (e.g., re-admitted, transferred to another hospital), only the first admission was counted.

### PATIENT-REPORTED EXPERIENCE MEASUREMENT SURVEY

**DATA PRESENTED** *(via linkage with the FNCF)*: cultural safety and humility in the health care system

Since 2003, the BC Ministry of Health and the regional health authorities have conducted surveys to measure the self-reported experience of patients in a range of health care settings, including the Patient-Reported Experience Measurement (PREM) survey. This survey is conducted province-wide and in several health care settings, including acute in-patient hospitals, emergency departments, outpatient cancer care services, mental health in-patient facilities, and long-term care facilities. This report includes data from the PREM survey administered to patients from 2016/17 acute care settings and 2017/18 emergency department settings. For the 2016/2017 acute care patient survey, patients were randomly selected for inclusion in the survey among those who were discharged from one of 78 acute care hospitals and two freestanding rehabilitation facilities in BC between September 2016 and March 2017, excluding day procedure patients. Data include 24,000 survey participants, representing a response rate of 46.9 per cent. For the 2017/18 emergency department survey, patients were randomly selected for inclusion in the survey from those who were a patient in one of 108 emergency departments across BC between January and March 2018. Data include over 14,000 survey participants, representing a response rate of 35.9 per cent. The survey question analyzed in this report was "During this [hospital stay/emergency visit], were your care providers respectful of your culture and traditions?" Response categories were as follows: not at all, partly, quite a bit, or completely.

### BC MINISTRY OF HEALTH DENTAL SURVEY

**DATA PRESENTED:** children with healthy teeth

The BC provincial Kindergarten Dental Survey was administered to kindergarten children in public schools, independent schools, participating First Nations schools, and public health units. Children were assigned to one of three categories: "no visible dental decay", which includes no broken enamel and no existing restorations; "treated decay", which includes evidence of restorations; and "untreated decay", which includes dental caries that have not been treated. The assessment was made based on a visual inspection of each child's teeth using a pen light, rather than through a full dental exam. As such, it is possible that decay or treated caries could have been missed.

Indigenous children were identified in this dataset based on self-identification during school enrolment, which asks whether a student is Aboriginal and gives an option to identify a Band. The wording of this question makes it more likely that First Nations parents will identify their children, rather than other Indigenous peoples such as Inuit and Métis, but as these students may also be captured, this report uses the term "Indigenous" to describe this group.

## BC Ministry of Education Data Warehouse

**DATA PRESENTED:** graduation rates

Data examining graduation rates were provided by the BC Ministry of Education. These data include the proportion of students who graduated within eight years from the first time they enrolled in grade 8, including students who earned either the BC Certificate of Graduation ("Dogwood") or the BC Adult Graduation Diploma ("Adult Dogwood").

As with the Kindergarten Dental Survey discussed earlier, Indigenous children were identified in this dataset based on self-identification during school enrolment. While the wording of the question makes it more likely that First Nations parents will identify their children, other Indigenous peoples can also be captured, and so this report uses the term "Indigenous" to describe this group.

## Canadian Community Health Survey

**DATA PRESENTED:** acceptable housing, food insecurity

Through the Canadian Community Health Survey (CCHS), Statistics Canada collects health data by region (in BC these are health authorities and health service delivery areas). Data collected include information about health status, health care utilization, and socio-economic status and other determinants of health. Prior to 2007, the survey was conducted every two years. Since 2007, the survey has been conducted annually, but is reported in combined two-year aggregate periods. This survey does not include people living on reserves or other Aboriginal settlements, full-time members of the Canadian forces, institutionalized people, or children age 12 to 17 living in foster homes.[2] Geographic data analyses by health authority are based on the residence of the individual.

A custom data tabulation of the 2011 National Household Survey were used as the data source for the acceptable housing data presented. "Acceptable housing" means that the house meets all three standards of adequacy, suitability, and affordability. Adequacy and suitability are measured both on and off reserve, but affordability of on-reserve housing and housing on agricultural lands cannot be calculated. These terms are determined as follows:

- Adequate housing: only minor repairs and regular maintenance are needed; no major repairs are needed.
- Suitable housing: the dwelling has enough bedrooms and square footage for the composition of the household, as calculated using the National Occupancy Standard developed by Canada Mortgage and Housing Corporation.
- Affordable housing: the shelter costs less than 30 per cent of before-tax household income.
- Acceptable housing: meets all three standards of adequacy, suitability, and affordability.

A Status First Nation household is defined in these data as one of the following:

- a non-family household in which at least 50 per cent of household members self-identified as Aboriginal people/Status Indians; or
- family household that meets at least one of two criteria:
  - at least one spouse, common-law partner, or lone parent self-identified as an Aboriginal person/ Status Indian.
  - at least 50 per cent of household members self-identified as Aboriginal people/Status Indian. An Aboriginal person is anybody identifying as an Aboriginal person (question 18 on 2016 Long-form Census Questionnaire), Treaty Indian or Registered Indian (question 20), or a member of an Indian Band/First Nation (question 21).

## First Nations Regional Health Survey

**DATA PRESENTED:** cultural wellness, food insecurity, healthy childhood weights, mental and emotional well-being, physical activity, smoking commercial tobacco, alcohol use

The First Nations Regional Health Survey (RHS) is a national health survey, conducted by and for First Nations, among First Nations people living on reserves across Canada. On behalf of First Nations in BC, FNHA is responsible for gathering and sharing the knowledge from the RHS in BC.[3] The RHS uses a randomly selected sample of survey participants to represent all First Nations people living on reserve in BC, which allows the results to be generalized to the whole population. It addresses a comprehensive range of health status, wellness, and health determinant measures for First Nations communities at-home/ on reserve. The RHS is broken down into three surveys based on age of respondents: children (age 0–11 years, completed by their parents/guardians); youth (12–17 years); and adults (age 18 and up). The RHS has been conducted three times in BC: Phase 1 (RHS1) in 2002-03, Phase 2 (RHS2) in 2008-10 and Phase 3 (RHS3) in 2015-17. In the most recent phase (2015-17), a total of 5,739 on-reserve First Nations people in 122 communities across BC participated in the RHS. This included 1,515 children, 1,198 youth, and 3,026 adults. This is a larger sample size than previous survey years, which may account in part for changes seen within time trend charts.

Confidence interval ranges have been provided in Appendix E of this report to indicates the range that the true population value would fall within, with a 95 per cent certainty. For the RHS, data analysts at FNHA recommend that the ranges provided be compared between groups, such as males and females, and that a reader interprets that there is certainty that the groups are different only if the confidence interval ranges do not overlap.

The following survey questions from the RHS were reported in the PHWA:

**Smoking commercial tobacco**

- Survey question: At the present time, do you smoke cigarettes?
- Response categories: yes, daily / yes, occasionally / no / don't know / refused

**Physical Activity**

- Survey question: How many minutes do you generally spend doing each activity in the average session?
- Response categories: ½ hour = 30 minutes / 1 hour = 60 minutes / 1 ½ hours = 90 minutes / 2 hours = 120 minutes

**Food Security**

- Survey question: We couldn't afford to eat balanced meals.
- Response categories: often true / sometimes true / never true / don't know / refused

### Body Mass Index (BMI)

Body mass index (BMI) was calculated for each child who had both their height and weight reported. The BMI was categorized based on the World Obesity Policy and Prevention's international cut-off points for children age 2–13; children less than 2 are not included.[4] The BMI ranges and cut-off points vary depending on sex and age (adjusted every 6 months). BMI should be interpreted with caution as measurements were not taken at the time of the survey; instead, they were reported by parents or guardians and are thus vulnerable to reporter inaccuracy. The following questions from the RHS survey were used as a basis for this analysis:

- Survey question: To the best of your knowledge, how tall is [the child] without [his/her] shoes on?
- Survey question: To the best of your knowledge, how much does [the child] weigh?

### Mental and Emotional Well-being

- Survey question: How often do you feel in balance physically, emotionally, mentally, and spiritually?
- Response categories: most of the time / some of the time / almost none of the time / none of the time / don't know / refused

### Cultural Wellness (*Composite*)

To create a cultural wellness composite index, five specific questions were drawn from the RHS, and answers were given a score of 1 or 0 depending on the response. All scores were added up for each respondent to create a total score out of 5. Missing values were kept in the calculations. The data presented will include data on adults only, as the questions were not asked in the child/youth survey. Data to inform the composite was only available from RHS2 and RHS3.

| RHS QUESTION | CALCULATION | |
|---|---|---|
| 1. **Language** – Do you have any knowledge of a First Nations language (even if only a few words)? | YES = 1 | NO = 0 |
| 2. **Traditional Food** – In the past 12 months, how often have you eaten the following traditional foods? *Please note that some of these foods may not be considered traditional for all individuals or regions.*<br>▪ Land-based animals (moose, caribou, bear, deer, bison, etc.)<br>▪ Fresh water fish<br>▪ Salt water fish<br>▪ Other water-based foods (shellfish, eels, clams, seaweed, etc.)<br>▪ Sea-based animals (whale, seal, etc.)<br>▪ Game birds (goose, duck, etc.)<br>▪ Small game (rabbit, muskrat, etc.)<br>▪ Berries or other wild vegetation<br>▪ Bannock/Fry bread<br>▪ Wild rice<br>▪ Corn soup<br>▪ Meat, fish, or vegetable broth<br>Eleven traditional food options combined into one variable. | At least one food option was answered "often", combined food score = 1 | No food options answered "often", combined food score = 0 |
| 3. **Traditional Medicine** – In the past 12 months, did you use traditional medicine? | YES = 1 | NO = 0 |
| 4. **Traditional Spirituality** – How important is traditional spirituality in your life?<br>▪ Very important<br>▪ Somewhat important<br>▪ Not important<br>▪ Don't know<br>▪ Not very important<br>▪ Refused | Very important / somewhat important = 1 | Other answers = 0 |
| 5. **Community belonging** – Do you take part in your local community's cultural events?<br>▪ Always<br>▪ Almost always<br>▪ Sometimes<br>▪ Rarely<br>▪ Never<br>▪ Don't know<br>▪ Refused | Always / Almost always = 1 | Other answers = 0 |

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## APPENDIX D

# ADDITIONAL DATA

This appendix includes additional data and analyses completed for the First Nations Population Health and Wellness Agenda that were not included in the body of the report.

# CHAPTER 2:
# HEALTHY, SELF-DETERMINING NATIONS AND COMMUNITIES

### Self-Determination

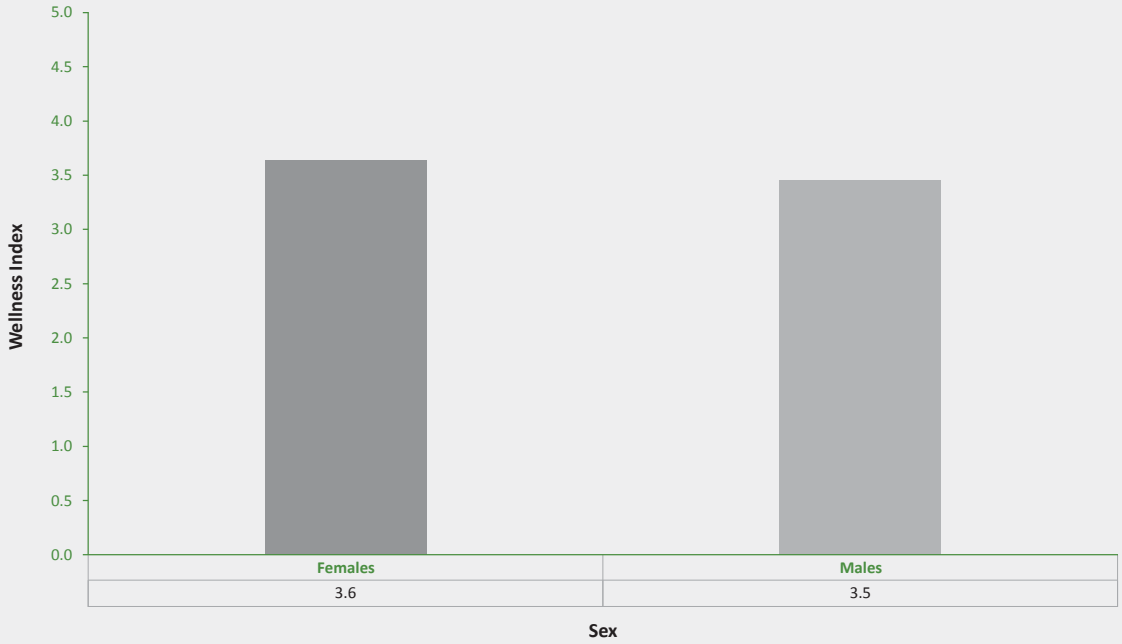
No additional analyses are currently available for this indicator.

### Connection to Land

No additional analyses are currently available for this indicator.

FIGURE C 2-1

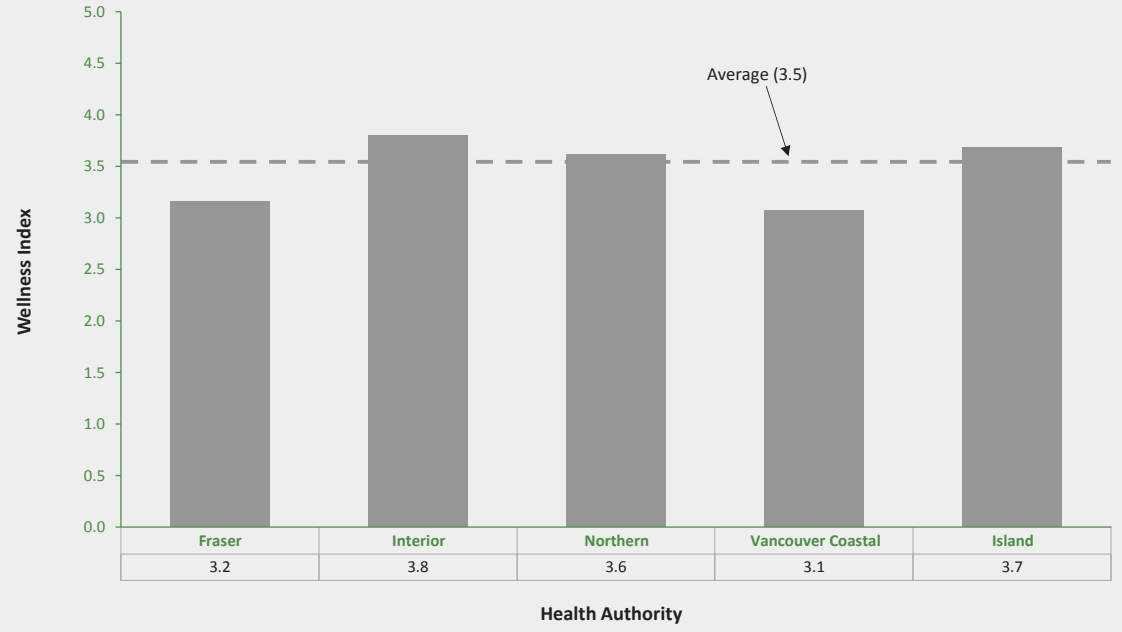
## Cultural Wellness Index, First Nations Adults On Reserve, by Sex, BC, 2015-17




**Notes:** "Cultural wellness index" combines five domains of wellness into a single composite number with a scale of 0 to 5: having knowledge of a First Nations language; eating traditional foods; using/practicing traditional medicines; participating in community cultural events; and placing importance on traditional spirituality. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

FIGURE C 2-2

## Cultural Wellness Index, First Nations Adults On Reserve, by Health Authority, BC, 2015-17




**Notes:** "Cultural wellness index" combines five domains of wellness into a single composite number with a scale of 0 to 5: having knowledge of a First Nations language; eating traditional foods; using/practicing traditional medicines; participating in community cultural events; and placing importance on traditional spirituality. Health authority is based on the location of the respondent's community. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

# CHAPTER 3: SUPPORTIVE SYSTEMS

## Food Insecurity

FIGURE C3-1

### Percentage of First Nations Individuals On Reserve Who Reported That Their Household Could Not Afford to Eat Balanced Meals in the Past 12 Months, First Nations and Other Residents, by Health Authority, BC, 2015-17

| Health Authority | First Nations % (RHS) | Other Residents % (CCHS) |
|---|---|---|
| Fraser | 41.3 | 7.5 |
| Interior | 46.6 | 8.6 |
| Northern | 47.3 | 9.1 |
| Vancouver Coastal | 37.1 | 6.1 |
| Island | 40.8 | 7.4 |
| BC | 43.5 | 7.4 |

**Notes:** A "balanced meal" contains a variety of food groups (e.g., a selection of protein, grain, vegetables, fruit, and dairy products). Regional Health Survey: Includes responses of survey participants who reported that their household "sometimes" or "often" could not afford to eat balanced meals in the past 12 months. Canadian Community Health Survey: Includes responses of survey participants who reported that it was "often true" or "sometimes true" that they or their household members could not afford to eat balanced meals in the past 12 months. Health authority is based on the location of the respondent's community. See Appendix B for more information about these data sources.
**Sources:** First Nations Regional Health Survey Phase 3 (2015-17); Statistics Canada, Canadian Community Health Survey (2015-17). Prepared by First Nations Health Authority, September 2019.

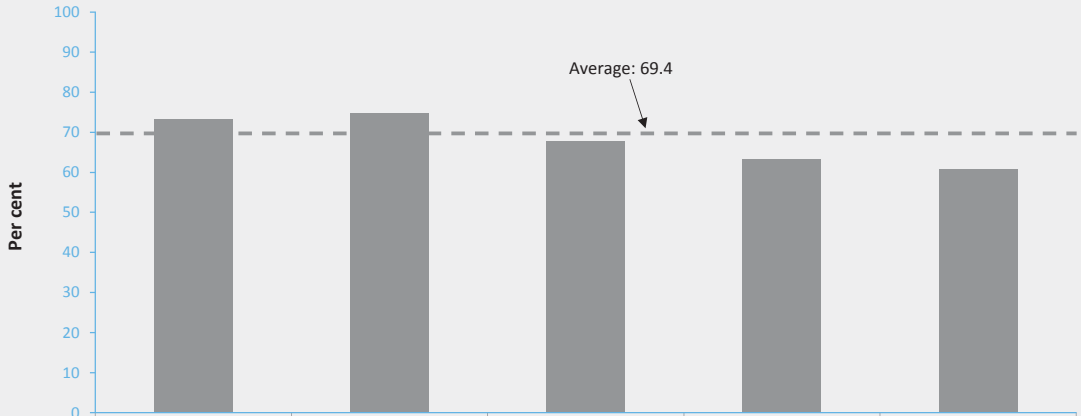
## Housing

No additional analyses are currently available for this indicator.

## Education

FIGURE C3-2

### Percentage of Indigenous Students Who Complete High School within Eight Years, by Health Authority, BC, 2016/17




| | Fraser | Interior | Northern | Vancouver Coastal | Island |
|---|---|---|---|---|---|
| Per cent | 73.2 | 74.7 | 67.7 | 63.2 | 60.9 |
| Count | 983 | 1,058 | 751 | 218 | 639 |

Health Authority

**Notes:** The "eight-year completion rate" is the proportion of students who graduate, with a British Columbia Certificate of Graduation or British Columbia Adult Graduation Diploma, within eight years from the first-time they enrol in grade 8, adjusted for migration in and out of British Columbia. The calculation includes both public and independent schools combined, but not on-reserve First Nations schools. Francophone schools are now assigned their own school district (School District #93) and could not be rolled up into the health authority regions. These numbers were extremely small and while they have been included at the provincial level, they are not included in the regional breakdown. "Indigenous" includes people who self-identify as having "Indigenous Ancestry" on a voluntary basis during school enrolment. This includes First Nations (both Status and Non-Status) on reserve and off reserve, Inuit, and Métis students. Health authority is based on the location of the school district. See Appendix B for more information about this data source.
**Source:** BC Ministry of Education. Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, February 2019.

## Avoidable Hospitalizations

FIGURE C3-3

### Rate of Avoidable Hospitalizations, Status First Nations and Other Residents, by Health Authority, BC, 2017

| Health Authority | Status First Nations | | Other Residents | |
|---|---|---|---|---|
| | Events | Rate per 10,000 Population | Events | Rate per 10,000 Population |
| Fraser | 150 | 74.2 | 6,249 | 35.4 |
| Interior | 171 | 57.7 | 3,420 | 41.6 |
| Northern | 307 | 85.0 | 1,257 | 47.6 |
| Vancouver Coastal | 199 | 87.5 | 2,901 | 26.2 |
| Island | 260 | 87.8 | 2,827 | 33.7 |
| BC | 1,090 | 78.0 | 16,692 | 34.2 |

**Notes:** "Avoidable hospitalizations" are hospitalizations for long-term health conditions that can often be managed with timely and effective treatment in the community without hospitalization. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. Health authority is based on the residence of the patient. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C3-4

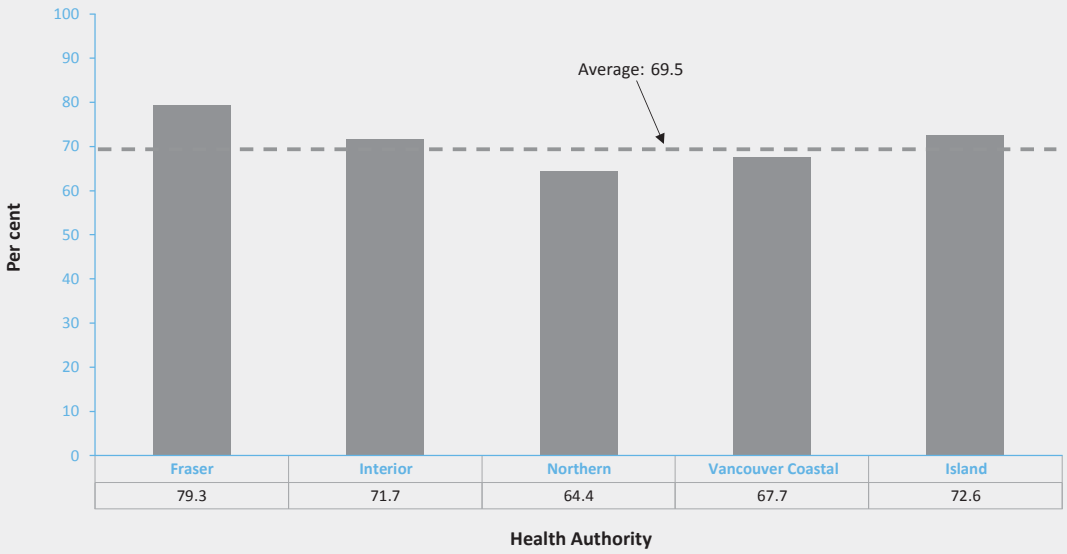
### Rate of Avoidable Hospitalizations, Status First Nations and Other Residents, by Conditions, BC, 2013-17

| Condition | Status First Nations | | Other Residents | |
|---|---|---|---|---|
| | Events | Rate per 10,000 Population | Events | Rate per 10,000 Population |
| Chronic Obstructive Pulmonary Disease (COPD) | 1,497 | 18.8 | 29,358 | 13.5 |
| Diabetes | 1,202 | 15.1 | 11,033 | 5.1 |
| Grand Mal Status and Other Epileptic Convulsions | 858 | 11.6 | 7,085 | 3.2 |
| Heart Failure and Pulmonary Edema | 729 | 9.2 | 16,910 | 7.8 |
| Asthma | 532 | 6.7 | 6,110 | 2.8 |
| Angina | 337 | 4.2 | 7,610 | 3.5 |
| Hypertension (High Blood Pressure) | 92 | 1.2 | 2,330 | 1.1 |

**Notes:** "Avoidable hospitalizations" are hospitalizations for long-term health conditions that can often be managed with timely and effective treatment in the community without hospitalization. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C3-5

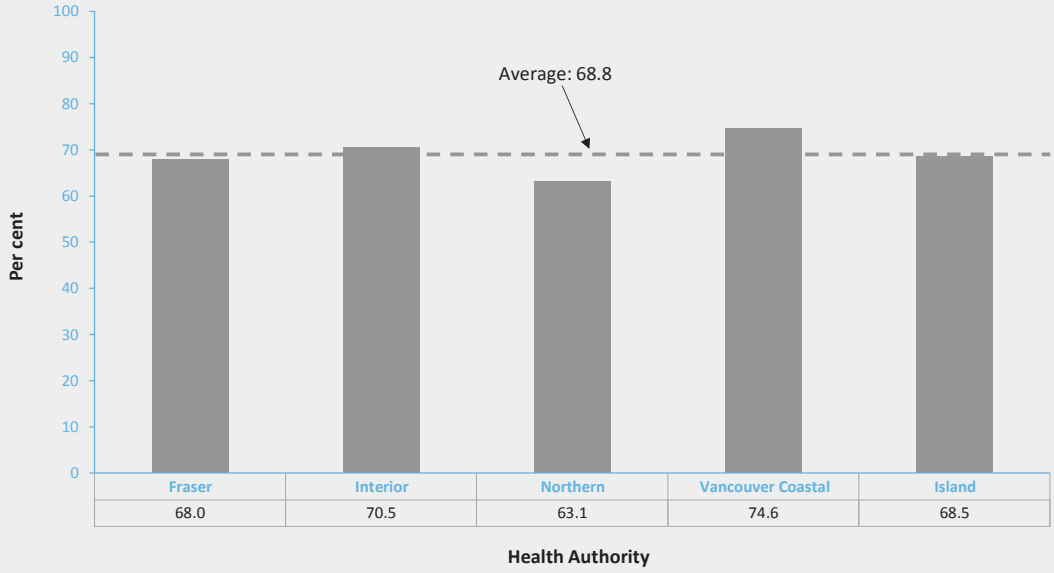
## Percentage of Patients in Emergency Departments Reporting Care Provider Was Completely Respectful of Culture and Traditions, Status First Nations, by Health Authority, BC, 2017/18




**Notes:** Respondents were asked if they felt that their care provider was respectful of their culture and traditions during their emergency room visit. This analysis reports exclusively on those who felt that the emergency department hospital staff were completely respectful of their culture and traditions and excludes non-responses. Health authority is based on the location of the facility. See Appendix B for more information about these data sources.
**Sources:** British Columbia Patient-centred Measurement, Reporting and Improvement, 2017/18 Emergency Department Visits Survey; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, July 2019.

FIGURE C3-6

## Percentage of Patients in Acute In-patient Care Reporting Care Provider Was Completely Respectful of Culture and Traditions, Status First Nations, by Health Authority, BC, 2016/17




**Notes:** Respondents were asked if they felt that their care provider was respectful of their culture and traditions during their hospital stay (acute in-patient care). This analysis reports exclusively on those who felt that the acute care hospital staff were completely respectful of their culture and traditions and excludes non-responses. Health authority is based on the location of the facility. See Appendix B for more information about these data sources.
**Sources:** British Columbia Patient-centred Measurement, Reporting and Improvement, 2016/17 Acute In-patient Care Survey; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, July 2019.

FIGURE C3-7

**Percentage of Patients in Acute In-patient Care (2016/17) and Emergency Department (2017/18), Reporting Care Provider Was Completely Respectful of Culture and Traditions, by Health Authority and Response Category, Status First Nations, BC**

| Health Authority | 2016/17 Acute In-patient Care | | | | 2017/18 Emergency Department Visits | | | |
|---|---|---|---|---|---|---|---|---|
| | Completely (%) | Quite a Bit (%) | Partly (%) | Not At All (%) | Completely (%) | Quite a Bit (%) | Partly (%) | Not At All (%) |
| Fraser | 68.0 | 9.0 | 10.6 | 12.4 | 79.3 | 9.2 | 2.4 | 9.1 |
| Interior | 70.5 | 13.5 | 10.6 | 5.3 | 71.7 | 13.2 | 7.6 | 7.5 |
| Northern | 63.1 | 13.5 | 10.2 | 13.2 | 64.4 | 14.3 | 13.0 | 8.4 |
| Vancouver Coastal | 74.6 | 15.2 | 4.8 | 5.4 | 67.7 | 12.8 | 4.8 | 14.7 |
| Island | 68.5 | 14.4 | 8.2 | 9.0 | 72.6 | 8.3 | 9.9 | 9.2 |
| BC | 68.8 | 13.7 | 8.9 | 8.6 | 69.5 | 12.2 | 9.4 | 8.9 |

**Notes:** Respondents were asked if they felt that their care provider was respectful of their culture and traditions during their hospital stay (acute in-patient care) or during their emergency room visit. This analysis is based on weighted survey responses. It excludes non-responses. The numbers for the Provincial Health Services Authority (PHSA) have been excluded at the regional level, as they were very small in both settings. PHSA data have been included at the provincial level. Health authority is based on the location of the facility. See Appendix B for more information about these data sources.
**Sources:** British Columbia Patient-centred Measurement, Reporting and Improvement, 2016/17 Acute In-patient Care Survey and 2017/18 Emergency Department Visits Survey; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, July 2019.

## First Nations Health Care Providers

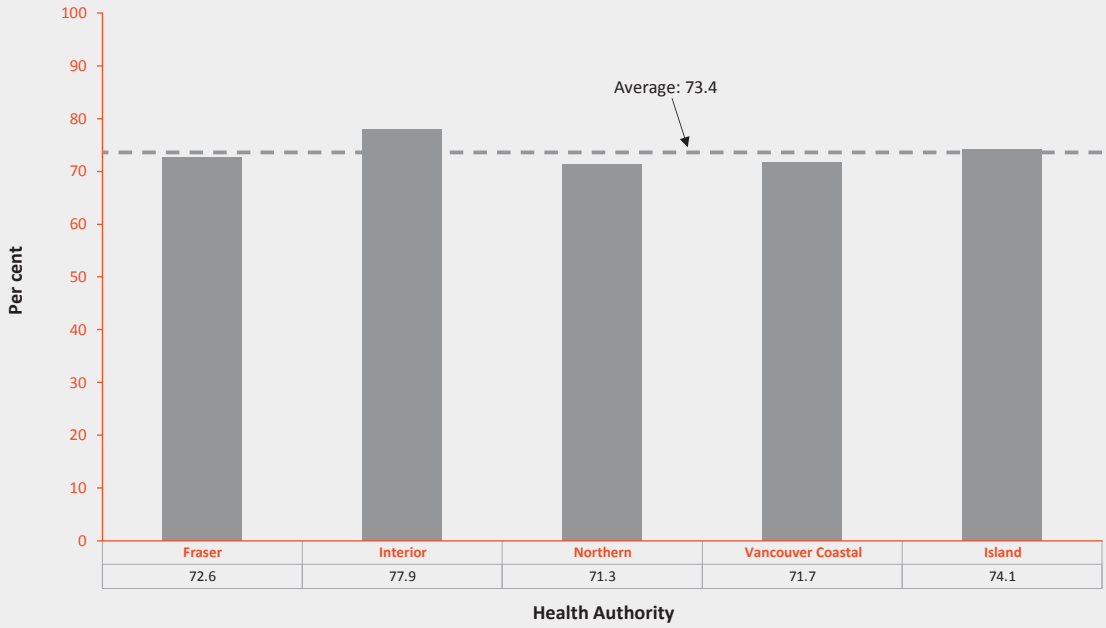
No additional analyses are currently available for this indicator.

# CHAPTER 4: HEALTHY, VIBRANT CHILDREN AND FAMILIES

## Infants Born at a Healthy Birth Weight

FIGURE C4-1

### Percentage of Singleton Live Births at Healthy Birth Weight for Gestational Age and Sex, Status First Nations, by Health Authority, BC, 2017




**Notes:** "Healthy birth weight" means the birth weight of a singleton live birth was between the 10th and 90th percentiles for the infant's gestational age and sex. Health authority is based on the residence of the mother. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C4-2

### Percentage of Singleton Live Births at Healthy Birth Weight for Gestational Age and Sex, Status First Nations and Other Residents, by Health Authority, BC, 2017

| Health Authority | Status First Nations | | | Other Residents | | |
|---|---|---|---|---|---|---|
| | Healthy Birth Weight Births | Total Live Births | Healthy Birth Weight (%) | Healthy Birth Weight Births | Total Live Births | Healthy Birth Weight (%) |
| Fraser | 238 | 328 | 72.6 | 14,190 | 17,255 | 82.2 |
| Interior | 272 | 349 | 77.9 | 4,646 | 5,671 | 81.9 |
| Northern | 404 | 567 | 71.3 | 2,206 | 2,700 | 81.7 |
| Vancouver Coastal | 177 | 247 | 71.7 | 8,168 | 9,791 | 83.4 |
| Island | 381 | 514 | 74.1 | 4,583 | 5,598 | 81.9 |
| BC | 1,474 | 2,007 | 73.4 | 33,798 | 41,020 | 82.4 |

**Notes:** "Healthy birth weight" means the birth weight of a singleton live birth was between the 10th and 90th percentiles for the infant's gestational age and sex. Health authority is based on the residence of the mother. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Infant Mortality

FIGURE C 4-3

### Infant Mortality Rate, Status First Nations and Other Residents, by Health Authority, BC, 2013-17

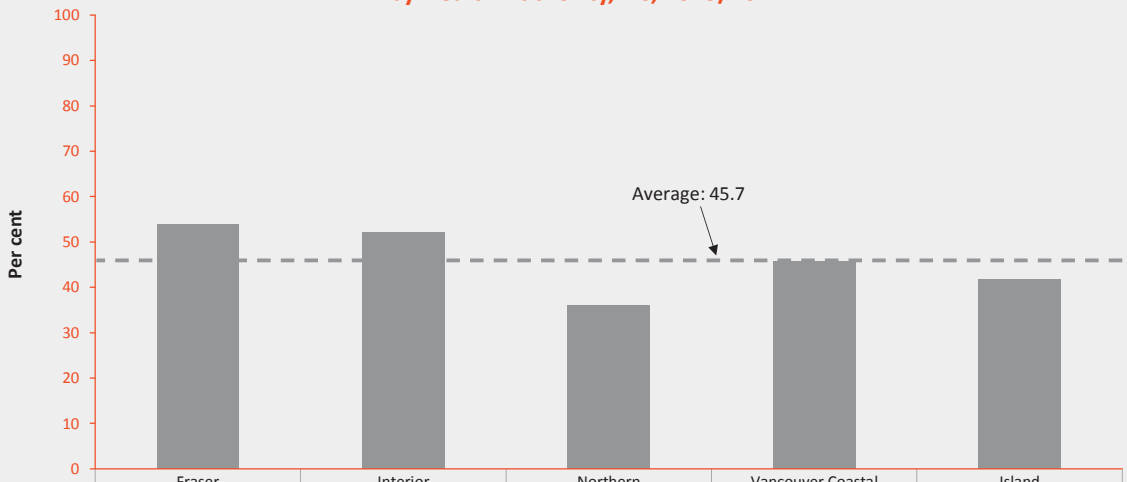
| Health Authority | Status First Nations | | Other Residents | |
|---|---|---|---|---|
| | Infant Deaths | Rate per 1,000 Live Births | Infant Deaths | Rate per 1,000 Live Births |
| Fraser | ≤10 | 5.5 | 284 | 3.2 |
| Interior | ≤10 | 2.1 | 114 | 3.9 |
| Northern | 16 | 5.3 | 70 | 5.0 |
| Vancouver Coastal | ≤10 | 6.1 | 143 | 2.8 |
| Island | 24 | 9.0 | 106 | 3.6 |
| BC | 61 | 5.8 | 717 | 3.4 |

**Notes:** "Infant mortality rate"" is the number of infants who die in the first year of life, expressed as a rate per 1,000 live births. The infant mortality rate is assigned to the year of the child's birth. Rates for Other Residents infants might be overestimated due to Status First Nations identification issue in the data. Small numbers (≤10) have been suppressed. Health authority is based on the residence of the deceased. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Children's Oral Health

FIGURE C 4-4

### Percentage of Indigenous Kindergarten Children with No Visible Dental Decay, by Health Authority, BC, 2015/16




**Notes:** This analysis identifies children between the ages of 4 and 6 with "no visible dental decay" (no broken enamel and no existing restorations) based on a visual inspection of the child's teeth. It includes all public schools, independent schools, and First Nations schools. The term "Indigenous" is used for this indicator in alignment with the terminology used in this report. This is different than the BC Ministry of Education process by which families, at the time of school registration, can self-identify as having Aboriginal ancestry. This can include Status and non-Status First Nations, Métis, and Inuit ancestry. Health authority is based on the location of the school district. See Appendix B for more information about this data source.
**Source:** BC Dental Survey of Kindergarten Children, 2015/2016, BC Ministry of Health; Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, February 2019.

FIGURE C4-1

## Percentage of Children with No Visible Decay, Indigenous and Non-Indigenous, by Health Authority, BC, 2015/2016

| Health Authority | Indigenous | | Non-Indigenous | |
|---|---|---|---|---|
| | Count | Per cent | Count | Per cent |
| Fraser | 431 | 54.0 | 11,067 | 68.1 |
| Interior | 353 | 52.2 | 3,618 | 73.5 |
| Northern | 297 | 36 | 1,661 | 69.1 |
| Vancouver Coastal | 136 | 45.6 | 5,776 | 73.4 |
| Island | 320 | 41.8 | 3,928 | 76.9 |
| BC | 1,537 | 45.7 | 26,050 | 71.2 |

**Notes:** This analysis identifies children between the ages of 4 and 6 with "no visible dental decay" (no broken enamel and no existing restorations) based on a visual inspection of the child's teeth. It includes all public schools, independent schools, and First Nations schools. The term "Indigenous" is used for this indicator in alignment with the terminology used in this report. This is different than the BC Ministry of Education process by which families, at the time of school registration, can self-identify as having Aboriginal ancestry. This can include Status and non-Status First Nations, Métis, and Inuit ancestry. Health authority is based on the location of the school district. See Appendix B for more information about this data source.

**Source:** BC Dental Survey of Kindergarten Children, 2009/2010 - 2015/2016, BC Ministry of Health. Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, February 2019.

## Children with a Healthy Body Mass Index (BMI)

FIGURE C 4-6

### Percentage of First Nations Children On Reserve, Age 2-11, Who Have a Healthy Body Mass Index, by Sex, BC, 2002-03 to 2015-17

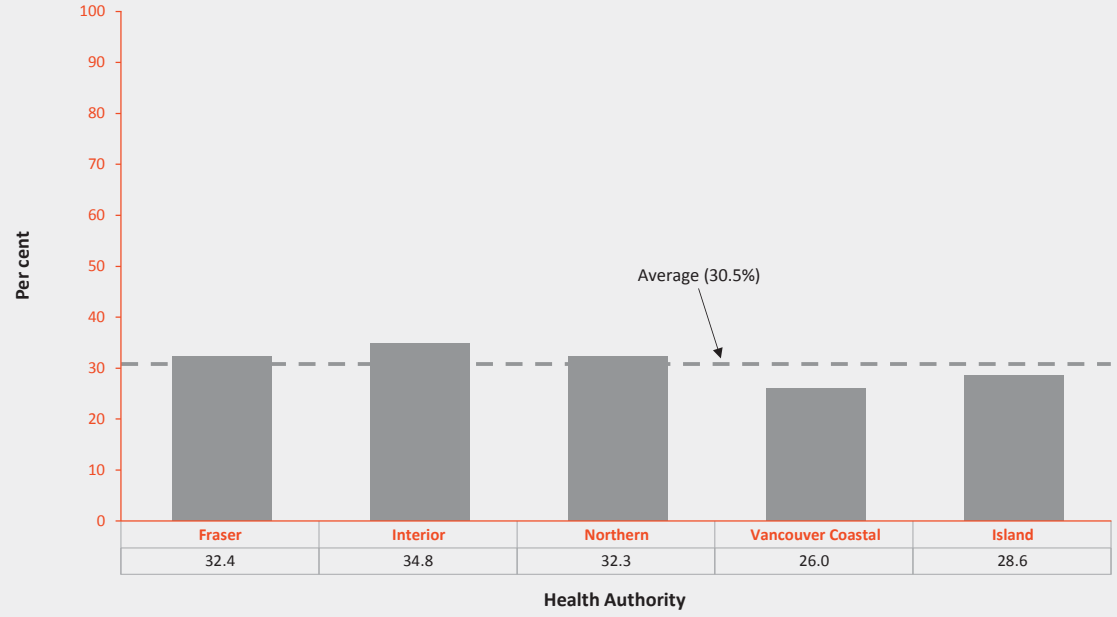

| | 2002-03 | 2008-10 | 2015-17 |
|---|---|---|---|
| Females | 40.2 | 32.7 | 32.8 |
| Males | 35.1 | 32.6 | 28.4 |

Survey Years

**Notes:** Parent-reported heights and weights from the Regional Health Survey were used to determine Body Mass Index (BMI). The BMI was then categorized into underweight, moderate, overweight, and obese using age- and sex-specific cut points. Children less than 2 years old are not eligible for BMI to be calculated. "Healthy" BMI is a BMI classified as "moderate". See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

FIGURE C 4-7

### Percentage of First Nations Children On Reserve, Age 2-11, Who Have a Healthy Body Mass Index, by Health Authority, BC, 2015-17




| Fraser | Interior | Northern | Vancouver Coastal | Island |
|---|---|---|---|---|
| 32.4 | 34.8 | 32.3 | 26.0 | 28.6 |

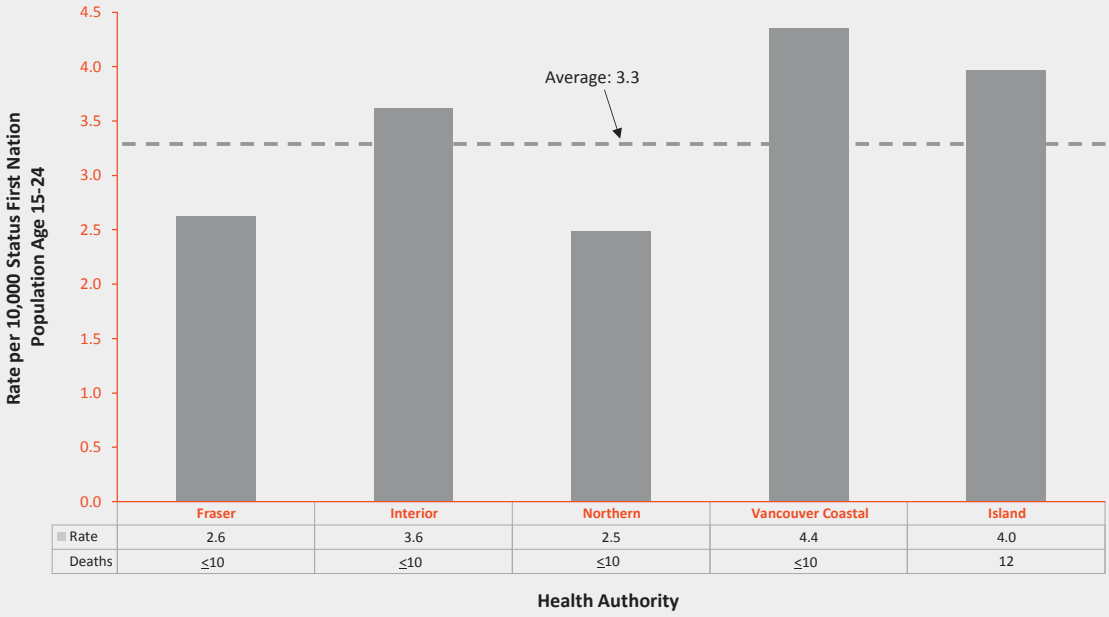
Health Authority

**Notes:** Parent-reported heights and weights from the Regional Health Survey were used to determine Body Mass Index (BMI). The BMI was then categorized into underweight, moderate, overweight, and obese using age- and sex-specific cut points. Children less than 2 years old are not eligible for BMI to be calculated. "Healthy" BMI is a BMI classified as "moderate". Health authority for children is based on the location of their primary care provider's community. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

## Youth/Young Adult Suicide Mortality Rate

FIGURE C 4-8

### Youth Suicide Rate, Age 15-24, Status First Nations, by Health Authority, BC, 2013-17




**Notes:** Small numbers (≤ 10) have been suppressed. Health authority is based on the residence of the deceased. See Appendix B for more information about these data sources.
**Source:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C4-9

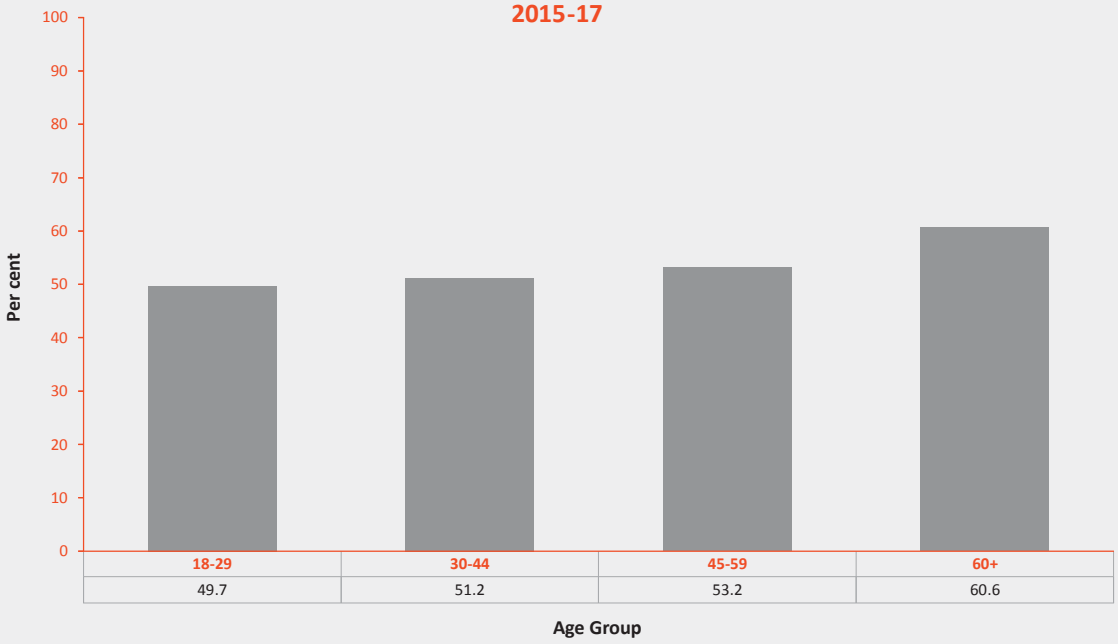
### Youth Suicide Rate, Age 15-24, Status First Nations and Other Residents, by Health Authority, BC, 2013-17

| Health Authority | Status First Nations | | Other Residents | |
|---|---|---|---|---|
| | Deaths | Rate per 10,000 Population Age 15-24 | Deaths | Rate per 10,000 Population Age 15-24 |
| Fraser | ≤10 | 2.6 | 767 | 0.7 |
| Interior | ≤10 | 3.6 | 47 | 1.2 |
| Northern | ≤10 | 2.5 | 22 | 1.4 |
| Vancouver Coastal | ≤10 | 4.4 | 42 | 0.6 |
| Island | 12 | 4.0 | 39 | 1.0 |
| BC | 45 | 3.3 | 227 | 0.8 |

**Notes:** Small numbers (≤10) have been suppressed. Health authority is based on the residence of the deceased. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C 4-10

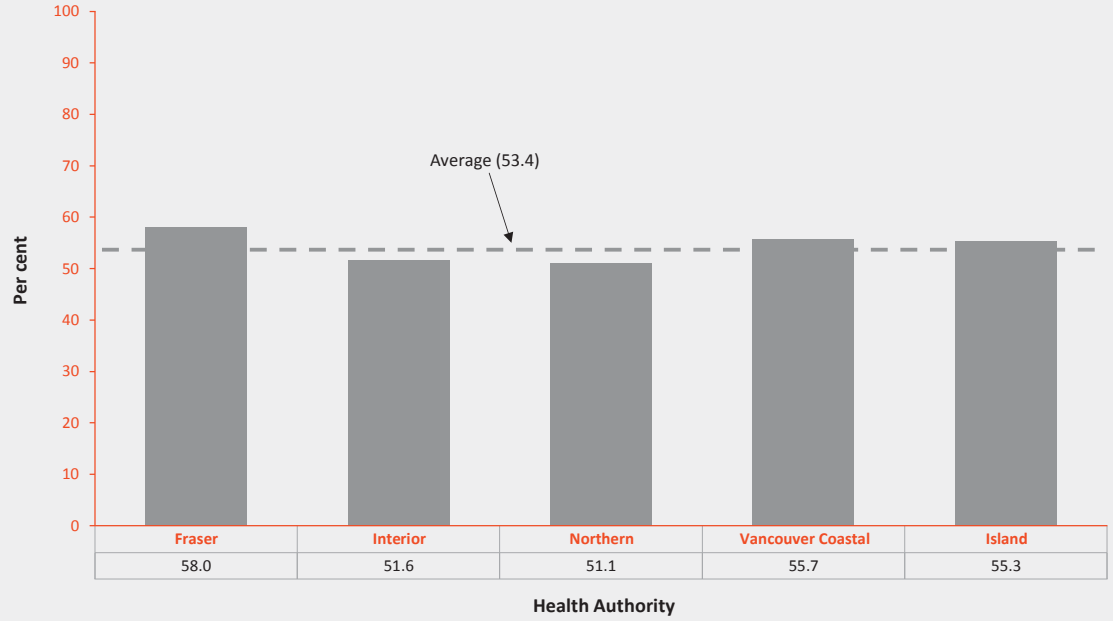
## Percentage of First Nations Adults On Reserve Who Self-reported Feeling in Balance Physically, Emotionally, Mentally, and Spiritually, by Age Group, BC, 2015-17




**Notes:** Includes responses of survey participants who reported that they felt in balance in the four aspects of their life (physically, emotionally, mentally, and spiritually) "all of the time" or "most of the time". See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

FIGURE C 4-11

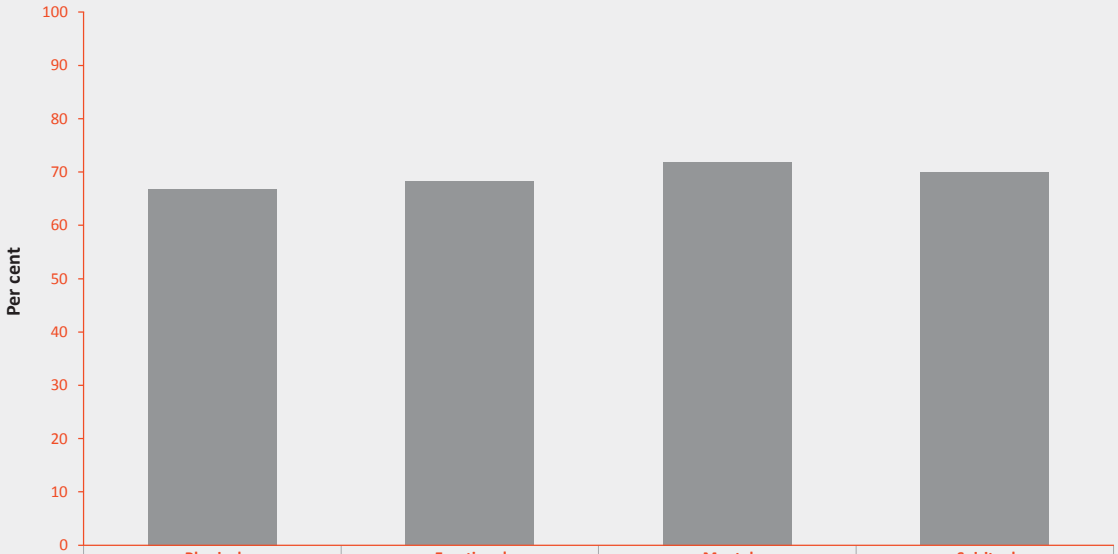
## Percentage of First Nations Adults On Reserve Who Self-reported Feeling in Balance Physically, Emotionally, Mentally, and Spiritually, by Health Authority, BC, 2015-17




**Notes:** Includes responses of survey participants who reported that they felt in balance in the four aspects of their life (physically, emotionally, mentally, and spiritually) "all of the time" or "most of the time". Health authority is based on the location of the respondent's community. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

FIGURE C 4-12

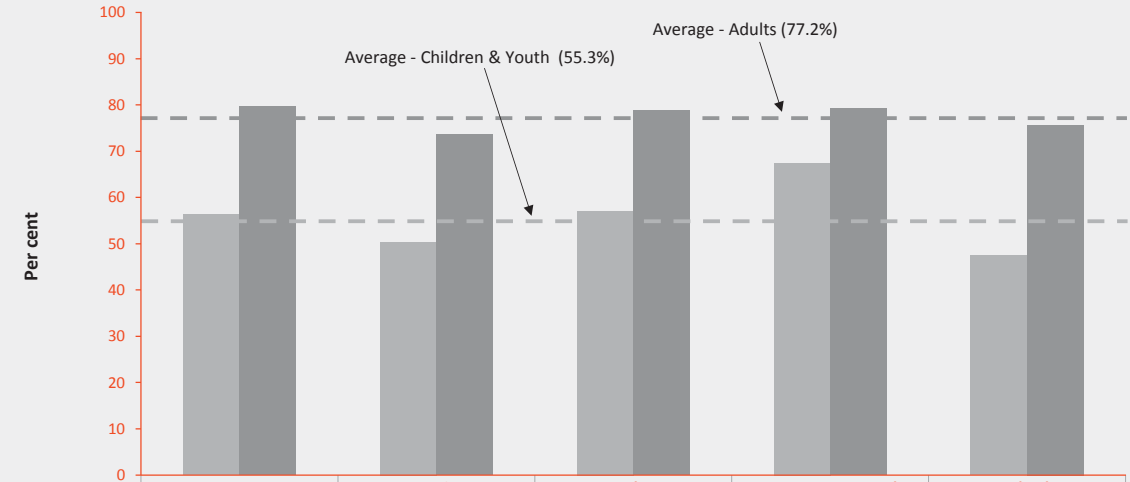
## Percentage of First Nations Adults On Reserve Who Self-reported Feeling in Balance Physically, Emotionally, Mentally, and Spiritually, by Wellness Dimension, BC, 2015-17




**Notes:** Includes responses of survey participants who reported that they felt in balance in the four aspects of their life (physically, emotionally, mentally, and spiritually) "all of the time" or "most of the time". See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

FIGURE C 4-13

## Percentage of First Nations Children, Youth, and Adults On Reserve Who Meet Canadian Physical Activity Guidelines, by Health Authority, BC, 2015-17



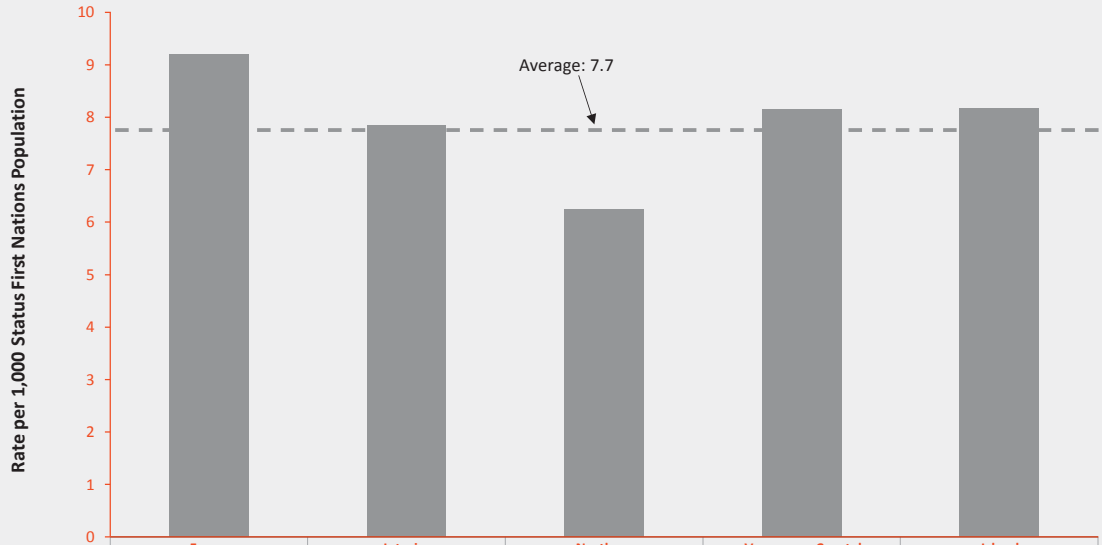

| | Fraser | Interior | Northern | Vancouver Coastal | Island |
|---|---|---|---|---|---|
| Children & Youth | 56.3 | 50.4 | 57.1 | 67.5 | 47.5 |
| Adults | 79.7 | 73.6 | 78.7 | 79.3 | 75.7 |

Health Authority

**Notes:** "Children" includes parents/guardians responding on behalf of a child age 5 to 11; "Youth" includes respondents age 12-17; and "Adults" includes respondents age 18 and up. The Canadian Physical Activity Guidelines are met as follows: Children >5 years old and Youth – minimum 60 minutes of moderate- to vigorous-intensity physical activity daily; Adults – minimum 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week. Data for adults are shown in darker shades than youth data. Health authority for youth and adults is based on the location of the respondent's community, and for children it is based on the location of the primary care provider's community. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, August 2019.

FIGURE C 4-14

## Age-standardized Diabetes Incidence Rate, Status First Nations, by Health Authority, BC, 2017/18




| | Fraser | Interior | Northern | Vancouver Coastal | Island |
|---|---|---|---|---|---|
| Rate | 9.2 | 7.8 | 6.3 | 8.2 | 8.2 |
| Incident Cases | 150 | 189 | 183 | 145 | 187 |

Health Authority

**Notes:** Standardized to the Canada 2011 population. Health authority is based on the residence of the individual. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C4-15

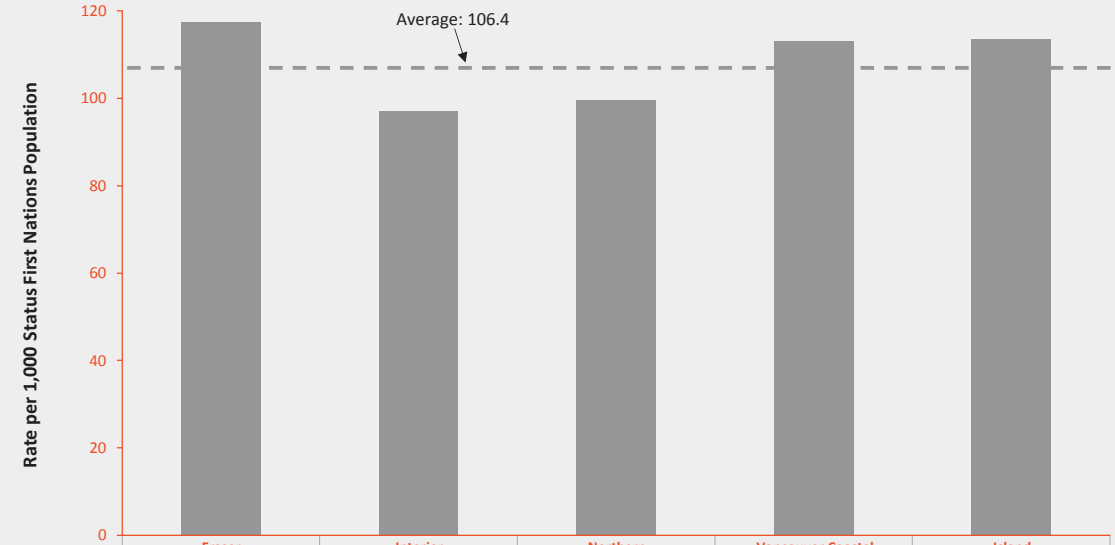
## Age-standardized Diabetes Incidence Rate, Status First Nations and Other Residents, by Health Authority, BC, 2017/18

| Health Authority | Status First Nations | | Other Residents | |
|---|---|---|---|---|
| | Cases | Rate per 1,000 Population | Cases | Rate per 1,000 Population |
| Fraser | 150 | 9.2 | 11,928 | 7.8 |
| Interior | 189 | 7.8 | 4,212 | 5.2 |
| Northern | 183 | 6.3 | 1,416 | 6.3 |
| Vancouver Coastal | 145 | 8.2 | 6,570 | 6.1 |
| Island | 187 | 8.2 | 4,501 | 5.4 |
| BC | 858 | 7.7 | 28,794 | 6.4 |

**Notes:** Standardized to the Canada 2011 population. Health authority is based on the residence of the individual. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C4-16

## Age-standardized Diabetes Prevalence Rate, Status First Nations, by Health Authority, BC, 2017/18




| | Fraser | Interior | Northern | Vancouver Coastal | Island |
|---|---|---|---|---|---|
| Rate | 117.4 | 97.0 | 99.6 | 113.1 | 113.5 |
| Prevalent Cases | 2,072 | 2,555 | 3,024 | 2,137 | 2,745 |

Health Authority

**Notes:** Standardized to the Canada 2011 population. Health authority is based on the residence of the individual. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C4-17

## Age-standardized Diabetes Prevalence Rate, Status First Nations and Other Residents, by Health Authority, BC, 2017/18

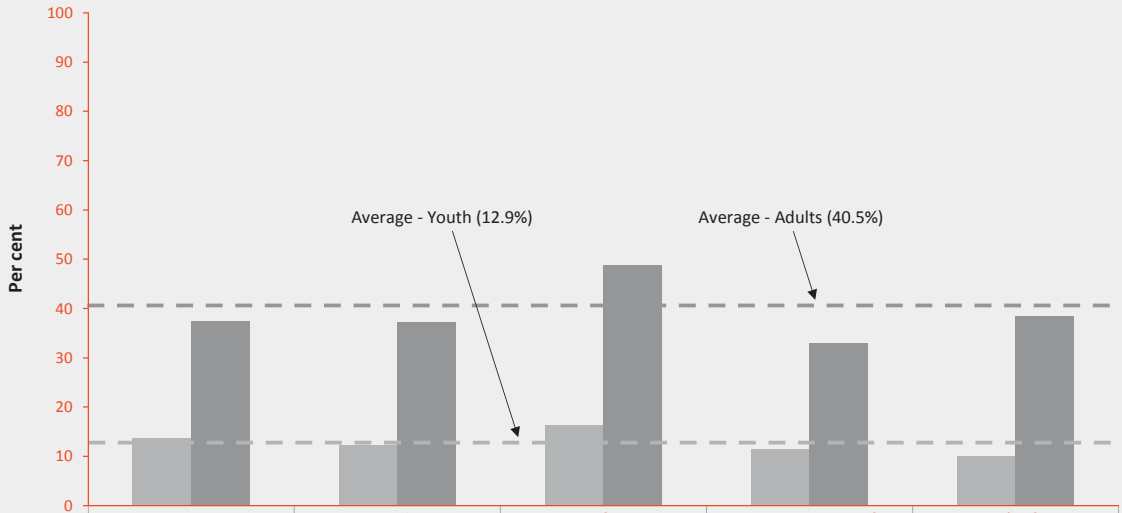
| Health Authority | Status First Nations | | Other Residents | |
|---|---|---|---|---|
| | Cases | Rate per 1,000 Population | Cases | Rate per 1,000 Population |
| Fraser | 2,072 | 117.4 | 184,205 | 96.9 |
| Interior | 2,555 | 97.0 | 67,138 | 65.3 |
| Northern | 3,024 | 99.6 | 21,373 | 80.9 |
| Vancouver Coastal | 2,137 | 113.1 | 100,478 | 76.0 |
| Island | 2,745 | 113.5 | 73,151 | 68.2 |
| BC | 12,583 | 106.4 | 448,228 | 79.7 |

**Notes:** Standardized to the Canada 2011 population. Health authority is based on the residence of the individual. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Smoking Rates of Commercial Tobacco

FIGURE C 4-18

### Percentage of First Nations Youth and Adults On Reserve Who Smoke Commercial Tobacco, by Health Authority, BC, 2015-17



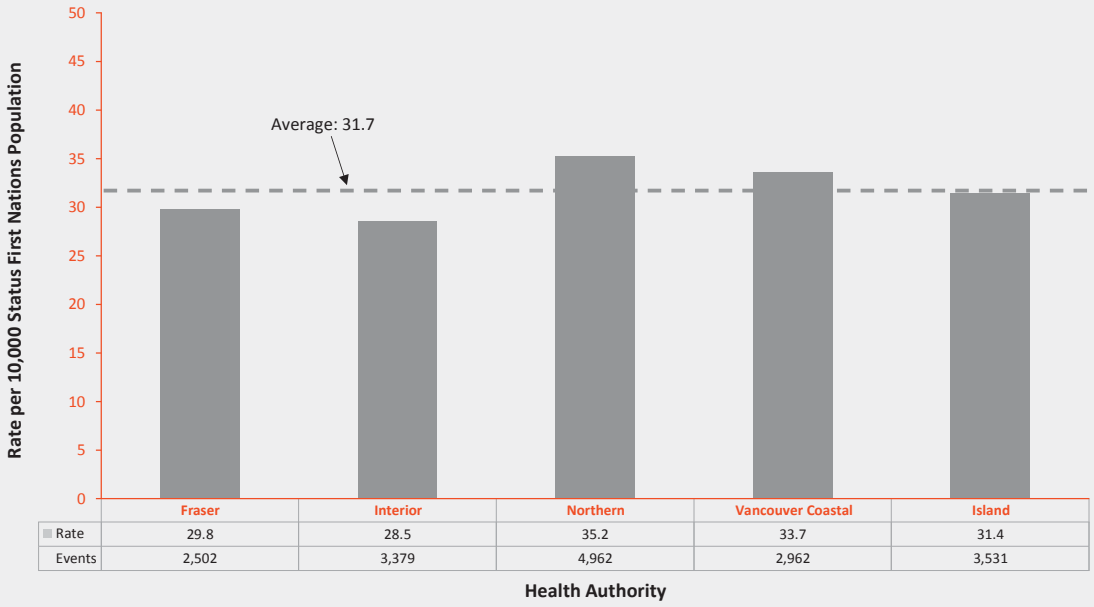

| | Fraser | Interior | Northern | Vancouver Coastal | Island |
|---|---|---|---|---|---|
| Youth | 13.7 | 12.3 | 16.3 | 11.4 | 10.0 |
| Adults | 37.4 | 37.2 | 48.8 | 32.9 | 38.5 |

Health Authority

**Notes:** Includes responses of survey participants who reported that, at the present time, they smoked cigarettes "daily" or "occasionally". "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. Data for adults are shown in darker shades than youth data. Health authority is based on the location of the respondent's community. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

FIGURE C 4-19

## Rate of Serious Injuries Requiring Hospitalization, Status First Nations, by Health Authority, BC, 2013-17

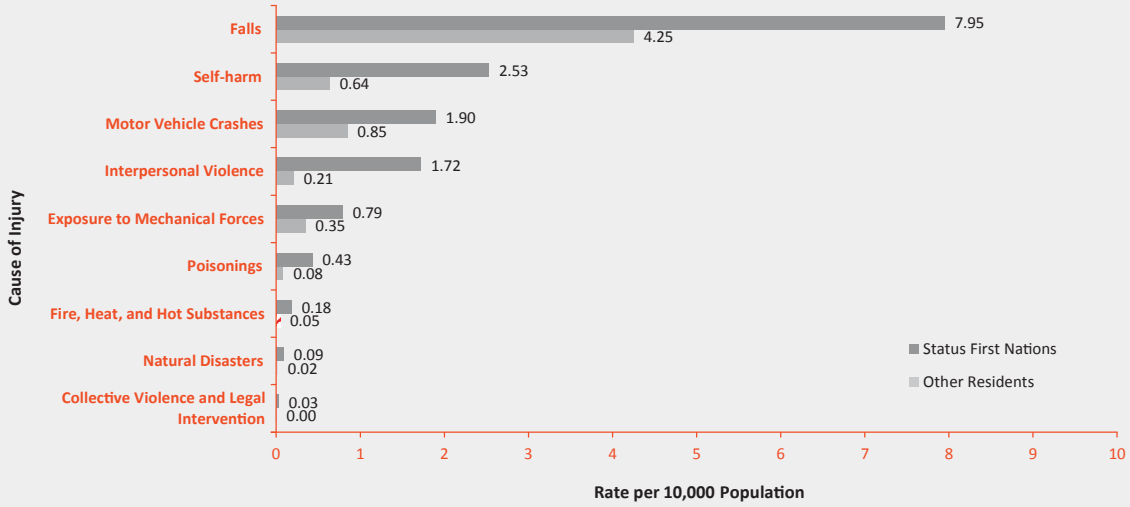



| | Fraser | Interior | Northern | Vancouver Coastal | Island |
|---|---|---|---|---|---|
| Rate | 29.8 | 28.5 | 35.2 | 33.7 | 31.4 |
| Events | 2,502 | 3,379 | 4,962 | 2,962 | 3,531 |

**Notes:** "Serious injuries requiring hospitalization" are defined as injuries requiring overnight stay, excluding day surgeries. Patients who died of their injury are not included. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. Health authority is based on the residence of the patient. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C 4-20

## Rate of Serious Injuries Requiring Hospitalization, Status First Nations and Other Residents, by Cause of Injury, BC, 2013-17

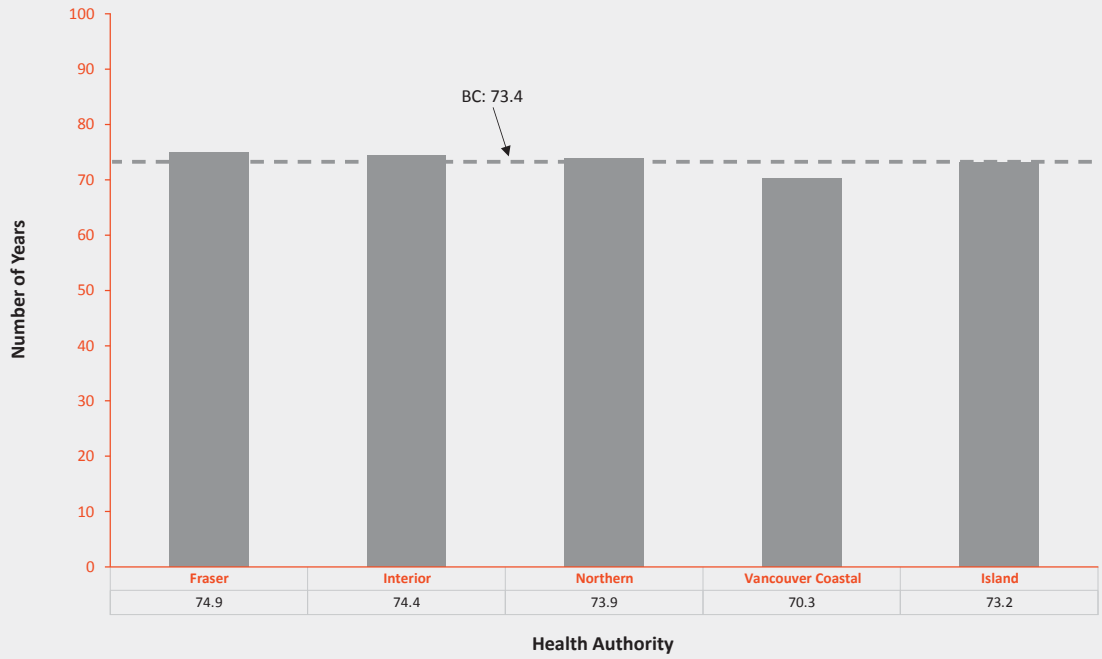



**Notes:** "Serious injuries requiring hospitalization" are defined as injuries requiring overnight stay, excluding day surgeries. Patients who died of their injury are not included. An event is one hospitalization. A patient may have multiple events during the reporting period. "Motor vehicle crashes" include injuries of cyclists and pedestrians. "Exposure to mechanical forces" measures injuries caused by contact with objects such as knives and animals. "Collective violence and legal intervention" include operation of wars and legal interventions involving firearm discharge, explosives, gas, and blunt/sharp objects. Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Life Expectancy

FIGURE C 4-21

### Life Expectancy at Birth, Status First Nations, by Health Authority, BC, 2017




**Notes:** "Life expectancy" is the expected number of years of life remaining at a given age; in this case, at birth. Health authority is based on the residence of the individual. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C4-22

### Life Expectancy at Birth, Status First Nations and Other Residents, by Health Authority, BC, 2017

| Health Authority | Status First Nations | Other Residents |
|---|---|---|
| Fraser | 74.9 | 83.0 |
| Interior | 74.4 | 80.7 |
| Northern | 73.9 | 80.0 |
| Vancouver Coastal | 70.3 | 85.3 |
| Island | 73.2 | 82.0 |
| BC | 73.4 | 82.7 |

**Notes:** "Life expectancy" is the expected number of years of life remaining at a given age; in this case, at birth. Health authority is based on the residence of the individual. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Age-standardized Mortality Rate

FIGURE C 4-23

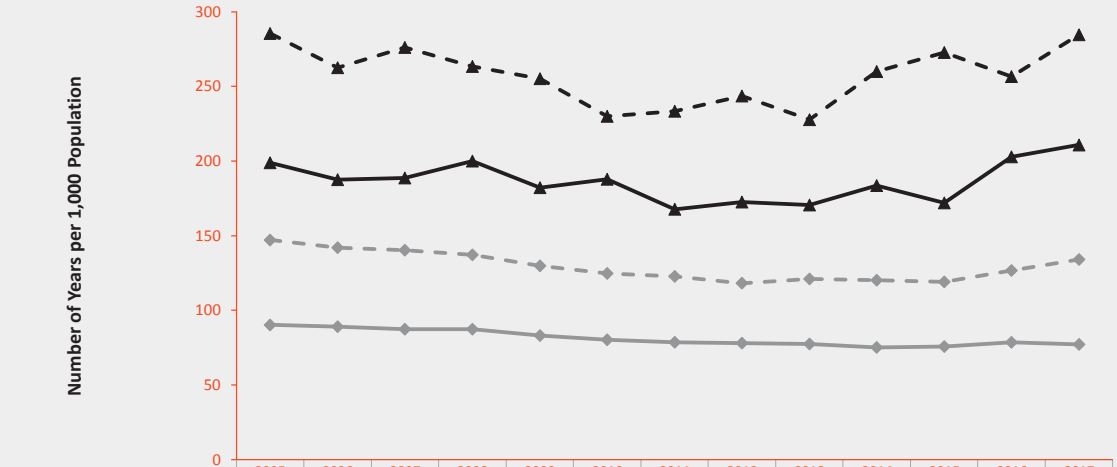
### Age-standardized All-cause Mortality Rate, Status First Nations and Other Residents, by Health Authority, BC, 2017

| Health Authority | Status First Nations | | Other Residents | |
|---|---|---|---|---|
| | Deaths | Rate per 10,000 Population | Deaths | Rate per 10,000 Population |
| Fraser | 150 | 103.6 | 11,938 | 62.0 |
| Interior | 226 | 106.6 | 8,043 | 74.3 |
| Northern | 281 | 123.0 | 1,887 | 79.5 |
| Vancouver Coastal | 220 | 135.4 | 7,240 | 51.2 |
| Island | 233 | 114.9 | 8,034 | 68.1 |
| BC | 1,112 | 116.2 | 37,167 | 63.3 |

**Notes:** Standardized to the Canada 2011 population. Health authority is based on the residence of the deceased. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C 4-24

### Potential Years of Life Lost Standardized Rate, Status First Nations and Other Residents, by Sex, BC, 2005 to 2017



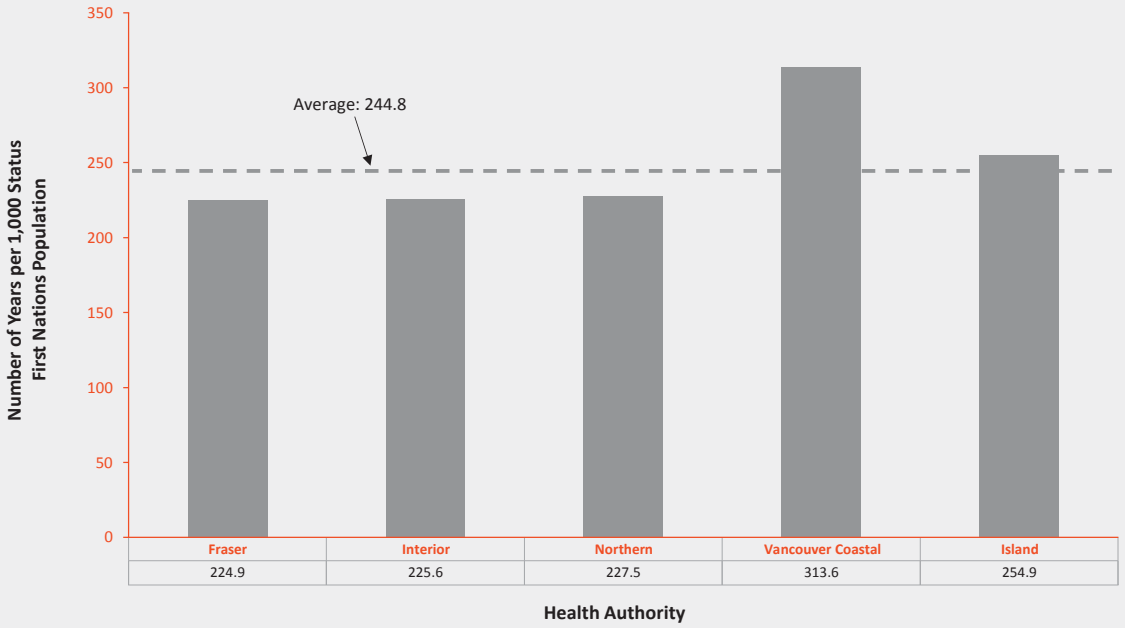

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status First Nations Females | 199.0 | 187.6 | 188.8 | 200.0 | 182.1 | 187.9 | 167.7 | 172.6 | 170.6 | 183.7 | 172.0 | 202.9 | 210.9 |
| Status First Nations Males | 285.6 | 262.6 | 276.0 | 263.4 | 255.1 | 230.0 | 233.5 | 243.7 | 227.8 | 260.0 | 272.8 | 256.7 | 284.6 |
| Other Residents Females | 90.3 | 89.2 | 87.5 | 87.4 | 83.1 | 80.4 | 78.6 | 78.1 | 77.4 | 75.2 | 75.7 | 78.5 | 77.2 |
| Other Residents Males | 147.2 | 141.9 | 140.3 | 137.1 | 130.0 | 124.8 | 122.7 | 118.1 | 121.0 | 120.2 | 119.0 | 126.8 | 134.1 |

Year

**Notes:** "Potential years of life lost" represents the average number of years of life lost due to premature death before age 86 by any cause, per 1,000 residents. Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C 4-25

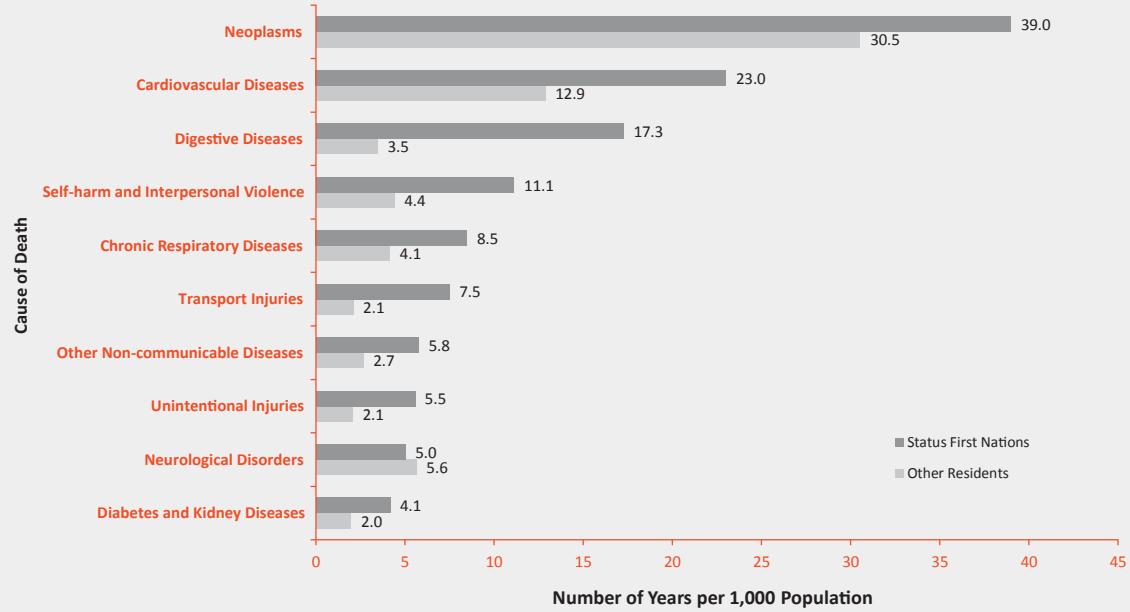
## Potential Years of Life Lost Standardized Rate, Status First Nations, by Health Authority, BC, 2017




**Notes:** "Potential years of life lost" represents the average number of years of life lost due to premature death before age 86 by any cause, per 1,000 residents. Standardized to the Canada 2011 population. Health authority is based on the residence of the deceased. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C 4-26

## Potential Years of Life Lost Standardized Rate, Status First Nations and Other Residents, by Cause of Death, BC, 2013-17




**Notes:** "Potential years of life lost" represents the average number of years of life lost due to premature death before age 86 by any cause, per 1,000 residents. Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C 4-27

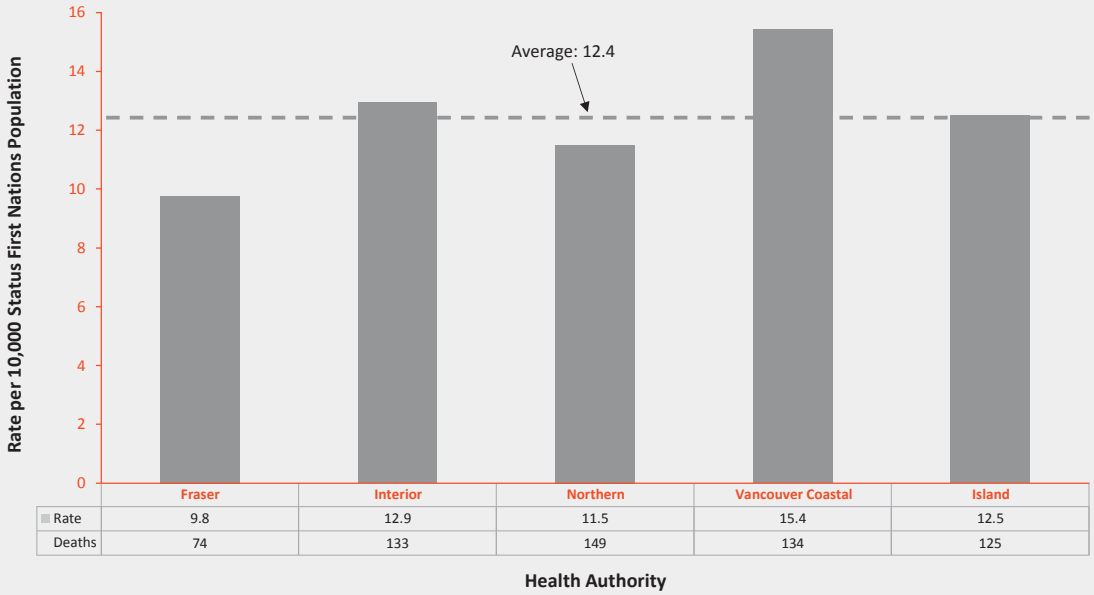
## Alcohol-attributable Mortality Rate, Status First Nations and Other Residents, by Age and Sex, BC, 2011-2015

| Age Group | Sex | Status First Nations | | Other Residents | |
|---|---|---|---|---|---|
| | | Deaths | Rate per 10,000 Population | Deaths | Rate per 10,000 Population |
| 15-34 | Females | 29 | 2.3 | 124 | 0.4 |
| | Males | 73 | 5.4 | 495 | 1.7 |
| 35-64 | Females | 146 | 9.8 | 718 | 1.5 |
| | Males | 246 | 17.5 | 2,593 | 5.5 |
| 65+ | Females | 30 | 10.7 | 674 | 3.1 |
| | Males | 92 | 45.3 | 3,912 | 22.5 |

**Notes:** The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.Alcohol-attributalbe Deaths

FIGURE C 4-28

## Alcohol-attributable Mortality Rate, Status First Nations, by Health Authority, BC, 2011-15




**Notes:** The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). Standardized to the Canada 2011 population. Health authority is based on the residence of the deceased. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C4-29

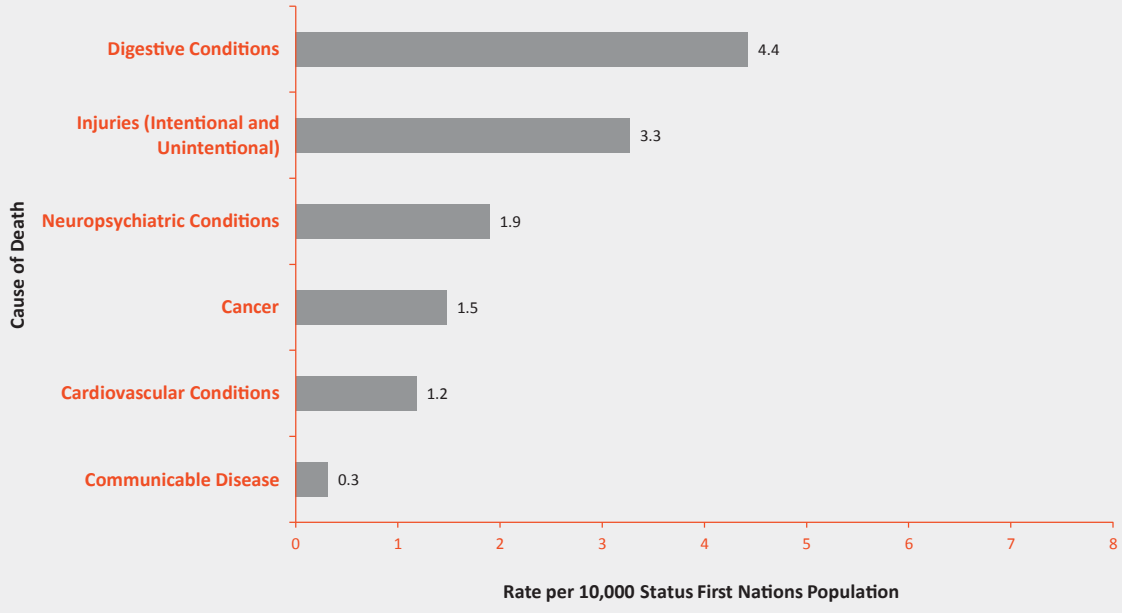
## Alcohol-attributable Mortality Rate, Status First Nations and Other Residents, by Health Authority, BC, 2011-15

| Health Authority | Status First Nations | | Other Residents | |
|---|---|---|---|---|
| | Deaths | Rate per 10,000 Population | Deaths | Rate per 10,000 Population |
| Fraser | 74 | 9.8 | 2,813 | 4.1 |
| Interior | 133 | 12.9 | 1,704 | 4.9 |
| Northern | 149 | 11.5 | 520 | 5.1 |
| Vancouver Coastal | 149 | 15.4 | 1,685 | 3.4 |
| Island | 149 | 12.5 | 1,785 | 4.9 |
| BC | 617 | 12.4 | 8,515 | 4.2 |

**Notes:** The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). Standardized to the Canada 2011 population. Health authority is based on the residence of the deceased. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C 4-30

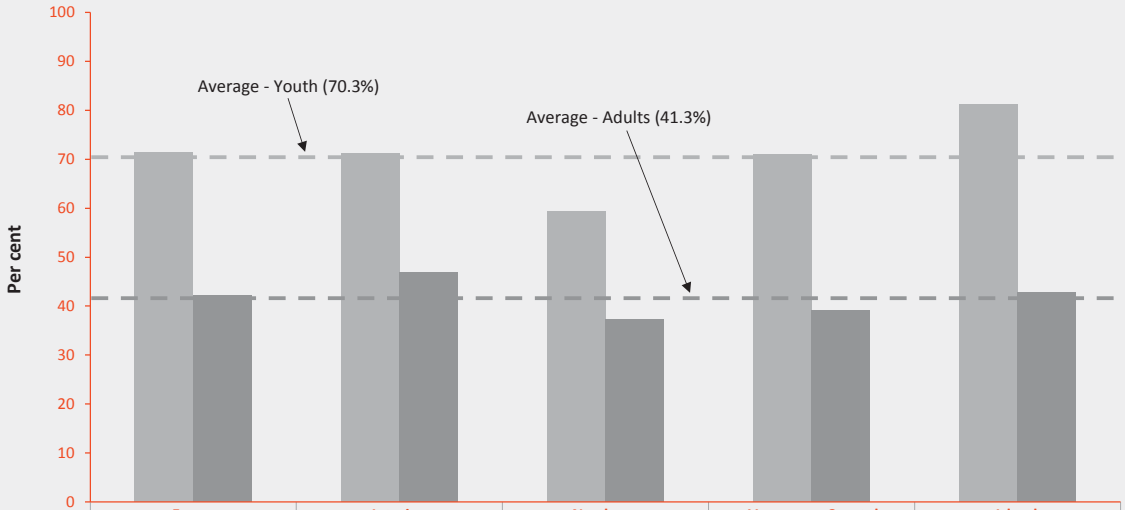
## Alcohol-attributable Mortality Rate, Status First Nations, by Condition/Disease, BC, 2011-15




**Notes:** The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). Standardized to the Canada 2011 population. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

FIGURE C 4-31

## Percentage of First Nations Youth and Adults On Reserve Who Did Not Consume Alcohol in the Last 12 Months, by Health Authority, BC, 2015-17




| | Fraser | Interior | Northern | Vancouver Coastal | Island |
|---|---|---|---|---|---|
| Youth | 71.4 | 71.1 | 59.4 | 70.9 | 81.3 |
| Adults | 42.3 | 47.0 | 37.3 | 39.1 | 42.8 |

Health Authority

**Notes:** Includes responses of survey participants who reported that they had not had a drink of beer, wine, liquor, or any other alcohol beverage in the past 12 months. "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. Data for adults are shown in darker shades than youth data. Health authority is based on the location of the respondent's community. See Appendix B for more information about this data source.
**Source:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

APPENDIX E

# CONFIDENCE INTERVALS

# INTERPRETING CONFIDENCE INTERVALS

Organizations across many sectors have different approaches to the presentation of data, and the way it can or should be interpreted, as well as the way it should not. To accommodate organizations or groups who are familiar with data that includes confidence intervals (CIs) and would like to review or analyze them, the Steering Committee and organizational data leads offer this appendix.

CIs are not the same as statistical significance. When two groups are being compared, if the CIs overlap, this is not determination of statistical significance (or lack of significance), but if the ranges do not overlap it indicates statistical significance.[1,2]

A CI is a way to measure the certainty of a specific data point, by providing a range around that value. It shows a certain level of likelihood (confidence) that the "true" value is within that range. Typically, a 95 per cent CI range is used, which means that there is 95 per cent certainty that the "true" value is within the range of values established by the CI. As an example, a rate of 0.75 might have a CI range of 0.67 to 0.83.

The naming convention for these tables align with the location of the chart in the report. For example, Table 2.1-CI provides the confidence intervals to Figure 2.1 (in Chapter 2), and Table C2-1-CI provides the confidence intervals for Figure C2-1 (in Appendix D).

# CHAPTER 2:
# HEALTHY, SELF-DETERMINING NATIONS AND COMMUNITIES

## Self-Determination

Confidence intervals are not applicable to this indicator.

## Connection to Land

Confidence intervals are not applicable to this indicator.

## Cultural Wellness

**TABLE 2.1-CI**

**Cultural Wellness Index, First Nations Adults On Reserve, BC, 2008-10 to 2015-17**

| | Year (Phase) | Estimate (out of 5) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Index | 2008-10 (Phase 2) | 3.27 | 3.13 | 3.42 |
| | 2015-17 (Phase 3) | 3.54 | 3.48 | 3.61 |

**NOTES:** "Cultural wellness index" combines five domains of wellness into a single composite number with a scale of 0 to 5: having knowledge of a First Nations language; eating traditional foods; using/practicing traditional medicines; participating in community cultural events; and placing importance on traditional spirituality. "CI" means confidence interval. See Appendix B for more information about this data source.
**SOURCE:** First Nations Regional Health Survey Phase 2 (2008-10) and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE 2.2-CI**

**Cultural Wellness Index, First Nations Adults On Reserve, Percentage of Affirmative Responses, by Dimension, BC, 2015-17**

| Dimension | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| Language | 84.9 | 83.3 | 86.4 |
| Food | 75.0 | 72.9 | 76.9 |
| Traditional Medicine | 42.9 | 40.3 | 45.6 |
| Traditional Spirituality | 79.0 | 76.7 | 81.1 |
| Participating in Community Events | 69.9 | 67.7 | 72.1 |

**NOTES:** "Cultural wellness index" combines five domains of wellness into a single composite number with a scale of 0 to 5: having knowledge of a First Nations language; eating traditional foods; using/practicing traditional medicines; participating in community cultural events; and placing importance on traditional spirituality. "CI" means confidence interval. See Appendix B for more information about this data source.
**SOURCE:** First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE C2-1-CI**

**Cultural Wellness Index, First Nations Adults On Reserve, by Sex, BC, 2015-17**

| Sex | Estimate (out of 5) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| Males | 3.5 | 3.37 | 3.54 |
| Females | 3.6 | 3.55 | 3.72 |

Notes: "Cultural wellness index" combines five domains of wellness into a single composite number with a scale of 0 to 5: having knowledge of a First Nations language; eating traditional foods; using/practicing traditional medicines; participating in community cultural events; and placing importance on traditional spirituality. "CI" means confidence interval. See Appendix B for more information about this data source.
Source: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE C2-2-CI**

**Cultural Wellness Index, First Nations Adults On Reserve, by Health Authority, BC, 2015-17**

| Health Authority | Estimate (out of 5) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| Fraser | 3.2 | 2.96 | 3.36 |
| Interior | 3.8 | 3.69 | 3.91 |
| Northern | 3.6 | 3.48 | 3.75 |
| Vancouver Coastal | 3.1 | 2.91 | 3.23 |
| Island | 3.7 | 3.57 | 3.79 |
| BC | 3.5 | 3.48 | 3.61 |

**NOTES**: "Cultural wellness index" combines five domains of wellness into a single composite number with a scale of 0 to 5: having knowledge of a First Nations language; eating traditional foods; using/practicing traditional medicines; participating in community cultural events; and placing importance on traditional spirituality. Health authority is based on the location of the respondent's community. "CI" means confidence interval. See Appendix B for more information about this data source.
**SOURCE**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

# CHAPTER 3: SUPPORTIVE SYSTEMS

## Food Insecurity

### TABLE 3.1-CI

Percentage of First Nations Individuals On Reserve Who Reported That Their Household Could Not Afford to Eat Balanced Meals in the Past 12 Months, BC, 2008-10 to 2015-17

| | Year (Phase) | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Per cent | 2008-10 (Phase 2) | 46.7 | 41.5 | 52.0 |
| | 2015-17 (Phase 3) | 43.5 | 40.9 | 46.2 |

**NOTES**: A "balanced meal" contains a variety of food groups (e.g., a selection of protein, grain, vegetables, fruit, and dairy products). Includes responses of survey participants who reported that their household "sometimes" or "often" could not afford to eat balanced meals in the past 12 months. "CI" means confidence interval. See Appendix B for more information about this data source.
**SOURCE**: First Nations Regional Health Survey Phase 2 (2008-10) and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

### TABLE 3.3-CI

Percentage of First Nations Individuals On Reserve Who Reported That Their Household Could Not Afford to Eat Balanced Meals in the Past 12 Months, by Health Authority, BC, 2015-17

| Health Authority | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| Fraser | 41.3 | 35.3 | 47.5 |
| Interior | 46.6 | 42.5 | 50.8 |
| Northern | 47.3 | 41.7 | 53.0 |
| Vancouver Coastal | 37.1 | 31.2 | 43.4 |
| Island | 40.8 | 35.5 | 46.3 |
| BC | 43.5 | 40.9 | 46.2 |

**NOTES**: A "balanced meal" contains a variety of food groups (e.g., a selection of protein, grain, vegetables, fruit, and dairy products). Includes responses of survey participants who reported that their household "sometimes" or "often" could not afford to eat balanced meals in the past 12 months. Health authority is based on the location of the respondent's community. "CI" means confidence interval. See Appendix B for more information about this data source.
**SOURCE**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019."

### TABLE 3.4-CI

Percentage of First Nations Individuals On Reserve Who Reported That Their Household Could Not Afford to Eat Balanced Meals in the Past 12 Months, by Number of Children in the Household, BC, 2015-17

| Number of Children in Household | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| None | 44.5 | 41.0 | 48.0 |
| One child or youth | 42.2 | 36.9 | 47.7 |
| Two children or youth | 42.6 | 38.2 | 47.0 |

**Notes**: A "balanced meal" contains a variety of food groups (e.g., a selection of protein, grain, vegetables, fruits, and dairy products). Includes responses of survey participants who reported that their household "sometimes" or "often" could not afford to eat balanced meals. "Number of children in the household" is based on how many children or youth under the age of 18 were reported as living in the household the majority of the time, at the time of the survey. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE C3-1-CI**

**Percentage of First Nations Individuals On Reserve Who Reported That Their Household Could Not Afford to Eat Balanced Meals in the Past 12 Months, First Nations, by Health Authority, BC, 2015-17**

| Health Authority | First Nations (RHS) | | |
|---|---|---|---|
| | Estimate (%) | Lower 95% CI | Upper 95% CI |
| Fraser | 41.3 | 35.3 | 47.5 |
| Interior | 46.6 | 42.5 | 50.8 |
| Northern | 47.3 | 41.7 | 53.0 |
| Vancouver Coastal | 37.1 | 31.2 | 43.4 |
| Island | 40.8 | 35.5 | 46.3 |
| BC | 43.5 | 40.9 | 46.2 |

**NOTES**: A "balanced meal" contains a variety of food groups (e.g., a selection of protein, grain, vegetables, fruit, and dairy products). Regional Health Survey: Includes responses of survey participants who reported that their household "sometimes" or "often" could not afford to eat balanced meals in the past 12 months. Health authority is based on the location of the respondent's community. "CI" means confidence interval. See Appendix B for more information about these data sources.
**SOURCES**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, September 2019.

## Housing

Confidence intervals are not available for this indicator.

## Education

Confidence intervals are not available for this indicator.

## Avoidable Hospitalizations

### TABLE 3.10-CI

Rate of Avoidable Hospitalizations, Status First Nations and Other Residents, BC, 2005 to 2017

| Year | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| 2005 | 966 | 89.1 | 82.7 | 95.8 | 14,890 | 39.9 | 39.2 | 40.5 |
| 2006 | 910 | 81.0 | 75.2 | 87.3 | 14,432 | 38.1 | 37.5 | 38.7 |
| 2007 | 917 | 78.9 | 73.3 | 84.9 | 14,307 | 37.0 | 36.4 | 37.6 |
| 2008 | 995 | 84.9 | 79.2 | 91.0 | 14,469 | 36.6 | 36.0 | 37.2 |
| 2009 | 868 | 73.3 | 68.0 | 78.9 | 13,615 | 33.8 | 33.2 | 34.4 |
| 2010 | 893 | 71.4 | 66.5 | 76.7 | 14,660 | 35.7 | 35.1 | 36.3 |
| 2011 | 919 | 72.1 | 67.2 | 77.3 | 14,588 | 34.8 | 34.2 | 35.4 |
| 2012 | 956 | 73.8 | 68.9 | 79.0 | 15,171 | 35.5 | 34.9 | 36.1 |
| 2013 | 1,052 | 79.9 | 74.9 | 85.1 | 15,354 | 35.4 | 34.8 | 35.9 |
| 2014 | 1,062 | 80.4 | 75.5 | 85.7 | 15,839 | 35.7 | 35.1 | 36.3 |
| 2015 | 1,028 | 76.8 | 72.0 | 81.9 | 15,922 | 34.7 | 34.1 | 35.2 |
| 2016 | 1,015 | 74.2 | 69.6 | 79.0 | 16,629 | 35.1 | 34.5 | 35.6 |
| 2017 | 1,090 | 78.0 | 73.3 | 82.9 | 16,692 | 34.2 | 33.6 | 34.7 |

**Notes**: "Avoidable hospitalizations" are hospitalizations for long-term health conditions that can often be managed with timely and effective treatment in the community, without hospitalization. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

### TABLE 3.11-CI

Rate of Avoidable Hospitalizations, Status First Nations and Other Residents, by Sex, BC, 2005 to 2017

| Year | Status First Nations Females | | | | Other Residents Females | | | | Status First Nations Males | | | | Other Residents Males | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Events | Rate Per 10,000 Population | Lower 95% CI | Upper 95% CI | Events | Rate Per 10,000 Population | Lower 95% CI | Upper 95% CI | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| 2005 | 499 | 87.8 | 79.3 | 97.0 | 6,383 | 34.4 | 33.5 | 35.2 | 467 | 90.6 | 81.3 | 100.9 | 8,506 | 45.3 | 44.4 | 46.3 |
| 2006 | 444 | 76.3 | 68.6 | 84.7 | 6,261 | 33.2 | 32.4 | 34.0 | 466 | 86.3 | 77.5 | 96.1 | 8,171 | 43.0 | 42.0 | 43.9 |
| 2007 | 447 | 72.2 | 65.0 | 80.0 | 6,129 | 31.9 | 31.1 | 32.7 | 470 | 87.0 | 78.2 | 96.7 | 8,178 | 42.1 | 41.2 | 43.0 |
| 2008 | 482 | 79.9 | 72.4 | 88.2 | 6,342 | 32.4 | 31.6 | 33.2 | 513 | 90.2 | 81.6 | 99.6 | 8,126 | 40.9 | 40.0 | 41.8 |
| 2009 | 455 | 73.9 | 66.8 | 81.7 | 6,074 | 30.4 | 29.6 | 31.1 | 413 | 72.3 | 64.8 | 80.7 | 7,541 | 37.2 | 36.4 | 38.1 |
| 2010 | 473 | 72.4 | 65.6 | 79.7 | 6,553 | 32.1 | 31.3 | 32.9 | 420 | 70.4 | 63.2 | 78.4 | 8,107 | 39.3 | 38.5 | 40.2 |
| 2011 | 468 | 69.2 | 62.7 | 76.2 | 6,504 | 31.3 | 30.5 | 32.1 | 451 | 75.8 | 68.4 | 83.9 | 8,084 | 38.3 | 37.5 | 39.2 |
| 2012 | 479 | 71.2 | 64.7 | 78.2 | 6,821 | 32.2 | 31.4 | 33.0 | 477 | 76.7 | 69.4 | 84.6 | 8,350 | 38.9 | 38.0 | 39.7 |
| 2013 | 493 | 72.9 | 66.4 | 79.9 | 6,818 | 31.5 | 30.8 | 32.3 | 559 | 87.7 | 80.1 | 96.0 | 8,536 | 39.2 | 38.4 | 40.0 |
| 2014 | 562 | 81.7 | 74.9 | 89.0 | 6,963 | 31.5 | 30.8 | 32.3 | 500 | 79.1 | 71.9 | 86.9 | 8,876 | 39.9 | 39.1 | 40.8 |
| 2015 | 531 | 76.4 | 69.8 | 83.3 | 7,083 | 30.9 | 30.1 | 31.6 | 497 | 77.1 | 70.2 | 84.7 | 8,839 | 38.5 | 37.7 | 39.3 |
| 2016 | 526 | 73.8 | 67.5 | 80.5 | 7,318 | 30.8 | 30.1 | 31.6 | 489 | 74.7 | 68.0 | 82.0 | 9,311 | 39.4 | 38.6 | 40.2 |
| 2017 | 579 | 80.0 | 73.6 | 86.9 | 7,306 | 29.7 | 29.0 | 30.4 | 511 | 75.5 | 68.9 | 82.7 | 9,386 | 38.7 | 37.9 | 39.5 |

**Notes**: "Avoidable hospitalizations" are hospitalizations for long-term health conditions that can often be managed with timely and effective treatment in the community without hospitalization. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

### TABLE 3.12-CI

Rate of Avoidable Hospitalizations, Status First Nations and Other Residents, by Health Authority, BC, 2017

| Health Authority | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| Fraser | 150 | 74.2 | 62.4 | 88.0 | 6,249 | 35.4 | 34.5 | 36.3 |
| Interior | 171 | 57.7 | 49.4 | 67.2 | 3,420 | 41.6 | 40.2 | 43.1 |
| Northern | 307 | 85.0 | 75.5 | 95.3 | 1,257 | 47.6 | 45.0 | 50.3 |
| Vancouver Coastal | 199 | 87.5 | 75.6 | 101.0 | 2,901 | 26.2 | 25.3 | 27.2 |
| Island | 260 | 87.8 | 77.1 | 99.6 | 2,827 | 33.7 | 32.4 | 35.0 |
| BC | 1,090 | 78.0 | 73.3 | 82.9 | 16,692 | 34.2 | 33.6 | 34.7 |

Notes: "Avoidable hospitalizations" are hospitalizations for long-term health conditions that can often be managed with timely and effective treatment in the community without hospitalization. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. Health authority is based on the residence of the patient. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

### TABLE C3-3-CI

Rate of Avoidable Hospitalizations, Status First Nations, by Health Authority, BC, 2017

| Health Authority | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Fraser | 150 | 74.2 | 62.4 | 88.0 |
| Interior | 171 | 57.7 | 49.4 | 67.2 |
| Northern | 307 | 85.0 | 75.5 | 95.3 |
| Vancouver Coastal | 199 | 87.5 | 75.6 | 101.0 |
| Island | 260 | 87.8 | 77.1 | 99.6 |
| BC | 1,090 | 78.0 | 73.3 | 82.9 |

Notes: "Avoidable hospitalizations" are hospitalizations for long-term health conditions that can often be managed with timely and effective treatment in the community without hospitalization. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. Health authority is based on the residence of the patient. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Discharge Abstract Database, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C3-4-CI**

Rate of Avoidable Hospitalization, Status First Nations and Other Residents, by Conditions, BC, 2013-17

| Condition | STATUS FIRST NATIONS | | | | OTHER RESIDENTS | | | |
|---|---|---|---|---|---|---|---|---|
| | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| Chronic Obstructive Pulmonary Disease (COPD) | 1,497 | 18.8 | 17.9 | 19.8 | 29,358 | 13.5 | 13.4 | 13.7 |
| Diabetes | 1,202 | 15.1 | 14.3 | 16.0 | 11,033 | 5.1 | 5.0 | 5.2 |
| Grand Mal Status and Other Epileptic Convulsions | 858 | 11.6 | 10.8 | 12.4 | 7,085 | 3.2 | 3.2 | 3.3 |
| Heart Failure and Pulmonary Edema | 729 | 9.2 | 8.5 | 9.9 | 16,910 | 7.8 | 7.7 | 7.9 |
| Asthma | 532 | 6.7 | 6.1 | 7.3 | 6,110 | 2.8 | 2.7 | 2.9 |
| Angina | 337 | 4.2 | 3.8 | 4.7 | 7,610 | 3.5 | 3.4 | 3.6 |
| Hypertension (High Blood Pressure) | 92 | 1.2 | 0.9 | 1.4 | 2,330 | 1.1 | 1.0 | 1.1 |

**Notes**: "Avoidable hospitalizations" are hospitalizations for long-term health conditions that can often be managed with timely and effective treatment in the community without hospitalization. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Cultural Safety and Humility in Receiving Health Services

Confidence intervals are not available for this indicator.

## First Nations Health Care Providers

Confidence intervals are not available for this indicator.

# CHAPTER 4: HEALTHY, VIBRANT CHILDREN AND FAMILIES

## Infants Born at a Healthy Birth Weight

**TABLE 4.1-CI**

Percentage of Singleton Live Births at Healthy Birth Weight for Gestational Age and Sex, Status First Nations and Other Residents, BC, 2005 to 2017

| Year | Status First Nations | | | | | Other Residents | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Healthy Birth Weight Births | Total Live Births | Healthy Birth Weight (%) | Lower 95% CI | Upper 95% CI | Healthy Birth Weight Births | Total Live Births | Healthy Birth Weight (%) | Lower 95% CI | Upper 95% CI |
| 2005 | 1,667 | 2,293 | 72.7 | 69.3 | 76.3 | 29,770 | 36,779 | 80.9 | 80.0 | 81.9 |
| 2006 | 1,779 | 2,327 | 76.5 | 72.9 | 80.1 | 30,584 | 37,681 | 81.2 | 80.3 | 82.1 |
| 2007 | 1,839 | 2,456 | 74.9 | 71.5 | 78.4 | 32,058 | 39,422 | 81.3 | 80.4 | 82.2 |
| 2008 | 1,839 | 2,477 | 74.2 | 70.9 | 77.7 | 32,638 | 40,274 | 81.0 | 80.2 | 81.9 |
| 2009 | 1,772 | 2,365 | 74.9 | 71.5 | 78.5 | 33,419 | 41,038 | 81.4 | 80.6 | 82.3 |
| 2010 | 1,705 | 2,347 | 72.6 | 69.2 | 76.2 | 32,487 | 39,888 | 81.4 | 80.6 | 82.3 |
| 2011 | 1,674 | 2,251 | 74.4 | 70.8 | 78.0 | 32,827 | 40,283 | 81.5 | 80.6 | 82.4 |
| 2012 | 1,719 | 2,318 | 74.2 | 70.7 | 77.7 | 32,822 | 40,203 | 81.6 | 80.8 | 82.5 |
| 2013 | 1,600 | 2,182 | 73.3 | 69.8 | 77.0 | 32,664 | 39,905 | 81.9 | 81.0 | 82.7 |
| 2014 | 1,601 | 2,158 | 74.2 | 70.6 | 77.9 | 33,257 | 40,536 | 82.0 | 81.2 | 82.9 |
| 2015 | 1,558 | 2,144 | 72.7 | 69.1 | 76.4 | 33,259 | 40,540 | 82.0 | 81.2 | 82.9 |
| 2016 | 1,534 | 2,133 | 71.9 | 68.4 | 75.6 | 33,964 | 41,559 | 81.7 | 80.9 | 82.6 |
| 2017 | 1,474 | 2,007 | 73.4 | 69.7 | 77.3 | 33,798 | 41,020 | 82.4 | 81.5 | 83.3 |

**Notes**: "Healthy birth weight" means the birth weight of a singleton live birth was between the 10th and 90th percentiles for the infant's gestational age and sex. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE 4.2-CI**

Percentage of Singleton Live Births, Status First Nations and Other Residents, by Weight for Gestational Age and Sex, BC, 2017

| Group | Small-for-Gestational-Age | | | | | Large-for-Gestational-Age | | | | | Healthy-for-Gestational-Age | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Births | Total Live Births | Per cent | Lower 95% CI | Upper 95% CI | Births | Total Live Births | Per cent | Lower 95% CI | Upper 95% CI | Births | Total Live Births | Per cent | Lower 95% CI | Upper 95% CI |
| Status First Nations | 90 | 2,007 | 4.5 | 3.6 | 5.5 | 441 | 2,007 | 22.0 | 20.0 | 24.1 | 1,474 | 2,007 | 73.4 | 69.7 | 77.3 |
| Other Residents | 3,198 | 41,020 | 7.8 | 7.5 | 8.1 | 3,987 | 41,020 | 9.7 | 9.4 | 10.0 | 33,798 | 41,020 | 82.4 | 81.5 | 83.3 |

**Notes**: "Healthy birth weight" means the birth weight of a singleton live birth was between the 10th and 90th percentiles for the infant's gestational age and sex. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-1-CI**

Percentage of Singleton Live Births at Healthy Birth Weight for Gestational Age and Sex, Status First Nations and Other Residents, BC, 2005 to 2017

| Year | Status First Nations | | | | | Other Residents | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Healthy Birth Weight Births | Total Live Births | Healthy Birth Weight (%) | Lower 95% CI | Upper 95% CI | Healthy Birth Weight Births | Total Live Births | Healthy Birth Weight (%) | Lower 95% CI | Upper 95% CI |
| 2005 | 1,667 | 2,293 | 72.7 | 69.3 | 76.3 | 29,770 | 36,779 | 80.9 | 80.0 | 81.9 |
| 2006 | 1,779 | 2,327 | 76.5 | 72.9 | 80.1 | 30,584 | 37,681 | 81.2 | 80.3 | 82.1 |
| 2007 | 1,839 | 2,456 | 74.9 | 71.5 | 78.4 | 32,058 | 39,422 | 81.3 | 80.4 | 82.2 |
| 2008 | 1,839 | 2,477 | 74.2 | 70.9 | 77.7 | 32,638 | 40,274 | 81.0 | 80.2 | 81.9 |
| 2009 | 1,772 | 2,365 | 74.9 | 71.5 | 78.5 | 33,419 | 41,038 | 81.4 | 80.6 | 82.3 |
| 2010 | 1,705 | 2,347 | 72.6 | 69.2 | 76.2 | 32,487 | 39,888 | 81.4 | 80.6 | 82.3 |
| 2011 | 1,674 | 2,251 | 74.4 | 70.8 | 78.0 | 32,827 | 40,283 | 81.5 | 80.6 | 82.4 |
| 2012 | 1,719 | 2,318 | 74.2 | 70.7 | 77.7 | 32,822 | 40,203 | 81.6 | 80.8 | 82.5 |
| 2013 | 1,600 | 2,182 | 73.3 | 69.8 | 77.0 | 32,664 | 39,905 | 81.9 | 81.0 | 82.7 |
| 2014 | 1,601 | 2,158 | 74.2 | 70.6 | 77.9 | 33,257 | 40,536 | 82.0 | 81.2 | 82.9 |
| 2015 | 1,558 | 2,144 | 72.7 | 69.1 | 76.4 | 33,259 | 40,540 | 82.0 | 81.2 | 82.9 |
| 2016 | 1,534 | 2,133 | 71.9 | 68.4 | 75.6 | 33,964 | 41,559 | 81.7 | 80.9 | 82.6 |
| 2017 | 1,474 | 2,007 | 73.4 | 69.7 | 77.3 | 33,798 | 41,020 | 82.4 | 81.5 | 83.3 |

**Notes**: "Healthy birth weight" means the birth weight of a singleton live birth was between the 10th and 90th percentiles for the infant's gestational age and sex. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-2-CI**

Percentage of Singleton Live Births at Healthy Birth Weight for Gestational Age and Sex, Status First Nations and Other Residents, by Health Authority, BC, 2017

| Health Authority | Status First Nations | | | | | Other Residents | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Healthy Birth Weight Births | Total Live Births | Healthy Birth Weight (%) | Lower 95% CI | Upper 95% CI | Healthy Birth Weight Births | Total Live Births | Healthy Birth Weight (%) | Lower 95% CI | Upper 95% CI |
| Fraser | 238 | 328 | 72.6 | 63.6 | 82.4 | 14,190 | 17,255 | 82.2 | 80.9 | 83.6 |
| Interior | 272 | 349 | 77.9 | 68.9 | 87.8 | 4,646 | 5,671 | 81.9 | 79.6 | 84.3 |
| Northern | 404 | 567 | 71.3 | 64.5 | 78.6 | 2,206 | 2,700 | 81.7 | 78.3 | 85.2 |
| Vancouver Coastal | 177 | 247 | 71.7 | 61.5 | 83.0 | 8,168 | 9,791 | 83.4 | 81.6 | 85.3 |
| Island | 381 | 514 | 74.1 | 66.9 | 82.0 | 4,583 | 5,598 | 81.9 | 79.5 | 84.3 |
| BC | 1,474 | 2,007 | 73.4 | 69.7 | 77.3 | 33,798 | 41,020 | 82.4 | 81.5 | 83.3 |

**Notes**: "Healthy birth weight" means the birth weight of a singleton live birth was between the 10th and 90th percentiles for the infant's gestational age and sex. Health authority is based on the residence of the mother. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Infant Mortality

### TABLE 4.3-CI

Infant Mortality Rate, Status First Nations and Other Residents, BC, 1993-97 to 2013-17

| Years | Status First Nations | | | | | Other Residents | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Infant Deaths | Live Births | Rate per 1,000 Live Births | Lower 95% CI | Upper 95% CI | Infant Deaths | Live Births | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| 1993-97 | 128 | 13,780 | 9.3 | 7.7 | 11.0 | 1,114 | 215,826 | 5.2 | 4.9 | 5.5 |
| 1994-98 | 109 | 13,609 | 8.0 | 6.6 | 9.7 | 1,058 | 212,911 | 5.0 | 4.7 | 5.3 |
| 1995-99 | 108 | 13,240 | 8.2 | 6.7 | 9.8 | 930 | 208,205 | 4.5 | 4.2 | 4.8 |
| 1996-00 | 84 | 12,864 | 6.5 | 5.2 | 8.1 | 829 | 202,378 | 4.1 | 3.8 | 4.4 |
| 1997-01 | 67 | 12,400 | 5.4 | 4.2 | 6.9 | 781 | 197,281 | 4.0 | 3.7 | 4.2 |
| 1998-02 | 68 | 12,161 | 5.6 | 4.3 | 7.1 | 758 | 193,033 | 3.9 | 3.7 | 4.2 |
| 1999-03 | 76 | 12,038 | 6.3 | 5.0 | 7.9 | 744 | 190,598 | 3.9 | 3.6 | 4.2 |
| 2000-04 | 74 | 12,080 | 6.1 | 4.8 | 7.7 | 758 | 189,141 | 4.0 | 3.7 | 4.3 |
| 2001-05 | 75 | 12,217 | 6.1 | 4.8 | 7.7 | 781 | 189,178 | 4.1 | 3.8 | 4.4 |
| 2002-06 | 75 | 12,364 | 6.1 | 4.8 | 7.6 | 786 | 190,225 | 4.1 | 3.8 | 4.4 |
| 2003-07 | 75 | 12,559 | 6.0 | 4.7 | 7.5 | 778 | 193,623 | 4.0 | 3.7 | 4.3 |
| 2004-08 | 72 | 12,687 | 5.7 | 4.4 | 7.1 | 778 | 197,339 | 3.9 | 3.7 | 4.2 |
| 2005-09 | 70 | 12,735 | 5.5 | 4.3 | 6.9 | 763 | 201,858 | 3.8 | 3.5 | 4.1 |
| 2006-10 | 68 | 12,667 | 5.4 | 4.2 | 6.8 | 755 | 204,966 | 3.7 | 3.4 | 4.0 |
| 2007-11 | 75 | 12,462 | 6.0 | 4.7 | 7.5 | 748 | 207,602 | 3.6 | 3.3 | 3.9 |
| 2008-12 | 73 | 12,226 | 6.0 | 4.7 | 7.5 | 740 | 208,401 | 3.6 | 3.3 | 3.8 |
| 2009-13 | 72 | 11,882 | 6.1 | 4.7 | 7.6 | 736 | 208,306 | 3.5 | 3.3 | 3.8 |
| 2010-14 | 79 | 11,569 | 6.8 | 5.4 | 8.5 | 759 | 207,985 | 3.6 | 3.4 | 3.9 |
| 2011-15 | 81 | 11,197 | 7.2 | 5.7 | 9.0 | 738 | 208,860 | 3.5 | 3.3 | 3.8 |
| 2012-16 | 79 | 10,960 | 7.2 | 5.7 | 9.0 | 726 | 210,253 | 3.5 | 3.2 | 3.7 |
| 2013-17 | 61 | 10,540 | 5.8 | 4.4 | 7.4 | 717 | 211,174 | 3.4 | 3.2 | 3.7 |

**Notes**: "Infant mortality rate" is the number of infants who die in the first year of life, expressed as a rate per 1,000 live births. The infant mortality rate is assigned to the year of the child's birth. Rates for Other Residents infants might be overestimated due to Status First Nations identification issue in the data. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

### TABLE 4.4-CI

Infant Mortality Rate, Status First Nations and Other Residents, by Health Authority, BC, 2013-17

| Health Authority | Status First Nations | | | | | Other Residents | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Deaths | Live Births | Rate per 1,000 Live Births | Lower 95% CI | Upper 95% CI | Deaths | Live Births | Rate per 1,000 Live Births | Lower 95% CI | Upper 95% CI |
| Fraser | ≤10 | * | 5.5 | 2.5 | 10.4 | 284 | 87,614 | 3.2 | 2.9 | 3.6 |
| Interior | ≤10 | * | 2.1 | 0.6 | 5.5 | 114 | 29,538 | 3.9 | 3.2 | 4.6 |
| Northern | 16 | 3,041 | 5.3 | 3.0 | 8.5 | 70 | 14,093 | 5.0 | 3.9 | 6.3 |
| Vancouver Coastal | ≤10 | * | 6.1 | 2.6 | 12.0 | 143 | 50,746 | 2.8 | 2.4 | 3.3 |
| Island | 24 | 2,659 | 9.0 | 5.8 | 13.4 | 106 | 29,150 | 3.6 | 3.0 | 4.4 |
| BC | 61 | 10,540 | 5.8 | 4.4 | 7.4 | 717 | 211,174 | 3.4 | 3.2 | 3.7 |

**Notes**: "Infant mortality rate" is the number of infants who die in the first year of life, expressed as a rate per 1,000 live births. The infant mortality rate is assigned to the year of the child's birth. Rates for Other Residents infants might be overestimated due to Status First Nations identification issue in the data. Small numbers (≤10) have been suppressed.
"*" Indicates a suppressed denominator due to small numerators. Health authority is based on the residence of the deceased. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-3-CI**

Infant Mortality Rate, Status First Nations, by Health Authority, BC, 2013-17

| Health Authority | Deaths | Live Births | Rate per 1,000 Live Births | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|---|
| Fraser | ≤10 | * | 5.5 | 2.5 | 10.4 |
| Interior | ≤10 | * | 2.1 | 0.6 | 5.5 |
| Northern | 16 | 3,041 | 5.3 | 3.0 | 8.5 |
| Vancouver Coastal | ≤10 | * | 6.1 | 2.6 | 12.0 |
| Island | 24 | 2,659 | 9.0 | 5.8 | 13.4 |
| BC | 61 | 10,540 | 5.8 | 4.4 | 7.4 |

**Notes**: "Infant mortality rate" is the number of infants who die in the first year of life, expressed as a rate per 1,000 live births. The infant mortality rate is assigned to the year of the child's birth. Rates for Other Residents infants might be overestimated due to Status First Nations identification issue in the data. Small numbers (≤10) have been suppressed. "*" Indicates a suppressed denominator due to small numerators. Health authority is based on the residence of the deceased. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Children's Oral Health

Confidence intervals are not available for this indicator.

## Children with a Healthy Body Mass Index (BMI)

**TABLE 4.7-CI**

Percentage of First Nations Children On Reserve, Age 2-11, Who have a Healthy Body Mass Index, BC, 2002-03 to 2015-17

| Child Healthy BMI | 2002-03 | | | 2008-10 | | | 2015-17 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Estimate (%) | Lower 95% CI | Upper 95% CI | Estimate (%) | Lower 95% CI | Upper 95% CI | Estimate (%) | Lower 95% CI | Upper 95% CI |
| Per cent | 37.7 | 32.0 | 43.8 | 32.7 | 27.6 | 38.1 | 30.5 | 27.5 | 33.7 |

**Notes**: Parent-reported heights and weights from the Regional Health Survey were used to determine Body Mass Index (BMI). The BMI was then categorized into underweight, moderate, overweight, and obese using age- and sex-specific cut points. Children less than 2 years old are not eligible for BMI to be calculated. "Healthy" BMI is a BMI classified as "moderate". "CI" means confidence interval. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10, and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE 4.8-CI**

Body Mass Index of First Nations Children On Reserve, Age 2-11, by BMI Category, BC, 2015-17

| BMI Category | 2002-03 | | | 2008-10 | | | 2015-17 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Estimate (%) | Lower 95% CI | Upper 95% CI | Estimate (%) | Lower 95% CI | Upper 95% CI | Estimate (%) | Lower 95% CI | Upper 95% CI |
| Obese | 26.5 | 21.6 | 32.1 | 34.6 | 27.7 | 42.2 | 39.6 | 36.4 | 42.8 |
| Overweight | 25.8 | 21.1 | 31.1 | 23.7 | 18.6 | 29.6 | 21.4 | 18.8 | 24.2 |
| Moderate | 37.7 | 32.0 | 43.8 | 32.7 | 27.6 | 38.1 | 30.5 | 27.5 | 33.7 |
| Underweight | 10.0 | 6.6 | 14.9 | 9.1 | 6.9 | 11.9 | 8.5 | 7.0 | 10.4 |

**Notes**: Parent-reported heights and weights from the Regional Health Survey were used to determine Body Mass Index (BMI). The BMI was then categorized into underweight, moderate, overweight, and obese using age- and sex-specific cut points. Children less than 2 years old are not eligible for BMI to be calculated. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE C4-6-CI**

**Percentage of First Nations Children On Reserve, Age 2-11, Who Have a Healthy Body Mass Index, by Sex, BC, 2002-03 to 2015-17**

| Sex | 2002-03 | | | 2008-10 | | | 2015-17 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Estimate (%) | Lower 95% CI | Upper 95% CI | Estimate (%) | Lower 95% CI | Upper 95% CI | Estimate (%) | Lower 95% CI | Upper 95% CI |
| Females | 40.2 | 32.1 | 48.8 | 32.7 | 25.7 | 40.6 | 32.8 | 28.3 | 37.6 |
| Males | 35.1 | 26.7 | 44.6 | 32.6 | 25.9 | 40.1 | 28.4 | 24.7 | 32.5 |

**Notes**: Parent-reported heights and weights from the Regional Health Survey were used to determine Body Mass Index (BMI). The BMI was then categorized into underweight, moderate, overweight, and obese using age- and sex-specific cut points. Children less than 2 years old are not eligible for BMI to be calculated. "Healthy" BMI is a BMI classified as "moderate". "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE C4-7-CI**

**Percentage of First Nations Children On Reserve, Age 2-11, Who Have a Healthy Body Mass Index, By Health Authority, BC, 2002-03 to 2015-17**

| Health Authority | 2002-03 | | | 2008-10 | | | 2015-17 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Estimate (%) | Lower 95% CI | Upper 95% CI | Estimate (%) | Lower 95% CI | Upper 95% CI | Estimate (%) | Lower 95% CI | Upper 95% CI |
| Fraser | 46.7 | 26.7 | 67.8 | 40.8 | 31.1 | 51.2 | 32.4 | 25.6 | 39.9 |
| Interior | 44.4 | 37.3 | 51.7 | 42.6 | 30.5 | 55.6 | 34.8 | 29.2 | 40.8 |
| Northern | 37.3 | 27.7 | 48.0 | 28.0 | 19.9 | 37.9 | 32.3 | 26.3 | 38.8 |
| Vancouver Coastal | 36.5 | 22.7 | 53.0 | 35.6 | 25.0 | 47.8 | 26.0 | 19.5 | 33.7 |
| Island | 28.9 | 19.0 | 41.4 | 25.7 | 18.3 | 34.9 | 28.6 | 22.1 | 36.2 |
| BC | 37.7 | 32.0 | 43.8 | 32.7 | 27.6 | 38.1 | 30.5 | 27.5 | 33.7 |

**Notes**: Parent-reported heights and weights from the Regional Health Survey were used to determine Body Mass Index (BMI). The BMI was then categorized into underweight, moderate, overweight, and obese using age- and sex-specific cut points. Children less than 2 years old are not eligible for BMI to be calculated. "Healthy" BMI is a BMI classified as "moderate". Health authority for children is based on the location of their primary care provider's community. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

## Youth/Young Adult Suicide Mortality Rate

**TABLE 4.9-CI**

Youth Suicide Rate, Age 15-24, Status First Nations and Other Residents, BC, 1993-97 to 2013-17

| Years | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Deaths | Rate per 10,000 Population Age 15-24 | Lower 95% CI | Upper 95% CI | Deaths | Rate per 10,000 Population Age 15-24 | Lower 95% CI | Upper 95% CI |
| 1993-97 | 64 | 5.8 | 4.5 | 7.4 | 272 | 1.2 | 1.1 | 1.4 |
| 1994-98 | 58 | 5.3 | 4.0 | 6.8 | 266 | 1.2 | 1.0 | 1.3 |
| 1995-99 | 55 | 5.0 | 3.7 | 6.5 | 251 | 1.1 | 1.0 | 1.2 |
| 1996-00 | 60 | 5.4 | 4.1 | 7.0 | 237 | 1.0 | 0.9 | 1.1 |
| 1997-01 | 51 | 4.5 | 3.4 | 6.0 | 221 | 0.9 | 0.8 | 1.1 |
| 1998-02 | 50 | 4.4 | 3.3 | 5.8 | 216 | 0.9 | 0.8 | 1.0 |
| 1999-03 | 55 | 4.7 | 3.6 | 6.2 | 218 | 0.9 | 0.8 | 1.0 |
| 2000-04 | 57 | 4.8 | 3.7 | 6.3 | 219 | 0.9 | 0.8 | 1.0 |
| 2001-05 | 47 | 3.9 | 2.9 | 5.2 | 206 | 0.8 | 0.7 | 0.9 |
| 2002-06 | 49 | 4.0 | 2.9 | 5.2 | 213 | 0.8 | 0.7 | 0.9 |
| 2003-07 | 47 | 3.7 | 2.7 | 4.9 | 202 | 0.8 | 0.7 | 0.9 |
| 2004-08 | 41 | 3.2 | 2.3 | 4.3 | 194 | 0.7 | 0.6 | 0.8 |
| 2005-09 | 39 | 2.9 | 2.0 | 3.9 | 183 | 0.7 | 0.6 | 0.8 |
| 2006-10 | 43 | 3.1 | 2.2 | 4.2 | 203 | 0.7 | 0.6 | 0.9 |
| 2007-11 | 45 | 3.2 | 2.3 | 4.2 | 212 | 0.8 | 0.7 | 0.9 |
| 2008-12 | 38 | 2.6 | 1.9 | 3.6 | 220 | 0.8 | 0.7 | 0.9 |
| 2009-13 | 37 | 2.6 | 1.8 | 3.6 | 219 | 0.8 | 0.7 | 0.9 |
| 2010-14 | 36 | 2.5 | 1.8 | 3.5 | 239 | 0.9 | 0.8 | 1.0 |
| 2011-15 | 40 | 2.8 | 2.0 | 3.8 | 225 | 0.8 | 0.7 | 0.9 |
| 2012-16 | 39 | 2.8 | 2.0 | 3.8 | 231 | 0.9 | 0.7 | 1.0 |
| 2013-17 | 45 | 3.3 | 2.4 | 4.4 | 227 | 0.8 | 0.7 | 1.0 |

**Notes**: "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE 4.10-CI**

Youth Suicide Rate, Age 15-24, Status First Nations and Other Residents, by Sex, BC, 1993-97 to 2013-17

| Years | STATUS FIRST NATIONS FEMALES | | | | OTHER RESIDENTS FEMALES | | | | STATUS FIRST NATIONS MALES | | | | OTHER RESIDENTS MALES | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| 1993-97 | 24 | 4.32 | 2.77 | 6.43 | 48 | 0.42 | 0.3 | 0.56 | 40 | 7.31 | 5.22 | 9.96 | 224 | 1.98 | 1.73 | 2.26 |
| 1994-98 | 19 | 3.43 | 2.06 | 5.35 | 47 | 0.41 | 0.3 | 0.54 | 39 | 7.13 | 5.07 | 9.76 | 219 | 1.92 | 1.67 | 2.19 |
| 1995-99 | 15 | 2.70 | 1.51 | 4.46 | 42 | 0.36 | 0.3 | 0.48 | 40 | 7.25 | 5.18 | 9.90 | 209 | 1.82 | 1.58 | 2.08 |
| 1996-00 | 13 | 2.31 | 1.23 | 3.97 | 43 | 0.36 | 0.3 | 0.49 | 47 | 8.53 | 6.26 | 11.37 | 194 | 1.67 | 1.44 | 1.92 |
| 1997-01 | ≤10 | 1.37 | 0.59 | 2.73 | 42 | 0.35 | 0.2 | 0.47 | 43 | 7.72 | 5.58 | 10.44 | 179 | 1.51 | 1.29 | 1.75 |
| 1998-02 | ≤10 | 1.69 | 0.81 | 3.14 | 41 | 0.34 | 0.2 | 0.46 | 40 | 7.21 | 5.14 | 9.85 | 175 | 1.44 | 1.23 | 1.67 |
| 1999-03 | ≤10 | 1.65 | 0.79 | 3.08 | 41 | 0.33 | 0.2 | 0.45 | 45 | 7.80 | 5.68 | 10.47 | 177 | 1.41 | 1.21 | 1.64 |
| 2000-04 | 12 | 1.98 | 1.02 | 3.49 | 41 | 0.33 | 0.2 | 0.44 | 45 | 7.65 | 5.57 | 10.27 | 178 | 1.38 | 1.19 | 1.60 |
| 2001-05 | 11 | 1.78 | 0.89 | 3.22 | 37 | 0.29 | 0.2 | 0.40 | 36 | 5.95 | 4.16 | 8.26 | 169 | 1.29 | 1.10 | 1.50 |
| 2002-06 | 11 | 1.74 | 0.86 | 3.14 | 42 | 0.33 | 0.2 | 0.44 | 38 | 6.11 | 4.32 | 8.41 | 171 | 1.28 | 1.10 | 1.49 |
| 2003-07 | ≤10 | 1.38 | 0.63 | 2.66 | 38 | 0.29 | 0.2 | 0.40 | 38 | 5.92 | 4.18 | 8.15 | 164 | 1.22 | 1.04 | 1.42 |
| 2004-08 | 11 | 1.62 | 0.81 | 2.94 | 38 | 0.29 | 0.2 | 0.40 | 30 | 4.66 | 3.14 | 6.67 | 156 | 1.15 | 0.97 | 1.34 |
| 2005-09 | ≤10 | 1.14 | 0.49 | 2.27 | 36 | 0.27 | 0.2 | 0.38 | 31 | 4.58 | 3.11 | 6.52 | 147 | 1.07 | 0.91 | 1.26 |
| 2006-10 | ≤10 | 1.25 | 0.57 | 2.41 | 41 | 0.31 | 0.2 | 0.42 | 34 | 4.86 | 3.36 | 6.81 | 162 | 1.17 | 1.00 | 1.37 |
| 2007-11 | 11 | 1.55 | 0.77 | 2.79 | 48 | 0.36 | 0.3 | 0.48 | 34 | 4.71 | 3.26 | 6.59 | 164 | 1.18 | 1.01 | 1.38 |
| 2008-12 | ≤10 | 1.42 | 0.68 | 2.63 | 57 | 0.43 | 0.3 | 0.55 | 28 | 3.81 | 2.53 | 5.51 | 163 | 1.17 | 1.00 | 1.36 |
| 2009-13 | ≤10 | 1.45 | 0.69 | 2.66 | 67 | 0.50 | 0.4 | 0.64 | 27 | 3.64 | 2.40 | 5.31 | 152 | 1.09 | 0.92 | 1.28 |
| 2010-14 | 12 | 1.75 | 0.90 | 3.05 | 72 | 0.54 | 0.4 | 0.68 | 24 | 3.26 | 2.09 | 4.85 | 167 | 1.20 | 1.02 | 1.40 |
| 2011-15 | 12 | 1.75 | 0.90 | 3.05 | 72 | 0.54 | 0.4 | 0.69 | 28 | 3.85 | 2.56 | 5.57 | 153 | 1.10 | 0.94 | 1.29 |
| 2012-16 | 11 | 1.62 | 0.81 | 2.89 | 68 | 0.52 | 0.4 | 0.66 | 28 | 3.93 | 2.61 | 5.69 | 163 | 1.18 | 1.01 | 1.38 |
| 2013-17 | 13 | 1.94 | 1.03 | 3.31 | 64 | 0.49 | 0.4 | 0.62 | 32 | 4.59 | 3.14 | 6.48 | 163 | 1.18 | 1.01 | 1.38 |

Notes: Small numbers (≤10) have been suppressed. "CI" means confidence interval. See Appendix B for more information about these data sources.
Sources: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-8-CI**

Youth Suicide Rate, Age 15-24, Status First Nations and Other Residents, by Health Authority, BC, 2013-17

| Health Authority | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| Fraser | ≤10 | 2.6 | 1.0 | 5.7 | 76 | 0.7 | 0.6 | 0.9 |
| Interior | ≤10 | 3.6 | 1.7 | 6.7 | 47 | 1.2 | 0.9 | 1.6 |
| Northern | ≤10 | 2.5 | 1.1 | 4.7 | 22 | 1.4 | 0.9 | 2.1 |
| Vancouver Coastal | ≤10 | 4.4 | 1.9 | 8.7 | 42 | 0.6 | 0.4 | 0.8 |
| Island | 12 | 4.0 | 2.1 | 6.9 | 39 | 1.0 | 0.7 | 1.4 |
| BC | 45 | 3.3 | 2.4 | 4.4 | 227 | 0.8 | 0.7 | 1.0 |

**Notes**: Small numbers (≤10) have been suppressed. Health authority is based on the residence of the deceased. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-9-CI**

Youth Suicide Rate, Age 15-24, Status First Nations, by Health Authority, BC, 2013-17

| Health Authority | Deaths | Rate per 10,000 Population Age 15-24 | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Fraser | ≤10 | 2.6 | 1.0 | 5.7 |
| Interior | ≤10 | 3.6 | 1.7 | 6.7 |
| Northern | ≤10 | 2.5 | 1.1 | 4.7 |
| Vancouver Coastal | ≤10 | 4.4 | 1.9 | 8.7 |
| Island | 12 | 4.0 | 2.1 | 6.9 |
| BC | 45 | 3.3 | 2.4 | 4.4 |

**Notes**: Small numbers (≤10) have been suppressed. Health authority is based on the residence of the deceased. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Mental and Emotional Well-being

**TABLE 4.11-CI**

Percentage of First Nations Adults On Reserve who Self-reported Feeling in Balance Physically, Emotionally, Mentally and Spiritually, BC, 2002-03 to 2015-17

| Adults Who Feel in Balance | Year | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Per cent | 2002-03 | 48.3 | 43.4 | 53.1 |
| | 2008-10 | 54.9 | 50.9 | 58.8 |
| | 2015-17 | 53.4 | 51.0 | 55.8 |

**Notes**: Includes responses of survey participants who reported that they felt in balance in the four aspects of their life (physically, emotionally, mentally, and spiritually) "all of the time" or "most of the time". "CI" means confidence interval. See Appendix B for more information about this data sources.
**Source**: First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE 4.12-CI**

Percentage of First Nations Adults On Reserve who Self-reported Feeling in Balance Physically, Emotionally, Mentally and Spiritually, by Sex, BC, 2002-03 to 2015-17

| Year / Sex | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| **2002-03** | | | |
| Males | 50.0 | 43.6 | 56.3 |
| Females | 46.4 | 40.3 | 52.6 |
| **2008-10** | | | |
| Males | 56.5 | 50.9 | 62.1 |
| Females | 53.1 | 48.2 | 57.9 |
| **2015-17** | | | |
| Males | 58.4 | 54.8 | 61.9 |
| Females | 48.1 | 45.0 | 51.3 |

**Notes**: Includes responses of survey participants who reported that they felt in balance in the four aspects of their life (physically, emotionally, mentally, and spiritually) "all of the time" or "most of the time". "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE C4-10-CI**

**Percentage of First Nations Adults On Reserve Who Self-reported Feeling in Balance Physically, Emotionally, Mentally and Spiritually, by Age, BC, 2015-17**

| Age Group | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| 18-29 | 49.7 | 44.3 | 55.1 |
| 30-44 | 51.2 | 46.6 | 55.8 |
| 45-59 | 53.2 | 48.7 | 57.6 |
| 60+ | 60.6 | 57.1 | 64.0 |

**Notes**: Includes responses of survey participants who reported that they felt in balance in the four aspects of their life (physically, emotionally, mentally, and spiritually) "all of the time" or "most of the time". "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE C4-11-CI**

**Percentage of First Nations Adults On Reserve Who Self-reported Feeling in Balance Physically, Emotionally, Mentally and Spiritually, by Health Authority, BC, 2015-17**

| Health Authority | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| Fraser | 58.0 | 51.7 | 64.0 |
| Interior | 51.6 | 47.3 | 55.9 |
| Northern | 51.1 | 46.1 | 56.1 |
| Vancouver Coastal | 55.7 | 49.4 | 61.9 |
| Island | 55.3 | 50.6 | 59.9 |
| BC | 53.4 | 51.0 | 55.8 |

**Notes**: Includes responses of survey participants who reported that they felt in balance in the four aspects of their life (physically, emotionally, mentally, and spiritually) "all of the time" or "most of the time". Health authority is based on the location of the respondent's community. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE C4-12-CI**

**Percentage of First Nations Adults On Reserve Who Self-reported Feeling in Balance Physically, Emotionally, Mentally and Spiritually, by Category, BC, 2015-17**

| Category | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| Physical | 66.8 | 64.6 | 69.0 |
| Emotional | 68.2 | 65.9 | 70.4 |
| Mental | 71.9 | 69.6 | 74.1 |
| Spiritual | 69.9 | 67.6 | 72.1 |

**Notes**: Includes responses of survey participants who reported that they felt in balance in the four aspects of their life (physically, emotionally, mentally, and spiritually) "all of the time" or "most of the time". "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

## Physical Activity

### TABLE 4.13-CI

Percentage of First Nations Children, Youth, and Adults On Reserve Who Meet Canadian Physical Activity Guidelines, BC, 2015-17

| Group | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| Children and Youth | 55.3 | 52.5 | 58.1 |
| Adults | 77.2 | 75.3 | 78.9 |

**Notes**: "Children" includes parents/guardians responding on behalf of a child age 5 to 11; "Youth" includes respondents age 12-17; and "Adults" includes respondents age 18 and up. The Canadian Physical Activity Guidelines are met as follows: Children >5 years old and Youth – minimum 60 minutes of moderate- to vigorous-intensity physical activity daily; Adults – minimum 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, August 2019.

### TABLE 4.14-CI

Percentage of First Nations Children, Youth, and Adults On Reserve who Meet Canadian Physical Activity Guidelines, by Sex, BC, 2015-17

| Group | Male | | | Female | | |
|---|---|---|---|---|---|---|
| | Estimate (%) | Lower 95% CI | Upper 95% CI | Estimate (%) | Lower 95% CI | Upper 95% CI |
| Children | 61.8 | 56.7 | 66.7 | 60.0 | 55.0 | 64.8 |
| Youth | 52.3 | 48.0 | 56.7 | 39.9 | 35.5 | 44.5 |
| Adults | 81.4 | 78.7 | 83.7 | 72.6 | 69.9 | 75.1 |

**Notes**: "Children" includes parents/guardians responding on behalf of a child age 5 to 11; "Youth" includes respondents age 12-17; and "Adults" includes respondents age 18 and up. The Canadian Physical Activity Guidelines are met as follows: Children >5 years old and Youth – minimum 60 minutes of moderate- to vigorous-intensity physical activity daily; Adults – minimum 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, August 2019.

### TABLE 4.15-CI

Percentage of First Nations Children, Youth, and Adults On Reserve Participating in Various Physical Activities, BC, 2015-17

| Activity | Children and Youth | | | Adults | | |
|---|---|---|---|---|---|---|
| | Estimate (%) | Lower 95% CI | Upper 95% CI | Estimate (%) | Lower 95% CI | Upper 95% CI |
| Walking | 52.2 | 49.7 | 54.7 | 63.7 | 61.1 | 66.1 |
| Running or Jogging | 42.9 | 40.6 | 45.1 | 15.4 | 13.7 | 17.2 |
| Hiking | 24.0 | 22.1 | 25.9 | 24.6 | 22.4 | 26.9 |
| Swimming | 51.3 | 48.6 | 54.1 | 23.1 | 21.0 | 25.5 |
| Weights, exercise equipment | 14.7 | 13.4 | 16.1 | 21.5 | 19.4 | 23.8 |
| Berry picking and food gathering | 27.7 | 25.0 | 30.6 | 23.6 | 21.1 | 26.3 |
| Fishing | 18.9 | 17.0 | 21.1 | 23.3 | 21.2 | 25.6 |
| Hunting | 11.3 | 9.8 | 13.0 | 16.9 | 14.8 | 19.2 |
| Outdoor gardening, yard work | 19.6 | 17.7 | 21.6 | 29.7 | 27.2 | 32.3 |

**Notes**: "Children" includes parents/guardians responding on behalf of a child age 5 to 11; "Youth" includes respondents age 12-17; and "Adults" includes respondents age 18 and up. Percentage of First Nations children, youth, and adults who participated in various physical activities in the last three months. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE C4-13-CI**

Percentage of First Nations Children, Youth, and Adults On Reserve Who Meet Canadian Physical Activity Guidelines, by Health Authority, BC, 2015-17

| Health Authority | Adults (%) | Lower 95% CI | Upper 95% CI | Youth & Children (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|---|---|
| Fraser | 79.7 | 75.2 | 83.5 | 56.3 | 50.3 | 62.1 |
| Interior | 73.6 | 69.8 | 77.1 | 50.4 | 46.3 | 54.4 |
| Northern | 78.7 | 74.9 | 82.1 | 57.1 | 50.2 | 63.7 |
| Vancouver Coastal | 79.3 | 74.6 | 83.4 | 67.5 | 61.1 | 73.3 |
| Island | 75.7 | 71.8 | 79.2 | 47.5 | 42.1 | 53.0 |
| BC | 77.2 | 75.3 | 78.9 | 55.3 | 52.5 | 58.1 |

**Notes**: "Children" includes parents/guardians responding on behalf of a child age 5 to 11; "Youth" includes respondents age 12-17; and "Adults" includes respondents age 18 and up. The Canadian Physical Activity Guidelines are met as follows: Children >5 years old and Youth – minimum 60 minutes of moderate- to vigorous-intensity physical activity daily; Adults – minimum 150 minutes of moderate- to vigorous-intensity aerobic physical activity per week. Data for adults are shown in darker shades than youth data. Health authority for youth and adults is based on the location of the respondent's community, and for children it is based on the location of the primary care provider's community. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, August 2019.

## Diabetes

**TABLE 4.16-CI**

Age-standardized Diabetes Incidence Rate, Status First Nations and Other Residents, BC, 2005/06 to 2017/18

| Fiscal Year | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Incident Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI | Incident Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI |
| 2005/06 | 629 | 8.4 | 7.6 | 9.3 | 25,451 | 7.0 | 6.9 | 7.1 |
| 2006/07 | 724 | 9.4 | 8.6 | 10.2 | 27,681 | 7.5 | 7.4 | 7.6 |
| 2007/08 | 707 | 8.4 | 7.6 | 9.2 | 27,399 | 7.2 | 7.2 | 7.3 |
| 2008/09 | 718 | 8.6 | 7.9 | 9.4 | 29,595 | 7.7 | 7.6 | 7.8 |
| 2009/10 | 757 | 8.6 | 7.9 | 9.4 | 31,927 | 8.1 | 8.1 | 8.2 |
| 2010/11 | 813 | 9.0 | 8.3 | 9.8 | 29,023 | 7.3 | 7.2 | 7.4 |
| 2011/12 | 792 | 8.6 | 7.9 | 9.4 | 30,129 | 7.4 | 7.3 | 7.5 |
| 2012/13 | 741 | 7.5 | 6.9 | 8.2 | 26,725 | 6.5 | 6.4 | 6.6 |
| 2013/14 | 757 | 7.6 | 7.0 | 8.3 | 26,733 | 6.4 | 6.3 | 6.5 |
| 2014/15 | 800 | 7.9 | 7.3 | 8.6 | 26,218 | 6.1 | 6.1 | 6.2 |
| 2015/16 | 776 | 7.3 | 6.7 | 7.9 | 26,339 | 6.1 | 6.0 | 6.1 |
| 2016/17 | 744 | 6.6 | 6.1 | 7.2 | 27,174 | 6.1 | 6.0 | 6.2 |
| 2017/18 | 858 | 7.7 | 7.1 | 8.3 | 28,794 | 6.4 | 6.3 | 6.4 |

**Notes**: Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE 4.17-CI**

Age-standardized Diabetes Incidence Rate, Status First Nations and Other Residents, by Sex, BC, 2005/06 to 2017/18

| Fiscal Year | Status First Nations Females | | | | Other Residents Females | | | | Status First Nations Males | | | | Other Residents Males | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Incident Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI | Incident Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI | Incident Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI | Incident Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI |
| 2005/06 | 346 | 8.7 | 7.6 | 9.9 | 11,652 | 6.1 | 6.0 | 6.2 | 283 | 8.0 | 6.9 | 9.4 | 13,794 | 8.0 | 7.8 | 8.1 |
| 2006/07 | 396 | 9.9 | 8.8 | 11.1 | 12,628 | 6.5 | 6.4 | 6.6 | 328 | 8.6 | 7.6 | 10.0 | 15,050 | 8.6 | 8.4 | 8.7 |
| 2007/08 | 357 | 8.0 | 7.1 | 9.1 | 12,359 | 6.2 | 6.1 | 6.4 | 350 | 8.7 | 7.6 | 10.1 | 15,039 | 8.3 | 8.2 | 8.5 |
| 2008/09 | 357 | 8.0 | 7.1 | 9.1 | 13,309 | 6.6 | 6.5 | 6.7 | 361 | 9.3 | 8.1 | 10.7 | 16,283 | 8.9 | 8.7 | 9.0 |
| 2009/10 | 433 | 9.0 | 8.1 | 10.1 | 14,405 | 7.0 | 6.9 | 7.1 | 324 | 8.3 | 7.2 | 9.8 | 17,522 | 9.4 | 9.2 | 9.5 |
| 2010/11 | 437 | 9.1 | 8.2 | 10.2 | 13,087 | 6.3 | 6.2 | 6.4 | 376 | 8.7 | 7.7 | 10.0 | 15,936 | 8.4 | 8.2 | 8.5 |
| 2011/12 | 411 | 8.4 | 7.5 | 9.4 | 14,037 | 6.6 | 6.5 | 6.7 | 381 | 8.9 | 7.8 | 10.2 | 16,092 | 8.3 | 8.2 | 8.5 |
| 2012/13 | 404 | 7.6 | 6.8 | 8.5 | 12,220 | 5.7 | 5.6 | 5.8 | 337 | 7.6 | 6.6 | 8.9 | 14,505 | 7.4 | 7.3 | 7.5 |
| 2013/14 | 389 | 7.1 | 6.3 | 8.0 | 12,222 | 5.6 | 5.5 | 5.7 | 368 | 8.3 | 7.3 | 9.5 | 14,511 | 7.3 | 7.2 | 7.4 |
| 2014/15 | 403 | 7.5 | 6.7 | 8.4 | 12,016 | 5.4 | 5.3 | 5.5 | 397 | 8.4 | 7.4 | 9.6 | 14,201 | 7.0 | 6.9 | 7.1 |
| 2015/16 | 415 | 7.2 | 6.5 | 8.1 | 11,891 | 5.2 | 5.1 | 5.3 | 361 | 7.3 | 6.5 | 8.4 | 14,448 | 7.0 | 6.9 | 7.1 |
| 2016/17 | 386 | 6.6 | 5.9 | 7.4 | 12,482 | 5.4 | 5.3 | 5.5 | 358 | 6.5 | 5.8 | 7.4 | 14,692 | 6.9 | 6.8 | 7.1 |
| 2017/18 | 435 | 7.4 | 6.7 | 8.2 | 13,426 | 5.7 | 5.6 | 5.8 | 423 | 8.1 | 7.3 | 9.2 | 15,368 | 7.1 | 7.0 | 7.3 |

**Notes**: Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE 4.18-CI**

Age-standardized Diabetes Prevalence, Status First Nations and Other Residents, BC, 2005/06 to 2017/18

| Fiscal Year | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Prevalent Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI | Prevalent Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI |
| 2005/06 | 6,617 | 85.0 | 82.7 | 87.3 | 244,791 | 59.5 | 59.2 | 59.7 |
| 2006/07 | 7,188 | 88.4 | 86.1 | 90.7 | 263,554 | 62.4 | 62.2 | 62.6 |
| 2007/08 | 7,649 | 90.9 | 88.7 | 93.3 | 281,709 | 64.8 | 64.6 | 65.1 |
| 2008/09 | 8,151 | 93.8 | 91.5 | 96.1 | 301,428 | 67.5 | 67.3 | 67.8 |
| 2009/10 | 8,687 | 95.8 | 93.5 | 98.1 | 323,200 | 70.6 | 70.3 | 70.8 |
| 2010/11 | 9,304 | 98.7 | 96.4 | 101.0 | 342,185 | 72.8 | 72.5 | 73.0 |
| 2011/12 | 9,872 | 100.5 | 98.3 | 102.7 | 361,484 | 74.9 | 74.7 | 75.2 |
| 2012/13 | 10,308 | 102.1 | 100.0 | 104.4 | 376,603 | 76.1 | 75.8 | 76.3 |
| 2013/14 | 10,769 | 103.6 | 101.4 | 105.8 | 390,801 | 77.1 | 76.9 | 77.3 |
| 2014/15 | 11,224 | 105.2 | 103.1 | 107.4 | 404,787 | 77.8 | 77.6 | 78.0 |
| 2015/16 | 11,669 | 105.8 | 103.7 | 107.9 | 418,632 | 78.4 | 78.1 | 78.6 |
| 2016/17 | 12,088 | 105.4 | 103.4 | 107.5 | 433,159 | 78.9 | 78.7 | 79.2 |
| 2017/18 | 12,583 | 106.4 | 104.4 | 108.4 | 448,228 | 79.7 | 79.4 | 79.9 |

**Notes**: Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE 4.19-CI**

Age-standardized Diabetes Prevalence, Status First Nations and Other Residents, by Sex, BC, 2005/06 to 2017/18

| Fiscal Year | Status First Nations Females | | | | Other Residents Females | | | | Status First Nations Males | | | | Other Residents Males | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Prevalent Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI | Prevalent Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI | Prevalent Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI | Prevalent Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI |
| 2005/06 | 3,684 | 87.3 | 84.3 | 90.5 | 113,880 | 52.9 | 52.6 | 53.2 | 2,933 | 82.0 | 78.6 | 85.5 | 130,835 | 66.6 | 66.2 | 66.9 |
| 2006/07 | 3,999 | 91.0 | 87.9 | 94.1 | 122,607 | 55.6 | 55.3 | 55.9 | 3,189 | 85.2 | 81.9 | 88.7 | 140,880 | 69.8 | 69.4 | 70.1 |
| 2007/08 | 4,228 | 92.6 | 89.5 | 95.7 | 130,912 | 57.7 | 57.4 | 58.1 | 3,421 | 89.2 | 85.7 | 92.8 | 150,742 | 72.4 | 72.1 | 72.8 |
| 2008/09 | 4,479 | 95.1 | 92.1 | 98.2 | 139,866 | 60.1 | 59.8 | 60.5 | 3,672 | 92.1 | 88.6 | 95.6 | 161,512 | 75.5 | 75.1 | 75.8 |
| 2009/10 | 4,791 | 97.3 | 94.4 | 100.4 | 149,772 | 62.8 | 62.5 | 63.1 | 3,896 | 93.9 | 90.5 | 97.5 | 173,387 | 78.9 | 78.5 | 79.3 |
| 2010/11 | 5,118 | 100.2 | 97.3 | 103.3 | 158,472 | 64.8 | 64.4 | 65.1 | 4,186 | 96.7 | 93.3 | 100.2 | 183,681 | 81.4 | 81.0 | 81.7 |
| 2011/12 | 5,403 | 101.7 | 98.9 | 104.7 | 167,729 | 66.9 | 66.5 | 67.2 | 4,469 | 98.9 | 95.5 | 102.3 | 193,733 | 83.5 | 83.2 | 83.9 |
| 2012/13 | 5,640 | 103.2 | 100.4 | 106.1 | 174,835 | 67.9 | 67.6 | 68.3 | 4,668 | 101.3 | 97.9 | 104.7 | 201,751 | 84.7 | 84.4 | 85.1 |
| 2013/14 | 5,878 | 104.4 | 101.6 | 107.3 | 181,672 | 68.9 | 68.6 | 69.3 | 4,891 | 102.9 | 99.6 | 106.3 | 209,114 | 85.8 | 85.5 | 86.2 |
| 2014/15 | 6,106 | 105.9 | 103.1 | 108.8 | 188,371 | 69.6 | 69.3 | 70.0 | 5,118 | 104.6 | 101.4 | 107.9 | 216,400 | 86.6 | 86.2 | 86.9 |
| 2015/16 | 6,360 | 106.7 | 104.0 | 109.5 | 194,726 | 70.1 | 69.8 | 70.5 | 5,309 | 104.9 | 101.7 | 108.1 | 223,890 | 87.2 | 86.8 | 87.5 |
| 2016/17 | 6,582 | 106.5 | 103.8 | 109.2 | 201,572 | 70.8 | 70.4 | 71.1 | 5,506 | 104.4 | 101.3 | 107.5 | 231,571 | 87.7 | 87.4 | 88.1 |
| 2017/18 | 6,823 | 107.0 | 104.4 | 109.7 | 208,991 | 71.6 | 71.3 | 71.9 | 5,760 | 106.1 | 103.1 | 109.2 | 239,221 | 88.3 | 88.0 | 88.7 |

**Notes**: Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-14-CI**

Age-standardized Diabetes Incidence Rate, Status First Nations and Other Residents, by Health Authority, BC, 2017/18

| Health Authority | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Incident Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI | Incident Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI |
| Fraser | 150 | 9.2 | 7.6 | 11.4 | 11,928 | 7.8 | 7.7 | 8.0 |
| Interior | 189 | 7.8 | 6.7 | 9.3 | 4,212 | 5.2 | 5.0 | 5.3 |
| Northern | 183 | 6.3 | 5.3 | 7.5 | 1,416 | 6.3 | 6.0 | 6.7 |
| Vancouver Coastal | 145 | 8.2 | 6.7 | 10.2 | 6,570 | 6.1 | 5.9 | 6.2 |
| Island | 187 | 8.2 | 6.9 | 9.8 | 4,501 | 5.4 | 5.2 | 5.5 |
| BC | 858 | 7.7 | 7.1 | 8.3 | 28,794 | 6.4 | 6.3 | 6.4 |

**Notes**: Standardized to the Canada 2011 population. Health authority is based on the residence of the individual. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-15-CI**

Age-standardized Diabetes Incidence Rate, Status First Nations, by Health Authority, BC, 2017/18

| Health Authority | Incident Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Fraser | 150 | 9.2 | 7.6 | 11.4 |
| Interior | 189 | 7.8 | 6.7 | 9.3 |
| Northern | 183 | 6.3 | 5.3 | 7.5 |
| Vancouver Coastal | 145 | 8.2 | 6.7 | 10.2 |
| Island | 187 | 8.2 | 6.9 | 9.8 |
| BC | 858 | 7.7 | 7.1 | 8.3 |

**Notes**: Standardized to the Canada 2011 population. Health authority is based on the residence of the individual. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-16-CI**

Age-standardized Diabetes Prevalence Rate, Status First Nations and Other Residents, by Health Authority, BC, 2017/18

| Health Authority | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Prevalent Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI | Prevalent Cases | Rate per 1,000 Population | Lower 95% CI | Upper 95% CI |
| Fraser | 2,072 | 117.4 | 111.8 | 123.2 | 184,205 | 96.9 | 96.5 | 97.4 |
| Interior | 2,555 | 97.0 | 93.1 | 101.0 | 67,138 | 65.3 | 64.8 | 65.8 |
| Northern | 3,024 | 99.6 | 95.9 | 103.6 | 21,373 | 80.9 | 79.8 | 82.0 |
| Vancouver Coastal | 2,137 | 113.1 | 107.9 | 118.6 | 100,478 | 76.0 | 75.5 | 76.5 |
| Island | 2,745 | 113.5 | 109.0 | 118.2 | 73,151 | 68.2 | 67.7 | 68.8 |
| BC | 12,583 | 106.4 | 104.4 | 108.4 | 448,228 | 79.7 | 79.4 | 79.9 |

**Notes**: Standardized to the Canada 2011 population. Health authority is based on the residence of the individual. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Chronic Disease Registries, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Smoking Rates of Commercial Tobacco

### TABLE 4.21-CI

Percentage of First Nations Youth and Adults On Reserve Who Smoke Commercial Tobacco, by Sex, BC, 2002-03 to 2015-17

| Group | 2002-03 | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Youth | Males | 22.3 | 15.8 | 30.6 |
| | Females | 32.6 | 25.3 | 40.9 |
| Adults | Males | 46.7 | 40.5 | 53.1 |
| | Females | 50.4 | 42.5 | 58.4 |

| Group | 2008-10 | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Youth | Males | 15.1 | 9.3 | 23.7 |
| | Females | 30.4 | 21.8 | 40.7 |
| Adults | Males | 45.5 | 39.9 | 51.3 |
| | Females | 43.5 | 38.4 | 48.8 |

| Group | 2015-17 | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Youth | Males | 11.6 | 9.2 | 14.5 |
| | Females | 14.2 | 11.7 | 17.2 |
| Adults | Males | 41.0 | 37.6 | 44.4 |
| | Females | 40.1 | 36.9 | 43.4 |

**Notes**: Includes responses of survey participants who reported that, at the present time, they smoked cigarettes "daily" or "occasionally". "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10) & Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

### TABLE 4.22-CI

Percentage of First Nations Youth and Adults On Reserve Who Smoke Commercial Tobacco, by Frequency, BC, 2015-17

| Group | Frequency | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Youth | Not at all | 87.1 | 85.1 | 88.9 |
| | Occasionally | 7.5 | 6.1 | 9.2 |
| | Daily | 5.4 | 4.2 | 6.8 |
| Adults | Not at all | 59.5 | 57.0 | 61.9 |
| | Occasionally | 15.4 | 13.8 | 17.1 |
| | Daily | 25.1 | 22.9 | 27.5 |

**Notes**: "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE C4-18-CI**

**Percentage of First Nations Youth and Adults On Reserve Who Smoke Commercial Tobacco, by Health Authority, BC, 2015-17**

| Group | Health Authority | Estimate (%) | Lower 95% CI | Upper 95% Ci |
|---|---|---|---|---|
| Youth | Fraser | 13.7 | 9.5 | 19.4 |
| | Interior | 12.3 | 9.2 | 16.1 |
| | Northern | 16.3 | 12.3 | 21.3 |
| | Vancouver Coastal | 11.4 | 7.3 | 17.4 |
| | Island | 10.0 | 7.1 | 13.8 |
| | BC | 12.9 | 11.1 | 14.9 |
| Adults | Fraser | 37.4 | 31.0 | 44.2 |
| | Interior | 37.2 | 33.4 | 41.2 |
| | Northern | 48.8 | 43.7 | 54.0 |
| | Vancouver Coastal | 32.9 | 27.4 | 39.0 |
| | Island | 38.5 | 33.7 | 43.6 |
| | BC | 40.5 | 38.1 | 43.0 |

**Notes**: Includes responses of survey participants who reported that, at the present time, they smoked cigarettes "daily" or "occasionally". "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. Data for adults are shown in darker shades than youth data. Health authority is based on the location of the respondent's community. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

## Serious Injuries

**TABLE 4.23-CI**

**Rate of Serious Injuries Requiring Hospitalization, Status First Nations and Other Residents, BC, 2005 to 2017**

| Year | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| 2005 | 671 | 61.0 | 56.5 | 65.8 | 30,498 | 37.2 | 36.8 | 37.6 |
| 2006 | 641 | 55.2 | 51.0 | 59.7 | 31,314 | 36.7 | 36.3 | 37.1 |
| 2007 | 713 | 59.4 | 55.1 | 63.9 | 31,643 | 35.6 | 35.2 | 36.0 |
| 2008 | 720 | 56.9 | 52.8 | 61.2 | 33,446 | 36.3 | 36.0 | 36.7 |
| 2009 | 811 | 60.5 | 56.5 | 64.9 | 36,396 | 38.1 | 37.7 | 38.5 |
| 2010 | 884 | 62.5 | 58.4 | 66.7 | 38,888 | 39.2 | 38.9 | 39.6 |
| 2011 | 995 | 66.2 | 62.1 | 70.4 | 40,798 | 39.7 | 39.3 | 40.1 |
| 2012 | 922 | 58.2 | 54.5 | 62.0 | 42,605 | 40.0 | 39.6 | 40.4 |
| 2013 | 929 | 55.5 | 52.0 | 59.2 | 44,548 | 40.3 | 40.0 | 40.7 |
| 2014 | 1,083 | 61.3 | 57.7 | 65.1 | 45,292 | 39.5 | 39.1 | 39.8 |
| 2015 | 1,127 | 60.4 | 56.9 | 64.0 | 47,687 | 40.0 | 39.6 | 40.4 |
| 2016 | 1,152 | 58.3 | 55.0 | 61.8 | 49,264 | 39.8 | 39.5 | 40.2 |
| 2017 | 1,241 | 59.3 | 56.1 | 62.7 | 49,192 | 38.4 | 38.0 | 38.7 |

**Notes**: "Serious injuries requiring hospitalization" are defined as injuries requiring overnight stay, excluding day surgeries. Patients who died of their injury are not included. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 Population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE 4.24-CI**

**Rate of Serious Injuries Requiring Hospitalization, Status First Nations and Other Residents, By Sex and Age, BC, 2013-17**

| Sex | Age Group | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| Females | 15-29 | 1,755 | 17.3 | 16.5 | 18.1 | 11,389 | 5.3 | 5.2 | 5.4 |
| | 30-44 | 1,704 | 20.2 | 19.2 | 21.2 | 14,448 | 6.5 | 6.4 | 6.6 |
| | 45-59 | 2,485 | 30.3 | 29.2 | 31.6 | 14,440 | 6.1 | 6.0 | 6.2 |
| | 60+ | 3,268 | 62.1 | 60.0 | 64.3 | 16,610 | 7.1 | 7.0 | 7.2 |
| Males | 15-29 | 1,786 | 16.8 | 16.1 | 17.6 | 27,600 | 10.5 | 10.3 | 10.6 |
| | 30-44 | 1,758 | 20.6 | 19.6 | 21.5 | 33,216 | 12.9 | 12.7 | 13.0 |
| | 45-59 | 2,351 | 30.7 | 29.5 | 31.9 | 122,272 | 39.1 | 38.8 | 39.3 |
| | 60+ | 2,264 | 55.0 | 52.8 | 57.4 | 113,709 | 40.1 | 39.9 | 40.4 |

**Notes**: "Serious injuries requiring hospitalization" are defined as injuries requiring overnight stay, excluding day surgeries. Patients who die of their injury are not included. An event is one hospitalization. A patient may have multiple events during the reporting period. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE 4.25-CI**

**Rate of Top Four Serious Injuries Requiring Hospitalization, Status First Nations and Other Residents, by Cause of Injury, BC, 2013-17**

| Cause of Injury | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| Interpersonal Violence | 1,187 | 1.72 | 1.62 | 1.83 | 4,043 | 0.21 | 0.20 | 0.22 |
| Motor Vehicle Crashes | 1,216 | 1.90 | 1.79 | 2.01 | 17,372 | 0.85 | 0.83 | 0.86 |
| Self-harm | 1,834 | 2.53 | 2.41 | 2.65 | 12,317 | 0.64 | 0.62 | 0.65 |
| Falls | 3,825 | 7.95 | 7.69 | 8.21 | 99,034 | 4.25 | 4.22 | 4.28 |

**Notes**: "Serious injuries requiring hospitalization" are defined as injuries requiring overnight stay, excluding day surgeries. Patients who died of their injury are not included. An event is one hospitalization. A patient may have multiple events during the reporting period. "Motor vehicle crashes" include injuries of cyclists and pedestrians. Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-19-CI**

Rate of Serious Injuries Requiring Hospitalization, Status First Nations and Other Residents, By Health Authority, BC, 2013-17

| Health Authority | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| Fraser | 2,502 | 29.8 | 28.5 | 31.1 | 127,334 | 16.8 | 16.8 | 16.9 |
| Interior | 3,379 | 28.5 | 27.6 | 29.6 | 71,156 | 18.5 | 18.4 | 18.7 |
| Northern | 4,962 | 35.2 | 34.2 | 36.3 | 19,053 | 17.4 | 17.2 | 17.7 |
| Vancouver Coastal | 2,962 | 33.7 | 32.4 | 35.0 | 70,199 | 13.0 | 12.9 | 13.1 |
| Island | 3,531 | 31.4 | 30.3 | 32.5 | 65,008 | 16.0 | 15.9 | 16.1 |
| BC | 17,371 | 31.7 | 31.2 | 32.2 | 353,686 | 15.8 | 15.8 | 15.9 |

Notes: "Serious injuries requiring hospitalization" are defined as injuries requiring overnight stay, excluding day surgeries. Patients who died of their injury are not included. An event is one hospitalization. A patient may have multiple events during the reporting period. Standardized to the Canada 2011 population. Health authority is based on the residence of the patient. "CI" means confidence interval. See Appendix B for more information about these data sources.
Sources: BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-20-CI**

Rate of Serious Injuries Requiring Hospitalization, Status First Nations and Other Residents, by Cause of Injury, BC, 2013-17

| Cause of Injury | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Events | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| Collective Violence and Legal Intervention | 20 | 0.03 | 0.02 | 0.05 | 74 | 0.00 | 0.00 | 0.00 |
| Natural Disasters | 54 | 0.09 | 0.07 | 0.12 | 407 | 0.02 | 0.02 | 0.02 |
| Fire, Heat and Hot Substances | 108 | 0.18 | 0.15 | 0.22 | 970 | 0.05 | 0.04 | 0.05 |
| Poisonings | 245 | 0.43 | 0.38 | 0.49 | 1,760 | 0.08 | 0.08 | 0.09 |
| Exposure to Mechanical Forces | 535 | 0.79 | 0.72 | 0.86 | 7,041 | 0.35 | 0.34 | 0.36 |
| Interpersonal Violence | 1,187 | 1.72 | 1.62 | 1.83 | 4,043 | 0.21 | 0.20 | 0.22 |
| Motor Vehicle Crashes | 1,216 | 1.90 | 1.79 | 2.01 | 17,372 | 0.85 | 0.83 | 0.86 |
| Self-harm | 1,834 | 2.53 | 2.41 | 2.65 | 12,317 | 0.64 | 0.62 | 0.65 |
| Falls | 3,825 | 7.95 | 7.69 | 8.21 | 99,034 | 4.25 | 4.22 | 4.28 |

**Notes**: "Serious injuries requiring hospitalization" are defined as injuries requiring overnight stay, excluding day surgeries. Patients who died of their injury are not included. An event is one hospitalization. A patient may have multiple events during the reporting period. "Motor vehicle crashes" include injuries of cyclists and pedestrians. "Exposure to mechanical forces" measures injuries caused by contact with objects such as knives and animals. "Collective violence and legal intervention" include operation of wars and legal interventions involving firearm discharge, explosives, gas, and blunt/sharp objects. Small numbers ≤10 have been suppressed. Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Ministry of Health, Discharge Abstract Database, Client Roster, and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Life Expectancy

### TABLE 4.26-CI

Life Expectancy at Birth, Status First Nations and Other Residents, BC, 2005 to 2017

| Year | Status First Nations | | | Other Residents | | |
|---|---|---|---|---|---|---|
| | Life Expectancy | Lower 95% CI | Upper 95% CI | Life Expectancy | Lower 95% CI | Upper 95% CI |
| 2005 | 73.9 | 72.6 | 75.1 | 81.2 | 81.1 | 81.3 |
| 2006 | 74.6 | 73.4 | 75.8 | 81.4 | 81.3 | 81.6 |
| 2007 | 74.0 | 72.9 | 75.0 | 81.6 | 81.5 | 81.8 |
| 2008 | 73.9 | 73.0 | 74.8 | 81.7 | 81.6 | 81.9 |
| 2009 | 74.8 | 73.8 | 75.8 | 82.3 | 82.2 | 82.5 |
| 2010 | 75.3 | 74.3 | 76.3 | 82.7 | 82.6 | 82.9 |
| 2011 | 75.9 | 74.9 | 77.0 | 82.9 | 82.8 | 83.0 |
| 2012 | 75.5 | 74.5 | 76.6 | 83.1 | 83.0 | 83.3 |
| 2013 | 75.8 | 74.9 | 76.8 | 83.1 | 83.0 | 83.3 |
| 2014 | 74.9 | 73.8 | 75.9 | 83.3 | 83.2 | 83.5 |
| 2015 | 74.8 | 73.8 | 75.8 | 83.3 | 83.2 | 83.4 |
| 2016 | 74.3 | 73.3 | 75.2 | 83.0 | 82.9 | 83.1 |
| 2017 | 73.4 | 72.5 | 74.2 | 82.7 | 82.6 | 82.9 |

**Notes**: "Life expectancy" is the expected number of years of life remaining at a given age; in this case, at birth. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

### TABLE 4.27-CI

Life Expectancy at Birth, Status First Nations and Other Residents, by Sex, BC, 2005 to 2017

| Year | Status First Nations Females | | | Other Residents Females | | | Status First Nations Males | | | Other Residents Males | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Life Expectancy | Lower 95% CI | Upper 95% CI | Life Expectancy | Lower 95% CI | Upper 95% CI | Life Expectancy | Lower 95% CI | Upper 95% CI | Life Expectancy | Lower 95% CI | Upper 95% CI |
| 2005 | 76.0 | 74.4 | 77.6 | 83.6 | 83.4 | 83.8 | 71.8 | 69.8 | 73.8 | 78.7 | 78.5 | 79.0 |
| 2006 | 77.0 | 75.2 | 78.9 | 83.6 | 83.4 | 83.8 | 72.1 | 70.6 | 73.7 | 79.2 | 79.0 | 79.4 |
| 2007 | 76.4 | 74.9 | 77.9 | 83.9 | 83.7 | 84.1 | 71.4 | 69.9 | 72.8 | 79.3 | 79.1 | 79.5 |
| 2008 | 75.8 | 74.4 | 77.1 | 83.9 | 83.7 | 84.1 | 71.8 | 70.6 | 73.1 | 79.5 | 79.3 | 79.7 |
| 2009 | 76.9 | 75.4 | 78.3 | 84.4 | 84.2 | 84.6 | 72.6 | 71.3 | 73.9 | 80.1 | 79.9 | 80.3 |
| 2010 | 76.7 | 75.3 | 78.1 | 84.8 | 84.6 | 85.0 | 73.6 | 72.3 | 74.9 | 80.6 | 80.4 | 80.8 |
| 2011 | 78.1 | 76.7 | 79.5 | 85.0 | 84.8 | 85.2 | 73.6 | 72.1 | 75.2 | 80.7 | 80.5 | 80.9 |
| 2012 | 77.8 | 76.4 | 79.3 | 85.1 | 84.9 | 85.3 | 73.0 | 71.7 | 74.4 | 81.1 | 80.9 | 81.3 |
| 2013 | 77.6 | 76.3 | 79.0 | 85.2 | 85.0 | 85.4 | 73.8 | 72.6 | 75.1 | 81.0 | 80.8 | 81.2 |
| 2014 | 77.3 | 75.7 | 78.8 | 85.5 | 85.3 | 85.7 | 72.3 | 71.0 | 73.5 | 81.1 | 80.9 | 81.3 |
| 2015 | 77.8 | 76.4 | 79.2 | 85.3 | 85.2 | 85.5 | 71.7 | 70.2 | 73.1 | 81.2 | 81.0 | 81.4 |
| 2016 | 75.9 | 74.5 | 77.2 | 85.3 | 85.1 | 85.5 | 72.6 | 71.2 | 73.9 | 80.7 | 80.5 | 80.9 |
| 2017 | 75.3 | 74.1 | 76.6 | 85.3 | 85.1 | 85.5 | 71.3 | 70.1 | 72.5 | 80.2 | 80.0 | 80.4 |

**Notes**: "Life expectancy" is the expected number of years of life remaining at a given age; in this case, at birth. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-21-CI**

**Life Expectancy at Birth, Status First Nations and Other Residents, by Health Authority, BC, 2017**

| Health Authority | Status First Nations | | | Other Residents | | |
|---|---|---|---|---|---|---|
| | Life Expectancy | Lower 95% CI | Upper 95% CI | Life Expectancy | Lower 95% CI | Upper 95% CI |
| Fraser | 74.9 | 83.0 | 72.1 | 83.0 | 82.8 | 83.2 |
| Interior | 74.4 | 80.7 | 72.5 | 80.7 | 80.3 | 81.0 |
| Northern | 73.9 | 80.0 | 72.3 | 80.0 | 79.4 | 80.6 |
| Vancouver Coastal | 70.3 | 85.3 | 68.0 | 85.3 | 85.0 | 85.6 |
| Island | 73.2 | 82.0 | 71.1 | 82.0 | 81.7 | 82.3 |
| BC | 73.4 | 82.7 | 72.5 | 82.7 | 82.6 | 82.9 |

**Notes**: "Life expectancy" is the expected number of years of life remaining at a given age; in this case, at birth. Health authority is based on the residence of the individual. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-22-CI**

**Life Expectancy at Birth, Status First Nations, by Health Authority, BC, 2017**

| Health Authority | Life Expectancy | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| Fraser | 74.9 | 83.0 | 72.1 |
| Interior | 74.4 | 80.7 | 72.5 |
| Northern | 73.9 | 80.0 | 72.3 |
| Vancouver Coastal | 70.3 | 85.3 | 68.0 |
| Island | 73.2 | 82.0 | 71.1 |
| BC | 73.4 | 82.7 | 72.5 |

**Notes**: "Life expectancy" is the expected number of years of life remaining at a given age; in this case, at birth. Health authority is based on the residence of the individual. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Age-standardized Mortality Rate

### TABLE 4.28-CI

Age-standardized All-cause Mortality Rate, Status First Nations and Other Residents, BC, 2005 to 2017

| Year | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| 2005 | 720 | 115.8 | 105.7 | 126.9 | 29,356 | 73.5 | 72.6 | 74.3 |
| 2006 | 707 | 111.8 | 101.9 | 122.6 | 29,828 | 72.3 | 71.5 | 73.1 |
| 2007 | 733 | 116.6 | 106.2 | 128.2 | 30,381 | 71.4 | 70.6 | 72.2 |
| 2008 | 765 | 122.1 | 111.4 | 133.8 | 31,131 | 70.9 | 70.1 | 71.7 |
| 2009 | 747 | 111.2 | 101.3 | 122.1 | 30,498 | 67.3 | 66.5 | 68.0 |
| 2010 | 749 | 106.8 | 97.5 | 117.2 | 30,386 | 64.7 | 64.0 | 65.4 |
| 2011 | 750 | 102.9 | 94.0 | 112.6 | 31,012 | 63.9 | 63.2 | 64.6 |
| 2012 | 794 | 105.0 | 96.2 | 114.6 | 31,553 | 62.8 | 62.1 | 63.5 |
| 2013 | 787 | 104.0 | 95.4 | 113.4 | 32,254 | 62.3 | 61.6 | 63.0 |
| 2014 | 899 | 107.4 | 99.3 | 116.2 | 32,718 | 61.1 | 60.5 | 61.8 |
| 2015 | 937 | 108.4 | 100.4 | 117.1 | 34,097 | 61.6 | 60.9 | 62.2 |
| 2016 | 999 | 110.6 | 102.7 | 119.1 | 35,446 | 62.1 | 61.5 | 62.8 |
| 2017 | 1,112 | 116.2 | 108.4 | 124.6 | 37,167 | 63.3 | 62.6 | 63.9 |

**Notes**: Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

### TABLE 4.29-CI

Potential Years of Life Lost Standardized Rate, Status First Nations and Other Residents, BC, 2005 to 2017

| Year | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | PYLL | Years Per 1,000 Population | Lower 95% CI | Upper 95% CI | PYLL | Years Per 1,000 Population | Lower 95% CI | Upper 95% CI |
| 2005 | 22,854 | 239.2 | 235.5 | 243.0 | 464,917 | 117.5 | 117.1 | 117.8 |
| 2006 | 22,224 | 222.0 | 218.5 | 225.6 | 464,819 | 114.3 | 114.0 | 114.7 |
| 2007 | 23,161 | 228.4 | 224.8 | 232.1 | 470,656 | 112.7 | 112.4 | 113.1 |
| 2008 | 23,072 | 227.9 | 224.2 | 231.5 | 477,168 | 111.2 | 110.9 | 111.5 |
| 2009 | 22,843 | 214.4 | 211.0 | 217.8 | 464,734 | 105.5 | 105.2 | 105.8 |
| 2010 | 22,628 | 206.1 | 202.9 | 209.4 | 459,815 | 101.6 | 101.3 | 101.9 |
| 2011 | 22,291 | 198.2 | 195.1 | 201.4 | 462,955 | 99.8 | 99.5 | 100.1 |
| 2012 | 23,664 | 204.9 | 201.8 | 208.0 | 463,755 | 97.3 | 97.0 | 97.5 |
| 2013 | 22,218 | 195.6 | 192.6 | 198.6 | 479,476 | 98.4 | 98.1 | 98.7 |
| 2014 | 26,041 | 217.5 | 214.6 | 220.6 | 484,110 | 97.0 | 96.7 | 97.3 |
| 2015 | 27,053 | 219.4 | 216.5 | 222.3 | 496,690 | 96.6 | 96.3 | 96.9 |
| 2016 | 29,024 | 228.1 | 225.2 | 231.0 | 534,270 | 101.8 | 101.6 | 102.1 |
| 2017 | 32,384 | 244.8 | 241.9 | 247.8 | 562,334 | 104.9 | 104.6 | 105.2 |

**Notes**: "Potential years of life lost" represents the average number of years of life lost due to premature death by any cause, per 1,000 residents. Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## TABLE C4-23-CI

### Age-standardized All-cause Mortality Rate, Status First Nations and Other Residents, by Health Authority, BC, 2017

| Health Authority | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| Fraser | 150 | 103.6 | 84.9 | 126.9 | 11,938 | 62.0 | 60.9 | 63.1 |
| Interior | 226 | 106.6 | 91.5 | 124.3 | 8,043 | 74.3 | 72.6 | 76.0 |
| Northern | 281 | 123.0 | 107.0 | 141.2 | 1,887 | 79.5 | 75.9 | 83.2 |
| Vancouver Coastal | 220 | 135.4 | 114.5 | 161.3 | 7,240 | 51.2 | 50.0 | 52.4 |
| Island | 233 | 114.9 | 98.3 | 134.5 | 8,034 | 68.1 | 66.5 | 69.6 |
| BC | 1,112 | 116.2 | 108.4 | 124.6 | 37,167 | 63.3 | 62.6 | 63.9 |

**Notes**: Standardized to the Canada 2011 population. Health authority is based on the residence of the deceased. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## TABLE C4-24-CI

### Potential Years of Life Lost Standardized Rate, Status First Nations and Other Residents, by Sex, BC, 2005 to 2017

| Year | Status First Nations Females | | | | Other Residents Females | | | | Status First Nations Males | | | | Other Residents Males | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PYLL | Years per 1,000 Population | Lower 95% CI | Upper 95% CI | PYLL | Years per 1,000 Population | Lower 95% CI | Upper 95% CI | PYLL | Years per 1,000 Population | Lower 95% CI | Upper 95% CI | PYLL | Years per 1,000 Population | Lower 95% CI | Upper 95% CI |
| 2005 | 9,846 | 199.0 | 194.4 | 203.8 | 192,389 | 90.3 | 89.9 | 90.7 | 13,008 | 285.6 | 279.4 | 291.9 | 272,528 | 147.2 | 146.7 | 147.8 |
| 2006 | 9,790 | 187.6 | 183.3 | 192.1 | 195,184 | 89.2 | 88.8 | 89.6 | 12,434 | 262.6 | 256.7 | 268.6 | 269,635 | 141.9 | 141.3 | 142.4 |
| 2007 | 10,075 | 188.8 | 184.4 | 193.3 | 196,750 | 87.5 | 87.1 | 87.9 | 13,086 | 276.0 | 269.8 | 282.5 | 273,906 | 140.3 | 139.7 | 140.8 |
| 2008 | 10,588 | 200.0 | 195.5 | 204.6 | 201,766 | 87.4 | 87.0 | 87.8 | 12,484 | 263.4 | 257.1 | 269.9 | 275,402 | 137.1 | 136.6 | 137.6 |
| 2009 | 10,271 | 182.1 | 178.0 | 186.3 | 196,951 | 83.1 | 82.7 | 83.4 | 12,572 | 255.1 | 249.2 | 261.3 | 267,783 | 130.0 | 129.5 | 130.5 |
| 2010 | 10,773 | 187.9 | 183.8 | 192.0 | 195,786 | 80.4 | 80.0 | 80.7 | 11,855 | 230.0 | 224.3 | 236.0 | 263,942 | 124.8 | 124.3 | 125.2 |
| 2011 | 9,692 | 167.7 | 163.9 | 171.6 | 196,874 | 78.6 | 78.2 | 78.9 | 12,599 | 233.5 | 228.2 | 238.9 | 265,995 | 122.7 | 122.2 | 123.1 |
| 2012 | 10,363 | 172.6 | 168.9 | 176.5 | 200,371 | 78.1 | 77.8 | 78.5 | 13,301 | 243.7 | 238.5 | 249.1 | 263,384 | 118.1 | 117.7 | 118.6 |
| 2013 | 10,281 | 170.6 | 166.9 | 174.3 | 203,345 | 77.4 | 77.1 | 77.8 | 11,936 | 227.8 | 222.6 | 233.3 | 276,130 | 121.0 | 120.5 | 121.4 |
| 2014 | 11,669 | 183.7 | 180.1 | 187.4 | 202,980 | 75.2 | 74.8 | 75.5 | 14,372 | 260.0 | 254.8 | 265.4 | 281,130 | 120.2 | 119.8 | 120.7 |
| 2015 | 10,690 | 172.0 | 168.5 | 175.6 | 210,779 | 75.7 | 75.4 | 76.0 | 16,364 | 272.8 | 267.8 | 278.0 | 285,825 | 119.0 | 118.6 | 119.4 |
| 2016 | 13,369 | 202.9 | 199.2 | 206.7 | 221,727 | 78.5 | 78.2 | 78.9 | 15,654 | 256.7 | 251.9 | 261.6 | 312,543 | 126.8 | 126.3 | 127.2 |
| 2017 | 14,503 | 210.9 | 207.3 | 214.7 | 225,079 | 77.2 | 76.9 | 77.5 | 17,880 | 284.6 | 279.7 | 289.6 | 337,256 | 134.1 | 133.7 | 134.6 |

**Notes:** "Potential years of life lost" represents the average number of years of life lost due to premature death by any cause, per 1,000 residents. Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources:** BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-25-CI**

**Potential Years of Life Lost Standardized Rate, Status First Nations and Other Residents, by Health Authority, BC, 2013-17**

| Health Authority | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Years | Years per 1,000 Population | Lower 95% CI | Upper 95% CI | Years | Years per 1,000 Population | Lower 95% CI | Upper 95% CI |
| Fraser | 4,578 | 224.9 | 217.5 | 233 | 189,899 | 102.9 | 102.4 | 103.4 |
| Interior | 6,484 | 225.6 | 219.7 | 232 | 117,891 | 127.8 | 127.0 | 128.6 |
| Northern | 7,394 | 227.5 | 221.8 | 233 | 34,121 | 134.8 | 133.4 | 136.3 |
| Vancouver Coastal | 6,805 | 313.6 | 305.4 | 322 | 108,726 | 84.7 | 84.2 | 85.2 |
| Island | 7,042 | 254.9 | 248.4 | 262 | 110,862 | 111.1 | 110.4 | 111.8 |
| BC | 32,384 | 244.8 | 241.9 | 248 | 562,334 | 104.9 | 104.6 | 105.2 |

**Notes**: "Potential years of life lost" represents the average number of years of life lost due to premature death by any cause, per 1,000 residents. Standardized to the Canada 2011 population. Health authority is based on the residence of the deceased. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-26-CI**

**Potential Years of Life Lost Standardized Rate, Status First Nations and Other Residents, by Cause of Death, BC, 2013-17**

| Cause of Death | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Years | Years per 1,000 Population | Lower 95% CI | Upper 95% CI | Years | Years per 1,000 Population | Lower 95% CI | Upper 95% CI |
| Diabetes and Kidney Diseases | 1,848 | 4.1 | 3.9 | 4.4 | 53,057 | 2.0 | 1.9 | 2.0 |
| Neurological Disorders | 1,948 | 5.0 | 4.8 | 5.3 | 157,208 | 5.6 | 5.6 | 5.7 |
| Unintentional Injuries | 3,798 | 5.5 | 5.3 | 5.8 | 50,860 | 2.1 | 2.0 | 2.1 |
| Other Non-communicable Diseases | 3,954 | 5.8 | 5.6 | 6.0 | 61,439 | 2.7 | 2.6 | 2.7 |
| Transport Injuries | 6,263 | 7.5 | 7.3 | 7.7 | 46,421 | 2.1 | 2.1 | 2.1 |
| Chronic Respiratory Diseases | 3,941 | 8.5 | 8.2 | 8.8 | 113,670 | 4.1 | 4.1 | 4.2 |
| Self-harm and Interpersonal Violence | 9,681 | 11.1 | 10.9 | 11.3 | 99,067 | 4.4 | 4.4 | 4.4 |
| Digestive Diseases | 10,625 | 17.3 | 16.9 | 17.6 | 89,538 | 3.5 | 3.4 | 3.5 |
| Cardiovascular Diseases | 11,701 | 23.0 | 22.5 | 23.5 | 347,131 | 12.9 | 12.8 | 12.9 |
| Neoplasms | 20,974 | 39.0 | 38.4 | 39.6 | 796,462 | 30.5 | 30.5 | 30.6 |

**Notes**: "Potential years of life lost" represents the average number of years of life lost due to premature death by any cause, per 1,000 residents. Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

## Alcohol-attributable Deaths

### TABLE 4.30-CI

Alcohol-attributable Mortality Rate, Status First Nations and Other Residents, BC, 2007 to 2015

| Year | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| 2007 | 120 | 13.7 | 11.0 | 16.9 | 1,672 | 4.7 | 4.5 | 5.0 |
| 2008 | 122 | 14.1 | 11.4 | 17.3 | 1,678 | 4.7 | 4.4 | 4.9 |
| 2009 | 105 | 12.0 | 9.6 | 15.0 | 1,625 | 4.4 | 4.2 | 4.6 |
| 2010 | 109 | 11.1 | 8.9 | 13.8 | 1,550 | 4.1 | 3.9 | 4.3 |
| 2011 | 107 | 10.6 | 8.5 | 13.1 | 1,576 | 4.1 | 3.9 | 4.3 |
| 2012 | 113 | 11.6 | 9.4 | 14.2 | 1,609 | 4.1 | 3.9 | 4.3 |
| 2013 | 115 | 12.0 | 9.8 | 14.7 | 1,713 | 4.3 | 4.1 | 4.5 |
| 2014 | 135 | 13.5 | 11.2 | 16.2 | 1,797 | 4.4 | 4.2 | 4.6 |
| 2015 | 146 | 14.2 | 11.9 | 17.0 | 1,820 | 4.3 | 4.1 | 4.5 |

**Notes**: The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

### TABLE 4.31-CI

Alcohol-attributable Mortality Rate, Status First Nations, BC, 2007 to 2015

| Year | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 5% CI |
|---|---|---|---|---|
| 2007 | 120 | 13.7 | 11.0 | 16.9 |
| 2008 | 122 | 14.1 | 11.4 | 17.3 |
| 2009 | 105 | 12.0 | 9.6 | 15.0 |
| 2010 | 109 | 11.1 | 8.9 | 13.8 |
| 2011 | 107 | 10.6 | 8.5 | 13.1 |
| 2012 | 113 | 11.6 | 9.4 | 14.2 |
| 2013 | 115 | 12.0 | 9.8 | 14.7 |
| 2014 | 135 | 13.5 | 11.2 | 16.2 |
| 2015 | 146 | 14.2 | 11.9 | 17.0 |

**Notes**: The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE 4.33-CI**

**Percentage of First Nations Youth and Adults On Reserve Who Did Not Consume Alcohol in the Last 12 Months, BC, 2002-03 to 2015-17**

| 2002-03 | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| Youth | 53.5 | 45.8 | 61.0 |
| Adults | 36.3 | 30.9 | 42.0 |

| 2008-10 | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| Youth | 61.9 | 56.0 | 67.5 |
| Adults | 37.2 | 33.0 | 41.6 |

| 2015-17 | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|
| Youth | 70.3 | 67.4 | 73.2 |
| Adults | 41.3 | 39.2 | 43.5 |

**Notes**: Includes responses of survey participants who reported that they had not had a drink of beer, wine, liquor, or any other alcohol beverage in the past 12 months. "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 1 (2002-03), Phase 2 (2008-10), and Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

**TABLE C4-27-CI**

**Alcohol-attributable Mortality Rate, Status First Nations and Other Residents, by Age and Sex, BC, 2011-15**

| Age Group | Sex | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| 15-34 | Females | 29 | 2.3 | 1.5 | 3.2 | 124 | 0.4 | 0.4 | 0.5 |
| | Males | 73 | 5.4 | 4.3 | 6.8 | 495 | 1.7 | 1.6 | 1.9 |
| 35-64 | Females | 146 | 9.8 | 8.2 | 11.5 | 718 | 1.5 | 1.4 | 1.6 |
| | Males | 246 | 17.5 | 15.4 | 19.8 | 2593 | 5.5 | 5.3 | 5.7 |
| 65+ | Females | 30 | 10.7 | 7.2 | 15.3 | 674 | 3.4 | 3.1 | 3.6 |
| | Males | 92 | 45.3 | 36.5 | 55.5 | 3912 | 22.5 | 21.8 | 23.3 |

**Notes**: The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

### TABLE C4-28-CI

Alcohol-attributable Mortality Rate, Status First Nations, by Age and Sex, BC, 2011-15

| Age Group | Sex | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|---|
| 15-34 | Females | 29 | 2.3 | 1.5 | 3.2 |
| | Males | 73 | 5.4 | 4.3 | 6.8 |
| 35-64 | Females | 146 | 9.8 | 8.2 | 11.5 |
| | Males | 246 | 17.5 | 15.4 | 19.8 |
| 65+ | Females | 30 | 10.7 | 7.2 | 15.3 |
| | Males | 92 | 45.3 | 36.5 | 55.5 |

**Notes**: The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). Standardized to the Canada 2011 population. Health authority is based on the residence of the deceased. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

### TABLE C4-29-CI

Alcohol-attributable Mortality Rate, Status First Nations and Other Residents, by Health Authority, BC, 2011-15

| Health Authority | Status First Nations | | | | Other Residents | | | |
|---|---|---|---|---|---|---|---|---|
| | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
| Fraser | 74 | 9.8 | 7.4 | 12.8 | 2,813 | 4.1 | 4.0 | 4.3 |
| Interior | 133 | 12.9 | 10.7 | 15.5 | 1704 | 4.9 | 4.6 | 5.1 |
| Northern | 149 | 11.5 | 9.6 | 13.7 | 520 | 5.1 | 4.7 | 5.6 |
| Vancouver Coastal | 134 | 15.4 | 12.8 | 18.6 | 1,685 | 3.4 | 3.2 | 3.6 |
| Island | 125 | 12.5 | 10.3 | 15.2 | 1,785 | 4.9 | 4.6 | 5.1 |
| BC | 617 | 12.4 | 11.4 | 13.5 | 8,515 | 4.2 | 4.1 | 4.3 |

**Notes**: The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). Standardized to the Canada 2011 population. Health authority is based on the residence of the deceased. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

### TABLE C4-30-CI

Alcohol-attributable Mortality Rate, Status First Nations, by Condition/Disease, BC, 2011-15

| Condition/Disease | Deaths | Rate per 10,000 Population | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Communicable Disease | 14 | 0.3 | 0.2 | 0.6 |
| Cardiovascular Conditions | 50 | 1.2 | 0.9 | 1.6 |
| Cancer | 58 | 1.5 | 1.1 | 2.0 |
| Neuropsychiatric Conditions | 85 | 1.9 | 1.5 | 2.4 |
| Injuries (Intentional and Unintentional) | 198 | 3.3 | 2.8 | 3.8 |
| Digestive Conditions | 217 | 4.4 | 3.8 | 5.1 |

**Notes**: The "alcohol-attributable mortality rate" is the rate of deaths in the population due to causes that can be attributed to alcohol consumption, including cancers (e.g., liver cancer), cardiovascular diseases (e.g., ischaemic heart disease), neuropsychiatric conditions (e.g., epilepsy), communicable diseases (e.g., tuberculosis), digestive conditions (e.g., liver cirrhosis), and injuries (e.g., motor vehicle crashes). Standardized to the Canada 2011 population. "CI" means confidence interval. See Appendix B for more information about these data sources.
**Sources**: BC Vital Statistics Agency, data as of December 2018; BC Ministry of Health, Client Roster and First Nations Client File (Release 2017). Prepared by Population Health Surveillance and Epidemiology, BC Office of the Provincial Health Officer, BC Ministry of Health, August 2019.

**TABLE C4-31-CI**

**Percentage of First Nations Youth and Adults On Reserve Who Did Not Consume Alcohol in the Last 12 Months, by Health Authority, BC, 2015-17**

| Group | Health Authority | Estimate (%) | Lower 95% CI | Upper 95% CI |
|---|---|---|---|---|
| Youth | Fraser | 71.4 | 63.9 | 77.9 |
| | Interior | 71.1 | 65.2 | 76.4 |
| | Northern | 59.4 | 52.9 | 65.6 |
| | Vancouver Coastal | 70.9 | 64.2 | 76.9 |
| | Island | 81.3 | 76.2 | 85.4 |
| | BC | 70.3 | 67.4 | 73.2 |
| Adults | Fraser | 42.3 | 35.4 | 49.5 |
| | Interior | 47.0 | 43.0 | 51.0 |
| | Northern | 37.3 | 33.0 | 41.8 |
| | Vancouver Coastal | 39.1 | 33.9 | 44.5 |
| | Island | 42.8 | 38.7 | 47.0 |
| | BC | 41.3 | 39.2 | 43.5 |

**Notes**: Includes responses of survey participants who reported that they had not had a drink of beer, wine, liquor, or any other alcohol beverage in the past 12 months. "Youth" includes respondents age 12–17 and "Adults" includes respondents age 18 and up. Data for adults are shown in darker shades than youth data. Health authority is based on the location of the respondent's community. "CI" means confidence interval. See Appendix B for more information about this data source.
**Source**: First Nations Regional Health Survey Phase 3 (2015-17). Prepared by First Nations Health Authority, July 2019.

# REFERENCES

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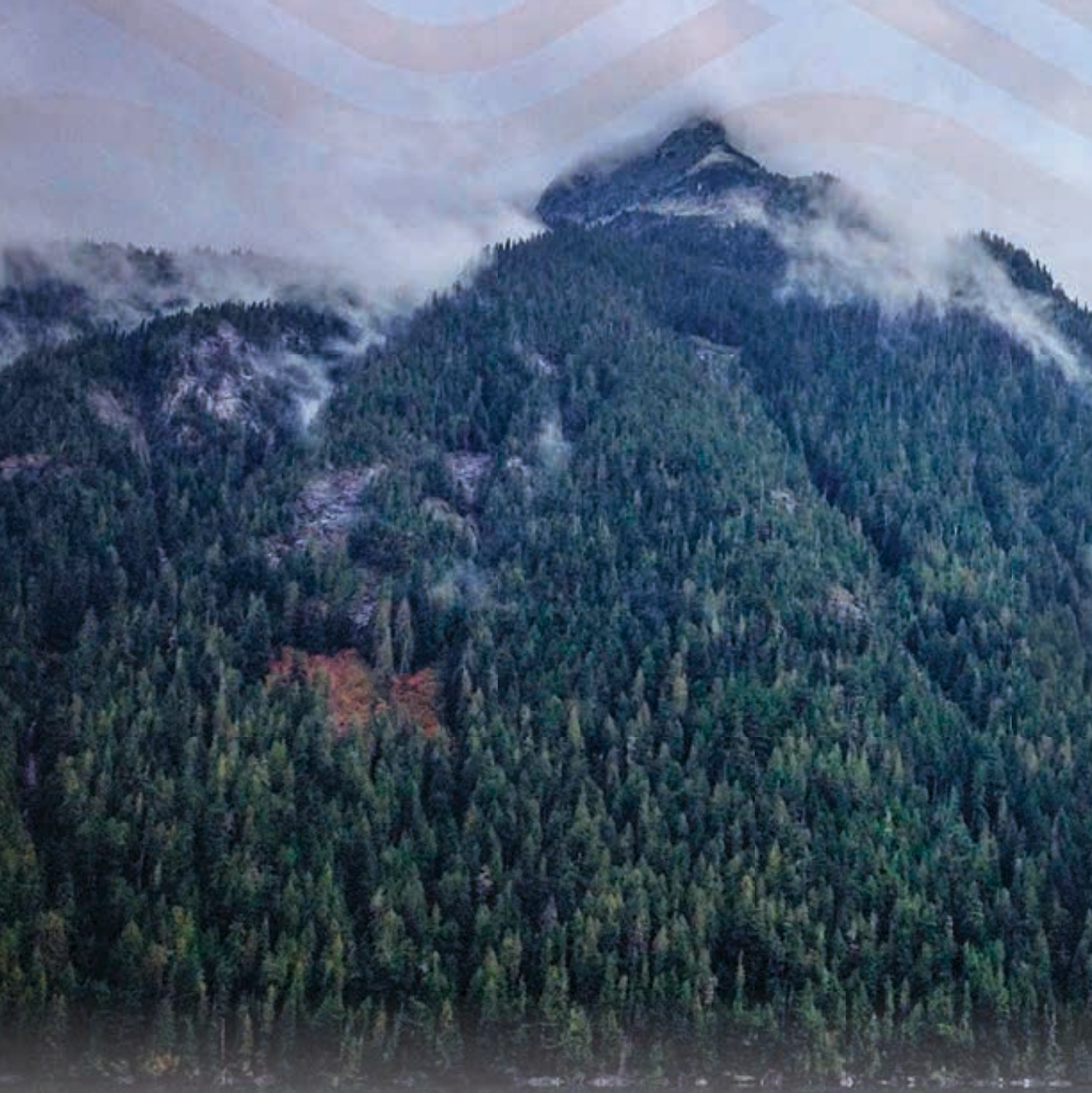

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