

**FIRST NATIONS REGIONAL HEALTH
SURVEY (RHS) 2008/10**



**National Report on Youth Living in First
Nations Communities**



FNIGC | CGIPN

First Nations Information Governance Centre
Le Centre de gouvernance de l'information des Premières Nations

Since the initial release of the RHS Phase 2 (2008/10) National Report decisions were made to restructure a number of the analyses that resulted in minor changes to estimates across various chapters. For cases in which an estimate discrepancy is detected those presented in the current report (September 2012) shall be taken as correct.

Please contact the FNIGC with any questions you might have in this regard.



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Acknowledgements

We are pleased to release the *First Nations Regional Health Survey Phase 2 (2008/10) National Report on Adult, Youth and Children Living in First Nations Communities*. First Nations have once again supported a “First Nations” driven research agenda and the result is the creation of this 37 chapter National Report as well as ten regional reports. One of the major accomplishments of the RHS process is the ability to track changes of the First Nations population over an extended period of time. As we embark on each new phase of RHS we are able to see how we are doing as First Nations. Are our lives improving? Are things the same, better or worse?

The First Nations’ Principles of Ownership, Control, Access and Possession (OCAP) changed the research world in Canada with regard to how research is conducted on-reserve and in northern First Nations communities. The RHS process has taken a leadership role in implementing First Nations’ self-determination in the area of research and OCAP has led the way for First Nations to exercise jurisdiction over their information. This is the only way to move forward in the area of research and information management.

RHS has undergone a major transition in recent years and is now permanently housed at the newly created First Nations Information Governance Centre (FNIGC). We now have a good home where we can flourish as a First Nations’ research initiative. Due to the successful track record of the RHS process and the credibility we have achieved in the research world, a new path has opened to another national research initiative. The FNIGC is presently embarking on a new survey process - The First Nations Regional Education, Employment and Early Childhood Development Survey (REES). In addition, FNIGC will continue on with the RHS Phase 3 which will be in First Nations communities in 2014.

The following report contains results on the good, the bad and the ugly realities which exist in our communities. It is imperative that we use this knowledge and data to take action and bring about change to improve the lives of First Nations. Though some results are concerning there are encouraging findings as well, signalling hope for a future in which First Nations can thrive.

We wish to thank all First Nations who participated directly or indirectly in the RHS process, our regions, our communities, and our Peoples. With your belief, support, dedication and commitment to this process, RHS is now recognized as a leading model for Indigenous research. We encourage you to use the findings in the RHS Phase 2 National Report to assist in making a difference for First Nations.

Use RHS data to improve life!

Wela’lioq,



Jane Gray, RN BScN
RHS National Project Manager
First Nations Information Governance Centre

RHS History and Background

The First Nations Regional Health Survey (RHS) is the foremost national First Nations survey, producing important innovations in data sharing, research ethics, computer-assisted interviewing, sampling, field methods and training, and culturally appropriate questionnaire content. Most significantly, the RHS process has invested in individual and institutional First Nations capacity at the community, regional and national levels. The RHS is a unique collaborative initiative of First Nations regional organizations across Canada.

Governance for the RHS is provided by The First Nations Information Governance Centre's (FNIGC) Board of Directors, who represent ten First Nations regions. The RHS is the first national survey implemented explicitly in keeping with the First Nations Principles of OCAP - Ownership, Control, Access and Possession. As the only national research initiative under complete First Nations control, the RHS has given new meaning to First Nations self-determination in research and provided the research community with a demonstration of how the principles of OCAP can be successfully implemented.

In 1996, the Assembly of First Nations Chiefs Committee on Health mandated that a First Nations health survey be implemented every four years across Canada. This mandate came as a result of activities that began in 1994, when three major national longitudinal surveys were launched by the federal government that specifically excluded First Nations living on-reserve and in northern First Nation communities.

The first RHS took place in 1997 ([RHS 1997](#)) and involved First Nations and Inuit from across Canada. The survey was implemented to address First Nations and Inuit health and well-being issues while acknowledging the need for First Nations and Inuit to control their own health information. RHS 1997 is commonly referred to as the pilot survey.

The survey design phase sought to balance First Nations content with content from comparable Canadian surveys while remaining culturally and scientifically valid. The RHS also incorporated sensitive issues such as HIV/AIDS, suicide and mental health. The adult and youth questionnaires included these topics as well as questions on residential school, alcohol and drug use and sexual activity. In addition, the survey design allowed for a region-specific survey module.

The RHS Phase 1 was implemented in 2002-03 with the addition of two new regions, the Yukon and Northwest Territories. At the same time, the Inuit withdrew from the RHS process. Data collection for RHS Phase 1 began in the fall of 2002 and was completed in mid-2003. In total, 80% of the target sample was achieved and 22,602 surveys were collected from 238 First Nations communities.

The RHS Phase 2 was initiated in 2008 and completed in the fall of 2010. The target sample for Phase 2 was 30,000 First Nations individuals in 250 First Nations communities in the 10 participating regions in Canada. The sampling approach for this Phase was improved (from that of Phase 1). In RHS Phase 2, 72.5% of the target was achieved and in total, 21,757 surveys were collected in 216 First Nations communities.

For RHS Phase 2 (2008/10), the questionnaire content underwent extensive reviews and revisions. Comparability, non-response and redundancies were assessed, and new themes were added to the core components based on extensive feedback. The adult survey now includes questions about migration, food security, violence, care giving, depression, the health utilities index and gambling. The youth survey includes questions on community wellness and the children's survey has added questions on immunization.

Community participation in all aspects of design collection and analysis continues to ensure that the data are relevant and the governance and accountability mechanisms are appropriate.

An independent review was completed by Harvard University's Project on American Indian Economic Development in 2006. The Harvard Review Team found that the RHS Phase 1 (2002/03) iteration of the survey was technically rigorous, included numerous improvements over the RHS 1997 pilot survey and had many advantages relative to other surveys internationally.

“Compared to ... surveys of Indigenous people from around the world ... RHS was unique in First Nations ownership of the research process, its explicit incorporation of First Nations values into the research design and in the intensive collaborative engagement of First Nations people ... at each stage of the research process.”

The First Nations Information Governance Centre will continue to seek funding to pursue RHS Phase 3. The RHS continues to be the only on-going cross-sectional survey of First Nations living on-reserve and in northern First Nations communities ever conducted in Canada. As indicated earlier, it is the only national research initiative under complete First Nations control. The RHS has given new meaning to First Nations self-determination in research and provided the research community with a demonstration of how the principles of OCAP can be successfully implemented.

<u>1997:</u>	<u>2002/03:</u>	<u>2008/10:</u>	<u>2013:</u>	<u>2016:</u>
RHS Pilot	RHS Phase 1	RHS Phase 2	RHS Phase 3	RHS Phase 4
9 regions√	completed√	completed√		

Background on the First Nations Information Governance Centre

The First Nations Information Governance Centre was federally incorporated under the Canada Incorporations Act on April 22, 2010. It was mandated through the Assembly of First Nations Special Chiefs Assembly and is governed by a Board of Directors appointed by each First Nation Region. The Centre has a clear mandate to make the most of research and information that will truly benefit the health and well-being of First Nations. It strives to partner with entities that seek to achieve success in working with First Nations through the use of credible information and processes that respect First Nations jurisdiction to own, protect, and control how their information is collected, used and disclosed.

FNIGC Vision:

“Founded on First Nations Principles, the First Nations Information Governance Centre is a premier Indigenous model of research and data excellence for the well-being of our Peoples and Communities.”

FNIGC Mission:

The First Nations Information Governance Centre, under the guidance of its member organizations; will build capacity and provide credible and relevant information on First Nations using the highest standards of data research practices, while respecting the rights of First Nations self-determination for research and information management and in true compliance with the First Nations Principles of Ownership, Control, Access and Possession (OCAP).

The First Nations Regional Health Survey (RHS) Cultural Framework

The First Nations Information Governance Committee (now referred to as the First Nations Information Centre) determined that it was important to begin the development of a First Nations Cultural Framework for the RHS 2002/03. This framework has been carried forward to RHS 2008/10. The goal of the RHS Cultural Framework is to assist in achieving a culturally informed interpretation process that can be presented back to communities in a way that is usable and that reinforces their ways of seeing, relating, knowing and being. A cultural framework will assist in providing a more accurate interpretation of the information shared by First Nations children, youth and adults. Simply stated, the RHS Cultural Framework encompasses the total health of the total person within the total environment.

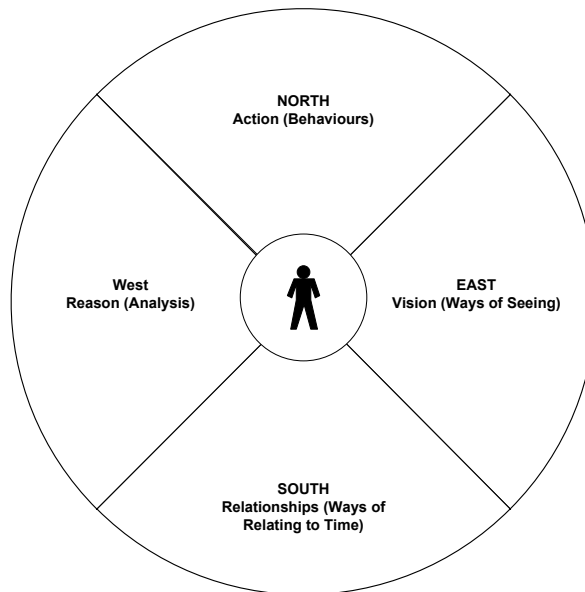
From the beginning, First Nations people have been taught to start with a focus on the people – by giving thanks for their caring, honesty, sharing and strength. Therefore, in keeping with the RHS cultural framework, we wish to extend appreciation to all the First Nations people who participated and shared in this process, before we begin to discuss the organization of this report.

Where the model comes from

This section of the report is designed to help the reader to understand that there is an underlying science behind the cultural framework and resulting organization of this report. The science has been handed down through generations of First Nations people as a cumulated body of knowledge and beliefs.

While it is recognized that Indigenous Knowledge is not a uniform concept across all First Nations in Canada, for most First Nations people there is a common belief in a connection with the natural world. For the purposes of this report and the RHS Cultural Framework, we represent the natural world with a circle. When we begin this report at the centre of the cultural model (see Figure 1), with a focus on First Nations people, it is reflective of the reasons, rules and rationale that are incorporated into the underlying science of the cultural model. In accordance with these results, we will then move from the Centre to the East, South, West, North, and East again. The meaning and content of each quadrant will be elaborated in subsequent sections of this chapter.

Figure 1: RHS Cultural Framework



VISION (Ways of Seeing): Within a First Nations cultural paradigm, vision is considered the most fundamental of principles. Visioning First Nations well-being involves examining the complete picture of health including physical, mental, emotional and spiritual health issues. From an Indigenous Knowledge perspective, visioning will examine what is the ideal state of First Nations health and wellness (what was the standard in the past and what is the desirable/achievable in the future). In order to envision First Nations' health and wellness, it is imperative to establish a baseline of the extent and causes of the current situation. It is from that baseline that First Nations communities and stakeholders can move forward towards the ideal vision.

RELATIONSHIPS (Time/Ways of Relating): Refers to the experiences that one encounters as a result of relationships built over time and examines how we relate to people. It provides an opportunity to gain an understanding of the attitudes and awareness that exist at a particular point in time, regarding the individual, community and national wellness issues.

REASON (Analysis/Reason): Also referred to as learned knowledge. It is where we become reflective, meditative and self-evaluative. It is in this direction that the broader determinants of health are examined.

ACTION (Behaviours): Also referred to as movement and represents strength. This direction explores what has been done about previously identified barriers and how to nurture us as First Nations. This component is important in that it activates positive change to improve programs so that they better achieve the vision (expectations) of First Nations, resulting in the healthy development of their children, families and communities.

It is important to note that the circular models presented in the RHS cultural framework are not medicine wheels. Medicine wheels are related to sacred teachings and understandings that are not discussed in the cultural framework, primarily because of the diversity of Indigenous Knowledge across First Nations. The models presented in this report are designed for use as interpretation tools and are sometimes referred to as "working wheels" or "four directional wheels". We are presenting working tools that can be used to understand the RHS cultural framework. It is within this context that the circular models can be representative of the diverse belief systems across First Nations. The First Nations Information Governance Centre vision for this report, simply put, is to reflect the vision of the First Nations communities. The vision of the First Nations people is

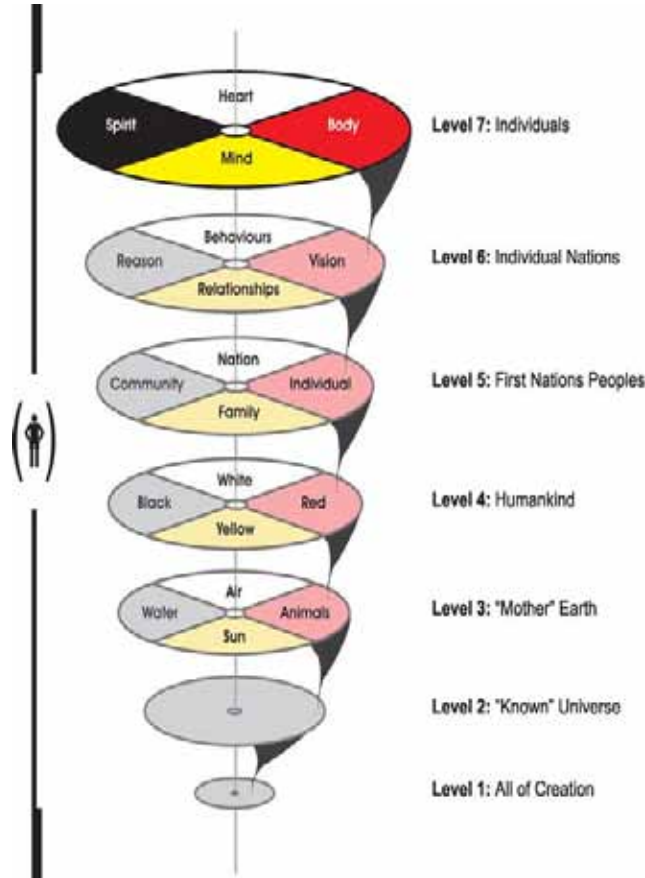
to have cultural respect and understanding entrenched throughout the RHS process. This vision includes First Nations collecting the information, as well as interpreting and organizing the information from a First Nations cultural perspective. The First Nations Information Governance Centre wants to make the information more relevant to the lives of First Nations people. We want to make this more than just another survey/research report on First Nations people. The First Nations Information Governance Centre is moving on to the next step and interpreting the information received from First Nations people from a First Nations perspective.

RHS Interpretative Framework:

This section of the report will introduce and explain the RHS Interpretative Framework. Jim Dumont, Traditional Teacher, prepared a research document to assist in developing a cultural interpretative framework for the First Nations Information Governance Centre. Dr. Mark S. Dockstator further elaborated on this model. The interpretative framework begins with the understanding that First Nations people use the concept of *Wellness*, which, within a Eurocentric viewpoint, is more commonly referred to as *Health*. While it is important to note that there are different philosophical understandings between the concepts of *Health* and *Wellness*, the philosophies are not necessarily mutually exclusive. The concepts are not absolutes or adversarial in nature...they are simply different.

Wellness is a very complex and multi-layered philosophy, which we have tried to simplify through the following diagrams. However, it is important to articulate the complexity of this understanding in order to understand the significance of what questions to ask and how to interpret the information received by the First Nations people. Figure 2 attempts to illustrate, at the simplest level, a First Nations concept of wellness.

Figure 2: Concept of Wellness



Level 1 represents all of Creation – which is infinite;

Level 2 represents the known universe (a human perspective) – which is only a small part of creation;

Level 3 represents one small part of the universe – Earth. Referred to as “Mother Earth” by First Nations people, it is comprised of animals, sun, water and air;

Level 4 represents “Humankind” which is one small part of the animals found on Mother;

Level 5 illustrates one small part of humankind – “First Nations people” – and how we organize ourselves, as individual, family, community and nation;

Level 6 represents Individual Nations and;

Level 7 represents a First Nations person, and how an individual is composed of body, mind, spirit and heart.

We pull out the cultural framework (like an accordion) in Figure 2 to demonstrate that human beings are connected to the natural world, and thus to Creation, through many different levels, or layers, of understanding.

Each level represents only a small portion of the preceding one. All levels are interconnected. This approach to health and wellness is based on BALANCE...of seeking balance, of achieving balance and of maintaining balance. To visualize this model of health imagine each level as a wheel, with each of these wheels rotating on a common axis. If one wheel is out of balance it will affect the balance of the other wheels and also the overall balance of the system. Thus, when we speak of First Nations health, we are referring to the BALANCE of this system.

The RHS Cultural Framework encompasses the total health of the total person within the total environment. This is a holistic and rather complex understanding of First Nation Wellness.

Figure 3

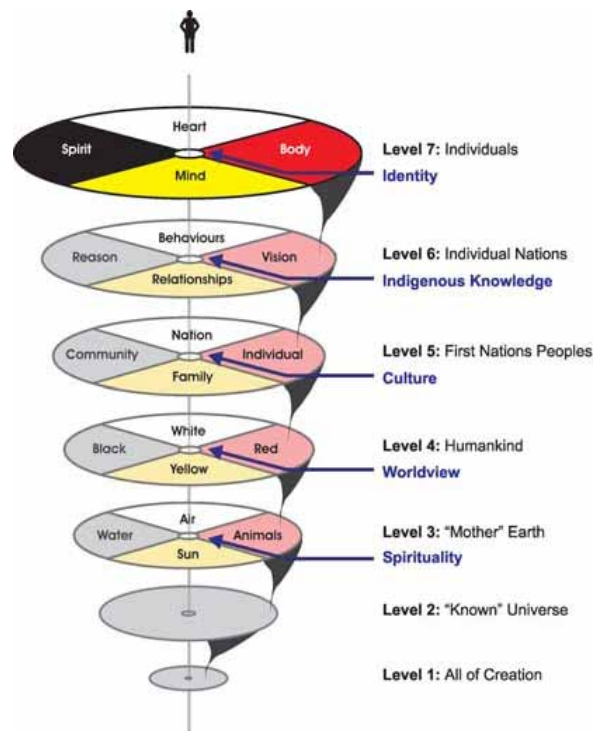


Figure 3 attempts to illustrate the dynamic and multilayered relationships associated with First Nations' Wellness.

Level 1 shows that most First Nations people have a common belief in their connection with Creation.

Level 2 represents how we, as First Nations people, were given our spirituality from Creation and from the Creator, when the known universe was created. Spirituality formulates our belief systems (however they are expressed) and is our direct connection to Creation (both the Act of Creation and the Creator – however they may be expressed and named by the diverse First Nations cultures and societies). Spirituality is connected to Creation and that is why it is found in the centre of the circle and why it is of key importance to First Nations. (Note: Spirituality surrounds the connection to Creation – Level 1 – as represented by the straight line connecting level 1 to level 2).

Level 3 represents that when the Earth was created, as one small part of the universe, humans were created, and this is the stage at which we get our worldview. That is, this is how we as humans understand or make sense of our world. Our worldview connects us to Creation and is expressed in Spirituality.

Level 4 expresses how, as different races of humankind were created, each with their different worldviews, each race is connected to Creation through their language. First Nations people are connected to

and express their worldview through their language, which is in turn connected to their spirituality.

Level 5 depicts how as First Nations people, we are connected to Creation through our culture, which is expressed through our language, which contains our worldview, which is an expression of our spirituality.

Level 6 shows that as individuals, First Nations people are connected to Creation through the knowledge that we have –termed Indigenous Knowledge. These different knowledge systems (which are not the same for all First Nations) are an expression of our cultures, which are expressed in our languages, which are expressions of our worldviews and spirituality ... which all connect us to Creation.

Level 7 illustrates that as First Nations individuals we all develop our own identity, which is formed by that which we know (Indigenous Knowledge), which in turn is connected to our culture, which is an expression of our worldview and spirituality. ...all of which connects us to Creation.

That is why when we speak of First Nations wellness, we speak of Indigenous Knowledge, culture, language, worldview and spirituality as indicators of “health”. These indicators are “core” to an understanding of how we, as a people, keep ourselves “balanced” and therefore “healthy”. This reinforces the need for the RHS Cultural Framework to be used in interpreting the information collected by First Nations people.

How we use the RHS Cultural Framework

The issue identified by the First Nations Information Governance Centre is that an abundance of information has been collected in a way that disrespects First Nations research ethics and principles of Ownership, Control, Access and Protection of Indigenous Knowledge. The goal of the First Nations Information Governance Centre is to replace the Western-based analytical framework with one based on principles common to First Nations principles. This report employs a First Nations culturally appropriate interpretation model as a basis for analysis. This model is by no means complete, but represents a starting point that will be expanded and developed over time and with the building of relationships.

The model is important for explaining why we ask the questions we do in the RHS. The RHS asks questions about language and culture in a “Health Survey”. The First Nations Wellness model highlights the need for such questions. It illustrates that you cannot have an indicator of wellness for First Nations health without also discussing culture, language, worldview and spirituality.

The RHS is designed to be an on-going cross-sectional study and to produce consistent data for First Nations across the country. Since the RHS data will be collected and interpreted by First Nations, the interpretations will be well-informed by First Nations culture and settings, eliminating risks of misinterpretations. The RHS will serve as a useful and realistic model for culturally appropriate, community-based research. Given the on-going nature of the project, the objective is to develop baseline data during

the initial phases. This baseline data will lay the foundation for which comparisons can be made in later years.

Upon the completion of the subsequent rounds of the RHS, analysis can take place to see what impacts different approaches to improving First Nations health have made on this population.

Figure 4

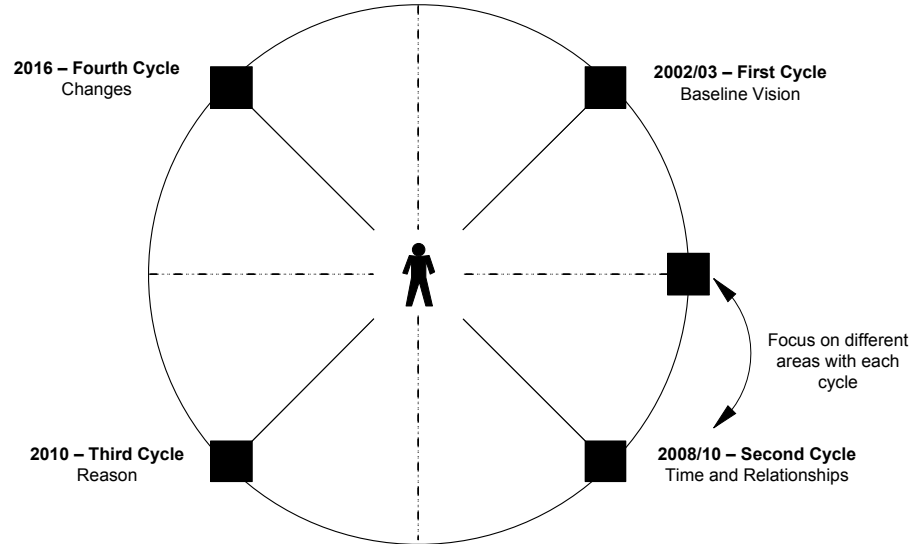


Figure 4 elaborates on the planned RHS using the RHS Cultural Framework rather than a linear framework. Although each cycle will discuss all four quadrants: Vision; Time and Relationships; Reason; and Changes; each cycle will also place a particular emphasis on one quadrant of the model. For example, the emphasis for the RHS 2002/03 was on establishing baseline data and focusing on the vision; that is, the development of the cultural framework. In the current cycle of the RHS, the Cultural Framework is used to explain the impact of time and relationships. The focus of the third cycle of the RHS will be the reasons and rationales related to health/wellness issues, while the fourth cycle will focus on changes—particularly over the extended timeframe from the establishment of the baseline data.

Balance

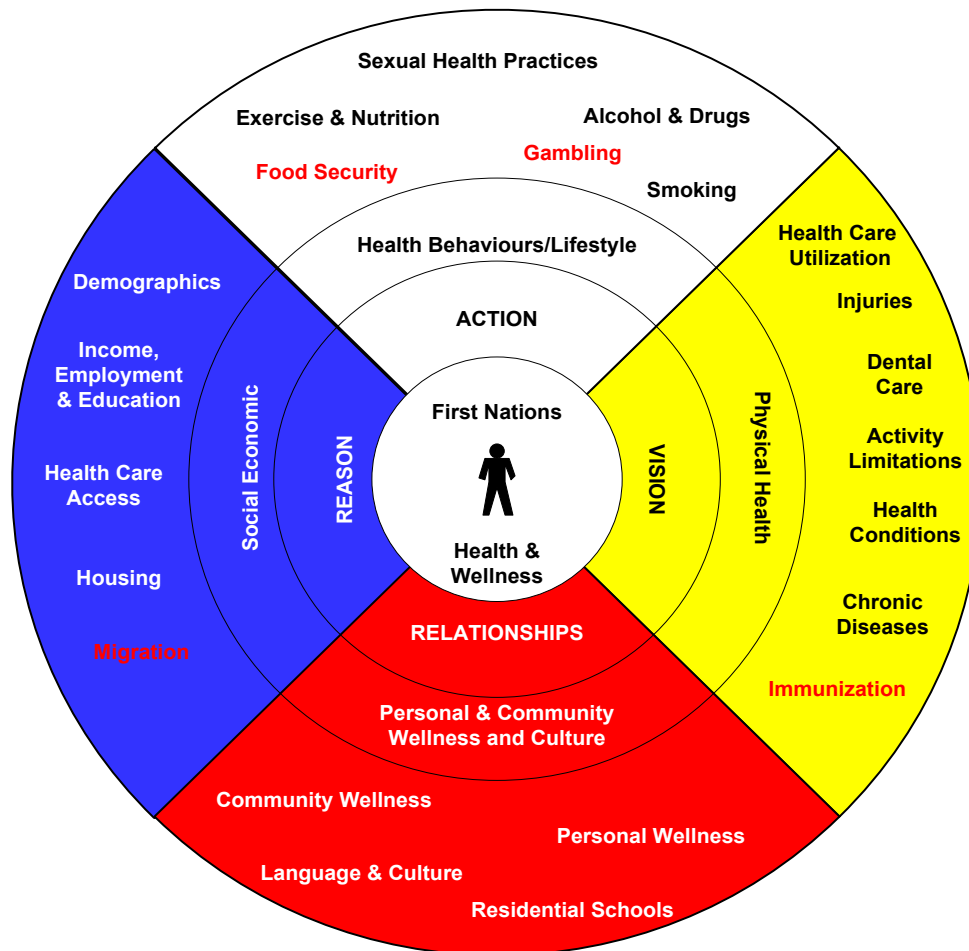
The RHS Cultural Framework will assist in bringing balance to previous research by also drawing out the positive changes related to First Nations wellness. For example, a large proportion of First Nations who quit smoking did so because they became pregnant. This is a positive indicator of wellness, where women placed the wellness of their children first and quit smoking not just during pregnancy but permanently. In addition to providing balance to the reporting by discussing positive changes, it is important for the information presented to be useful to the First Nations reading the report in order to facilitate positive changes in behaviours. The information needs to be presented in such a way so as to clearly identify the warning signs for possible wellness issues and what First Nations can do about them.

Time and Relationships

In the context of First Nations issues, the key to understanding the future is to have a deep and detailed appreciation of the past. However, providing a singular interpretation of history is a challenging task when confronted by the complexity of the relationship between First Nations and the Federal government

Organization of the Report

The RHS 2008/10 collected vast amounts of information regarding the health, social determinants and well-being of First Nations. This information has been summarized into 37 chapters, segmented into adults, youth and children. If we simplify the framework by compressing the seven levels of understanding into one, and overlay all the questions asked in the RHS, then we can illustrate the information collected in the following way:



VISION: Within a First Nations cultural paradigm, vision is considered the most fundamental of principles. Visioning First Nations well-being involves examining the complete picture of health, including physical, mental, emotional and spiritual issues. Research shows that First Nations suffer from poor health. They do not always access mainstream (non-First Nations) social systems, such as health care services (i.e. hospitals and community health programs and services).

Our analysis addresses a wide variety of chronic health conditions and diseases.. In particular, the report focuses on diabetes, a health condition of particular concern to First Nations, the leading cause of health complications, and a major contributor to mortality. Additionally, injury and disability are examined in the context of how they contribute to a reduced quality of life. Health care utilization and preventive care is examined to identify how First Nations employ the health care system. Finally, dental care for all First Nations, and prenatal health, is also explored in this quadrant.

The following list guides the reader as to where to locate these indicators of health in the report:

Health Conditions and Chronic Diseases

- Chapter 10: Chronic Health Conditions (Adult)
- Chapter 24: Health Conditions and Health Status (Youth)
- Chapter 33: Health Conditions and Health Status (Child)

Diabetes

- Chapter 11 : Diabetes (Adult)

Injuries

- Chapter 14: Injury and Disability (Adult)
- Chapter 26: Injury (Youth)
- Chapter 35: Injury (Child)

Health Care Utilization

- Chapter 15: Preventive Care (Adult)
- Chapter 27: Health Care Utilization and Preventive Care (Youth)

Dental Care

- Chapter 13: Oral Health (Adult)
- Chapter 25: Oral Health (Youth)
- Chapter 34: Dental Care Utilization, Baby Bottle Tooth Decay and Treatment Needs (Child)

Prenatal Health

- Chapter 36: Prenatal Health (Child)

RELATIONSHIPS: This section addresses the experiences that we encounter as a result of relationships built over time and examines how we relate to people. The key categories within this paradigm include First Nations personal and community wellness, emotional/mental health, and the importance of traditional culture and language.

Close attention is paid to both suicide and residential schools in order to identify if either of these events contributed to the development of depression, or had a negative impact on either the personal wellness or emotional/mental health of First Nations.

The following list guides the reader as to where to locate these indicators of health in the report:

Personal Wellness

- Chapter 12: Health Status and Quality of Life (Adult)
- Chapter 17: Personal Wellness and Safety (Adult)
- Chapter 29: Personal Wellness and After-School Activities (Youth)
- Chapter 37: Emotional and Behavioural Problems (Child)

Traditional Culture

- Chapter 18: Traditional Culture (Adult)

Community Wellness

- Chapter 16: Community Wellness (Adult)
- Chapter 28: Community Wellness (Child)

REASON: Also referred to as learned knowledge, it is where we become reflective, meditative and self-evaluative. It is in this direction that the broader determinants of health are examined, such as demographics, income, education, language, family structure, housing and living conditions, and health care access.

Housing and living conditions are important determinants to consider when reviewing the status of First Nations health. Equally important are levels of education and income, both of which contribute to overall health. Language embodies all values, attitudes, beliefs and truths and consequently has historically played a significant role in the lives of First Nations. Finally, health care access is important as it reports on selected indicators of access to preventive primary health care measures, including respondents' rating of their access to health care in comparison to the general Canadian population, access to screening and preventive measures, barriers to accessing health care, and access to Non-Insured Health Benefits (NIHB).

The following list guides the reader as to where to locate these indicators of health in the report.

Demographics, Education, Employment and Migration

- Chapter 1: Demographics, Education, Employment and Migration (Adult)
- Chapter 2: Employment and Income (Adult)
- Chapter 3: Education and Language (Adult)
- Chapter 20: Education and Language (Youth)
- Chapter 31: Education and Language (Child)

Housing

- Chapter 4: Household and Living Conditions (Adult)
- Chapter 19: Household Environment (Youth)
- Chapter 30: Household Environment (Child)

Healthcare Access

- Chapter 5: Health Care Access (Adult)

ACTION: Also referred to as movement, it represents strength. This direction explores what has been done about previously identified barriers and how to nurture us as First Nations people.

The use and misuse of illicit substances is closely

examined, with particular regard to smoking, alcohol use and other drug use. Specifically, tobacco use during pregnancy, initiation, cessation, current and former use, as well as amount of consumption, are reviewed. Frequency and type of drug use is also examined. Physical activity, and its relationship to body mass index (BMI), is also examined across all age groups gender groups.

The following list guides the reader as to where to locate these indicators of health in the report.

Substance Use & Misuse

- Chapter 8: Smoking, Substance Misuse and Gambling (Adult)
- Chapter 22: Substance Use and Abuse (Youth)

Exercise, Nutrition, and Food Security

- Chapter 6: Physical Activity and Diet (Adult)
- Chapter 7: Nutrition and Food Security (Adult)
- Chapter 21: Physical Activity and Nutrition (Youth)
- Chapter 32: Physical Activity and Nutrition (Child)

Sexual Health Practices

- Chapter 9: Sexual Health (Adult)
- Chapter 23: Sexual Health (Youth)

According to the RHS model of health developed for this report, we now return to the eastern direction and vision. Having completed a full circle of summarizing some of the information collected by the RHS, the next step will be to look into the future and determine the next steps of the process. The way forward in this research process is to revisit and improve the process for the next data collection phase, scheduled to begin in 2014.

Summary of Process and Methods

First Nations Regional Health Survey (RHS) 2008/10

INTRODUCTION

The First Nations Regional Health Survey (RHS) traces its origins back to 1995. Although initially proposed to fill data gaps, the project has evolved considerably.

Seventeen years later, in keeping with its original mandate from the Assembly of First Nations' Chiefs Committee on Health, the RHS has disseminated results from three rounds of data collection and has solidified its place as the only national research initiative under complete First Nations control.

Results from the 1997 round were released in 1999 and those from 2002/03 (Phase 1) in 2005. Based on the 2008/10 RHS (Phase 2) this current report has been completed, containing 37 thematic chapters.

The following section includes a summary of the process and methods used in the 2008/10 survey and in the preparation of this report. More detailed information will follow in the full "Report on Process and Methods". A quick overview is provided in Table 1 and a brief timeline presented in Table 2.

Table 1. 2008/10 RHS at a Glance

Title	First Nations Regional Health Survey
Acronym	FNRHS or RHS
Mandate	Assembly of First Nations Chiefs Committee on Health
National Governance	First Nations Information Governance Centre - Board of Directors
Regional Coordination	First Nations Regional Organizations
National Coordination	First Nations Information Governance Centre
Number of Regions	10 First Nations Regions (including all provinces and territories except Nunavut)
Target Population	First Nations communities across Canada
Sample Design	Standardized (Cross-sectional)
Sample Size	21,757 surveys; 11,043 adults, 4,837 youth and 5,877 children
Communities	216 included
Length of National 'Core' Components	Adults: 46 minutes Youth: 30 minutes Children: 22 minutes
Region-specific questions	Additional modules of varying length in 8 of 10 regions

Table 2. RHS Timeline

RHS Pilot Survey (1999)

1994	Three Canadian longitudinal surveys launched, excluding First Nations and Inuit.
1995	Funding for first round provided by Health Canada. Indian Affairs and Human Resources Development Canada decline to provide funding.
1996	Mandate from Assembly of First Nations
1996	Direct First Nations and Inuit control established
1997	Development of instruments and methods
1997	Data collection in 9 regions: 14,008 surveys (9,870 adults, 4,138 children)
1998	RHS Code of Research Ethics adopted
1999	Ownership, Control, and Access (OCA) principles first articulated
1999	Final report based on 1997 survey released

RHS Phase 1 (2002/03)

2000/01	Proposals and long-term plans submitted for funding and potential Treasury Board submission
2000/02	Development of instruments and methods for 1 st wave of longitudinal survey
2002	RHS coordination transferred to the First Nations Centre (NAHO)
2002/03	Data collection in 10 First Nations regions: 22,602 surveys (10,962 adults; 4,983 youth; 6,657 children)
2004	Data processing
2005	RHS Phase 1 (2002/03) is released
2006	RHS Phase 1 (2002/03) Independent Review by Harvard University is completed.

RHS Phase 2 (2008/10) – Current Phase

- 2007** Development of RHS Phase 2 – peer reviewed technical proposal.
- 2006/07** Revision of survey instruments and revised methods for 2nd phase of regional survey
- 2008/10** Data collection in 10 First Nations regions: 21,757 surveys (11,043 adults; 4,837 youth; 5,877 children)
- 2010** First Nations Information Governance Centre is formally incorporated. RHS transferred from the Assembly of First Nations (AFN) to First Nations Information Governance Centre.
- 2009/10** Data processing
- 2011** RHS Phase 1 (2008/10) Independent Review initiated by Johns Hopkins School of Public Health
- 2012** Major reports released

COORDINATION AND GOVERNANCE

The RHS is coordinated and governed by First Nations through their regional and national organizations and representatives. As of 2012, the survey partners were:

National

- The First Nations Information Governance Centre (FNIGC)

Regional Coordination and Data Stewardship

- Union of Nova Scotia Indians
- Union of New Brunswick Indians
- First Nations of Quebec and Labrador Health and Social Services Commission
- Chiefs of Ontario
- Assembly of Manitoba Chiefs
- Federation of Saskatchewan Indian Nations
- Treaty 7 Management Corporation (for Treaty 6, 7 and 8)
- First Nations Health Council (B.C.)
- Dene National Office
- Council of Yukon First Nations

2008/10 SURVEY INSTRUMENTS AND METHODS

Data collection was conducted between June 2008 and November 2010 in 216 First Nations communities across Canada. For the purposes of this report, First Nations communities are defined as those on-reserve and in northern Canada (above the 60th parallel). A total of 21,757 surveys were administered. Three age-specific questionnaires were completed for:

- 11,043 Adults, 18 years of age and over
- 4,837 Youth, 12 to 17 years of age
- 5,877 Children, 0 to 11 years of age

As shown below, the surveys addressed a holistic range of priority issues for First Nations.

Adult (18+ years - computer-assisted interview ~46 minutes)

Demographics	Health Conditions	Smoking, Alcohol, Drugs
Languages	Diabetes	Sexual Health
Education	Injury	Pregnancy, Fertility
Employment	Dental Care	Preventative Health Practices
Income And Sources	Disability And Home Care	<i>Depression (New)</i> , Wellness & Mental Health
Household	Physical Activity	Suicidal Ideation and Attempts
Housing Conditions	<i>Food Security(New)</i> and Nutrition	Residential Schools
Water Quality	Traditional Medicine	Community Wellness
Basic Services	Health Services And NIHB	Culture, Spirituality, Religion
Height, Weight	Community Development	<i>Care Giving- New</i>
<i>Migration- New</i>	<i>Violence- New</i>	<i>Gambling- New</i>

Youth (12-17 years - computer-assisted self-administered ~30 minutes)

Demographics	Health Conditions	Smoking, Alcohol, Drug Use
Languages	Diabetes	Sexual Health
Education	Injury	Pregnancy, Fertility
After School Activities	Dental Care	Preventative Health Practices
Household Characteristics	Health Services and NIHB	Wellness, Personal Supports & Mental Health
Height, Weight	Traditional Culture	Suicidal Ideation and Attempts
Physical Activity	Traditional Medicine	Residential Schools
Food and Nutrition	Culture, Spirituality, Religion	<i>Community Wellness- New</i>

Child (0-11 years - computer-assisted by proxy (primary guardian) ~22 minutes)

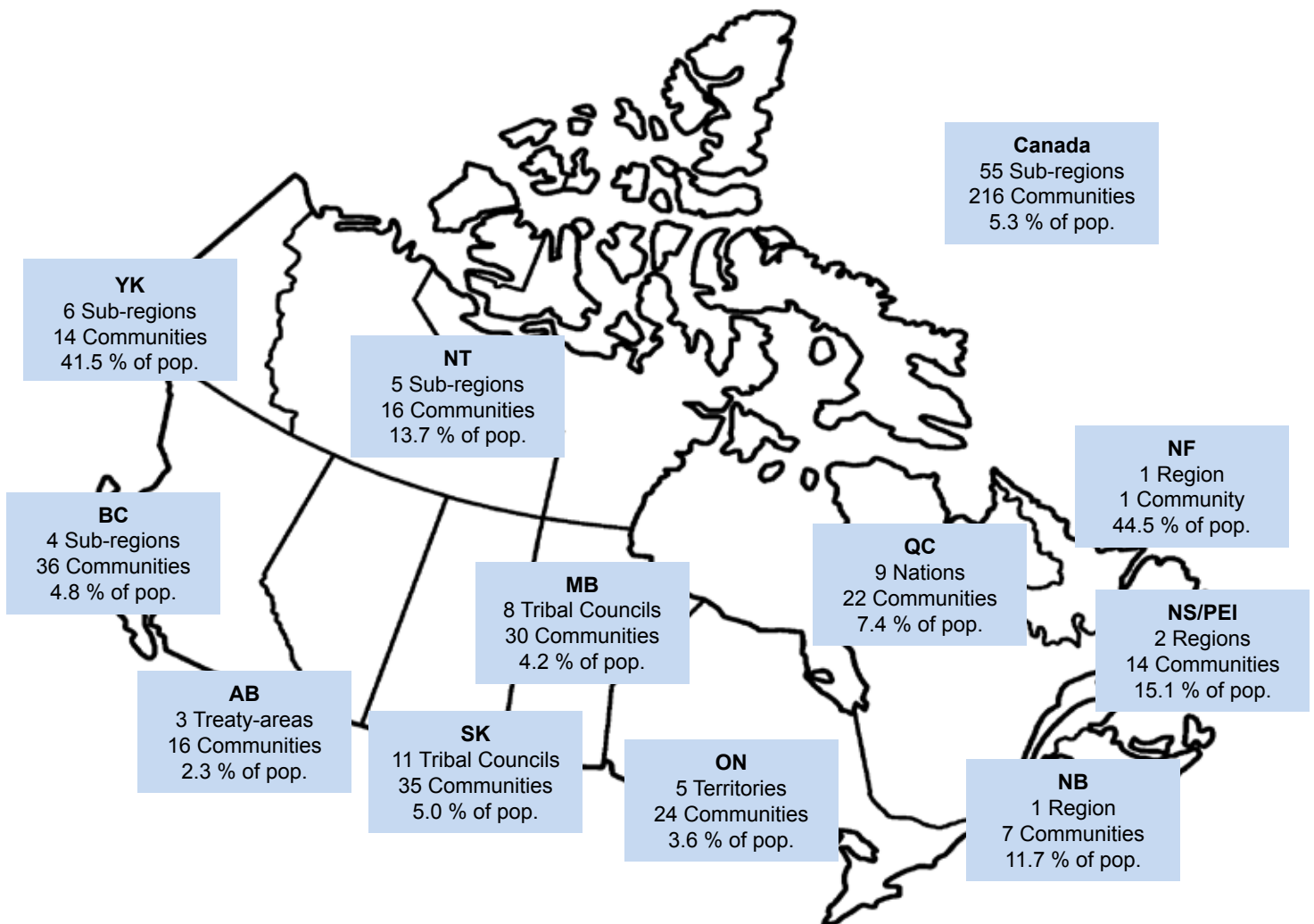
Demographics	Health Conditions	Prenatal Health
Languages	Diabetes	Childcare
Education (Head Start)	Injury	Residential Schools
After School And Social Activities	Dental Health/BBTD	<i>Immunization- New</i>
Household Characteristics	Access To Care	Physical Activity
Parental Characteristics	Height and Weight	Nutrition and Traditional Foods
Breastfeeding	Emotional And Social Wellbeing	

In 8 of 10 regions, questionnaire modules addressing regional priorities were also administered, immediately following the national questions.

First Nations fieldworkers were trained to administer the surveys within their communities, usually in the respondent's home. The fieldworkers used customized software (CAPI: Computer Assisted Personal Interviewing) on laptop computers to collect the vast majority of surveys. Some were completed on paper and subsequently data-entered. Surveys were encrypted and transferred by phone lines from the communities to secure, dedicated servers.

The RHS 2008/10 survey sample was designed to represent the First Nations population living in First Nations communities in all provinces and territories, except Nunavut. Overall, 216 communities were included and 5.3% of the target population was surveyed.

Figure 1: Number of sub-regions and communities and proportional representation of residents in First Nations communities by region



*Figures show the proportion of all First Nations living in First Nations communities that were included in the sample.

Communities of different size categories were selected within each First Nations 'sub-region' (see Table 3) to provide representative samples at the regional and national levels. Locally, individuals were randomly selected within age/gender groups. In all communities, locally updated band membership lists were used.

Table 3: First Nations “sub-regions”

Yukon

6 Regions

Dakh-Ka

Kaska/Dena

North Yukon Region

Northern Tutchone

Southern Tutchone

Upper Tanana

Northwest Territories

5 Regions

Akaiicho

Deh Cho

Tlicho

Gwitch'in

Sahtu

British Columbia

4 Geographic Regions

Coastal Region

Northern Interior

Southern Interior

Vancouver Island

Alberta

3 Treaty Areas

Treaty 6 (Central)

Treaty 7 (South)

Treaty 8 (North)

Saskatchewan

11 Tribal Councils

Agency Chiefs

Battleford Agency Tribal Council

File Hills Qu'Appelle

Independents

Lac LaRonge

Meadow Lake

Prince Albert Grand Council

Peter Ballantyne

Saskatoon

Touchwood Agency

Yorkton

Ontario

5 Territorial Organizations

Association of Iroquois and Allied Indians

Grand Council of Treaty #3

Independent First Nations

Nishnawbe-Ask Nation

Union of Ontario Indians

Manitoba

8 Tribal Councils

Dakota Ojibway

Interlake

Island Lake

Keewatin

North and South Independents

South East

Swampy Cree

West Region

Quebec

9 Nations

Abenakis

Algonquins

Attikameks

Hurons

Innu

Malecite

Mi'gmaqs

Mohawks

Naskapis

Newfoundland

1 Region

Nova Scotia/PEI

2 Regions

New Brunswick

1 Region

Preparation of the Thematic Chapters for this Report

The intent of this report is to provide an overview of the national results for all subject areas covered in the RHS 2008/10 survey, across adults, youth and children. An internal review panel was established to select contributing writers by way of a proposal-based competition. In all, 25 writers were contracted to complete 37 chapters in total.

A wealth of skilled and knowledgeable writers were chosen, both First Nations and non-First Nations, including health workers, academics, consultants and researchers from First Nations community-based organizations, non-governmental organizations, government organizations and universities.

An orientation session was held and writers were presented with detailed writing guidelines to ensure consistency between chapters with respect to content (integration of cultural framework) and style (length, organization, formatting). Chapter writers were provided with relevant statistical output prepared by FNIGC's statistical data analysts. Chapter writers interpreted this output when developing the results section and creating relevant tables/figures.

SPSS version 17 (or higher) was used for all analyses. Estimates were weighted and confidence intervals were calculated using the SPSS Complex Samples Module¹. The module goes beyond the simple-random sampling assumptions of standard statistical analyses, producing estimates based on the relevant details of the sample's design. The weights and specifications of the RHS's complex stratified sample were programmed into the module to enhance the validity of the results. Most analyses were based on 2-way or 3-way cross-tabulations (future focused reports will include higher level multivariate statistical analyses). The following statistical specifications were implemented:

- To protect confidentiality, statistics based on cell sizes containing 5 or fewer respondents were suppressed (denoted by an 'F' within tables).
- Estimates with a coefficient of variation (CV) between 16.5% and 33.3%, reflected moderate to high sampling variability and were supplemented with an 'E' to indicate cautious interpretation. Estimates with a CV greater than 33.3%, reflected extreme sampling variability and were suppressed (denoted by an 'F').

- The difference between groups or categories was considered statistically significant if the 95% confidence interval for each estimate did not overlap. Confidence intervals were reported using either a range (e.g., 95% CI: 87.5, 91.5) or a plus/minus (e.g., 95% CI: +/- 2.0).

Only relative statements about differences between RHS estimates and those of the general Canadian population are made in the present report. Statistical comparisons between RHS estimates and Canadian population estimates were largely not assessed because confidence intervals for the latter were not readily available.

A multi-stage review process was under-taken for each chapter:

- First draft
- First internal technical review
- Peer review by two other chapter writers
- Second draft
- Second internal technical review & update
- Internal content review & update
- Internal copy-edit
- External copy-edit
- Final draft culturally reviewed by First Nations internal panel & updated
- Final draft

The First Nations cultural framework implemented in RHS 2002/03 was again utilized to help guide the interpretation of statistical results and organize the findings.

Individual chapter writers were responsible for providing and verifying sources for any information included in the chapter besides that provided by the FNIGC (i.e., information on data collection, question wording, statistical output).

¹ <http://www-01.ibm.com/software/analytics/spss/products/statistics/complex-samples/>

The Health and Well-Being of First Nations Youth



The RHS youth questionnaire is comprised of data from individuals aged 12-17 years. Data collection was conducted between June 2008 and November 2010 in a targeted 250 First Nations communities across Canada. All individuals that took part in the survey were randomly selected using locally updated band membership lists. The youth survey was completed via self-report with a median completion time of 30 minutes. All survey data were collected on mobile laptops using Computer Assisted Personal Interviewing software (CAPI).

A total of 4,837 First Nations youth across 216 communities were part of the RHS results.

Youth

Chapter 19

Household Environment

EXECUTIVE SUMMARY

This chapter presents the findings of the First Nations Regional Health Survey (RHS) 2008/10 on the household environment of First Nations youth aged 12 to 17 years living on-reserve and in northern communities. Factors assessed included the number of household members with whom First Nations youth lived and the relationship of youth to the other household members. Data reveal that First Nations youth live in homes with many other household members; on average, First Nations youth live in households with 5.7 people, including the respondent, compared to 2.5 people per household in the general Canadian population. Results also reveal that despite high household membership, fewer than half of First Nations youth live with both biological parents. Compared to First Nations youth who do not live with both biological parents, a lower proportion of First Nations youth who live with both biological parents reported feeling lonely, un-loved and stressed.

KEY FINDINGS

- First Nations youth reported living in households with an average of 5.7 people, including the respondent. In contrast, the average number of persons in a household in the general Canadian population is 2.5 (Statistics Canada, 2006).
- 18.7% of First Nations youth reported living with seven or more people.
- 38.2% of First Nations youth live with both of their biological parents; the remaining youth live with their biological mother but not their biological father (39.7%), their biological father but not their biological mother (5.7%), or neither biological parent (16.4%).
- Of the 16.4% of First Nations youth who live with neither biological parent
 - o Approximately half (48%) reported living with grandparent(s);
 - o One-quarter (23.8%) reported living with an aunt, uncle, or cousin;
 - o Very few (5.2%) live with someone they are not related to.
- 13.9% of First Nations youth who live with one biological parent also live with a stepmother or stepfather.
- A lower proportion of First Nations youth who live with both biological parents reported feeling lonely, unloved, stressed, and depressed compared to those who live with one biological parent.

INTRODUCTION

This chapter presents findings from RHS 2008/10 on the household environment of First Nations youth living in First Nations communities. The chapter focuses on factors associated with the home environment of First Nations youth, including the number of household members and their relationship to the youth living in the home. The associations between household environment and the self-reported well-being of First Nations youth are also explored.

Household Factors and Well-Being

Occupant density and overcrowding

First Nations youth usually grow up in a home with many other household members. Research has found that First Nations households on-reserve have approximately 1.5 times as many people per household than households in the general Canadian population (Aboriginal Affairs and Northern Development Canada [AANDC], 2011). Although household membership in the general Canadian population has remained quite steady at approximately 2.5 persons per household, for First Nations on-reserve the number has declined only slightly, from 4 persons per household in 1996 to 3.7 persons per household in 2006 (AANDC, 2011). Additionally, the rate of overcrowding (defined by Statistics Canada as the proportion of persons living in homes with more than one person per room (excluding bathrooms, halls, laundry room and attached shed)) is six times greater on-reserve than off-reserve (Statistics Canada, 2006). The proportion of crowded homes in 2006 was approximately 1.7% for the general Canadian population compared to 12.1% for First Nations on-reserve (Statistics Canada, 2006).

For the most part, overcrowded housing is from necessity rather than choice. Many reserves have been struggling with housing shortages for years, and unfortunately the housing shortage on-reserve is becoming more severe (AANDC, 2011). Currently there is a sizeable backlog of families waiting for housing. According to Aboriginal and Northern Affairs Canada (2011), 20,000 to 35,000 new units would have to be built to meet current demand. The Assembly of First Nations puts the figure closer to 85,000.

High household membership and overcrowding are worrisome for the effects they have on the mental and physical health of the people who live there. For instance, overcrowding has been linked with reports of strained relationships and negative family interactions (Bartlett, 1998; Youssef, Attia, & Kamel, 1998). Additionally, higher levels of home density have been found to be associated

with social withdrawal in youth and lower levels of parental responsiveness to their child's needs (Bradley & Caldwell, 1984; Evans, Maxwell, & Hart, 1999).

Relationship to occupants

Despite high numbers of household members, single-parent families are common in First Nations communities. Just under one-third (31%) of First Nations children aged 14 years or younger lived with a lone mother, more than twice the proportion of 14% among children in the general Canadian population. Similarly, 6% of First Nations children aged 14 years or younger lived with a lone father, compared with only 3% of their counterparts in the general Canadian population (Statistics Canada, 2006). Single-parent homes have consistently been associated with poorer outcomes for children and youth, including higher levels of drug and alcohol use, higher numbers of criminal offences, lower self-esteem, and lower academic achievement (Astone & McLanahan, 1991; Covey & Tam, 1990; Dornbusch et al., 1985; Parish, 1991).

The existence of family support may mediate some of the negative outcomes associated with single-parent homes (Elliott, 2009). Sharing homes with extended family or other community members creates opportunities to share responsibility and provides additional support when raising and caring for children (Canada First Nations Families, 2011). Thus, youth who live with one biological parent as well as other members of their extended family may be somewhat buffered from the negative impacts that can be associated with single-parenthood.

In summary, previous links have been demonstrated between household environment and subsequent cognitive and behavioural development. This chapter attempts to get a clearer picture of the household structure of First Nations youth and the effect this has on their emotional well-being.

METHODS

Household Structure

First Nations youth indicated how many people they live with “at least half of the time” in the following age categories: children aged 11 or younger, youth aged 12 to 17 years, and adults aged 18 or older. These variables were combined to determine the number of household members.

First Nations youth were also asked to report whom they live with “most of the time.” They were presented 15 possible answers and asked to mark all that apply (e.g., biological mother, biological father).

General and Mental Health

First Nations youth were asked to rate their general and mental health; response options included “excellent,” “very good,” “good,” “fair,” and “poor.” They were subsequently asked to rate the extent to which they felt lonely, loved, and stressed; response options were “not at all,” “a little,” “moderately,” “quite a bit,” and “a lot.” Finally, First Nations youth were asked whether they had felt sad, blue, or depressed for two weeks or more in a row during the 12 months prior to the survey.

RESULTS

Number of Household Members

First Nations youth reported living with an average of 5.7 people (including the respondent; 95% CI [5.4, 5.8]).

Approximately one-fifth of First Nations youth reported living with seven or more people (excluding themselves; see Table 19.1), suggesting possible overcrowding.

Table 19.1. Number of People Youth Live With (excluding the respondent)

Number of people	% [95% CI]
0 (living alone)	0.5 [0.3, 0.8] ^E
1	5.3 [4.5, 6.1]
2	13.1 [11.7, 14.6]
3–4	38.2 [35.9, 40.6]
5–6	24.3 [22.6, 26.0]
7–8	11.4 [10.1, 12.9]
9 or more	7.3 [5.7, 9.2]

Note. CI = confidence interval

^E High sampling variability. Interpret estimate with caution.

Living with Biological Parents

Approximately 4 out of 10 (38.2%) First Nations youth reported living with both of their biological parents most of the time. Similarly, 39.7% reported living with their biological mother but not their biological father most of the time (see Table 19.2).

Table 19.2. Proportion of Youth Living with Biological Parent(s) Most of the Time

Status of living with biological parents	% [95% CI]
Living with neither biological parent	16.4 [14.9, 18.1]
Living with biological mother but not biological father	39.7 [37.4, 42.0]
Living with biological father but not biological mother	5.7 [4.9, 6.7]
Living with both biological parents	38.2 [36.0, 40.4]

Not Living with Biological Parents

Of the 16.4% of First Nations youth who reported living with neither biological parent, approximately half (48%, 95% CI [43.8, 52.3]) reported living with grandparent(s); 23.8% (95% CI [20.2, 27.9]) reported living with an aunt, uncle or cousin; 7.1% (95% CI [4.9, 10.3]) reported living with their boyfriend, girlfriend, or spouse; 7.4% (95% CI [5.6, 9.7]) reported living with either an adopted mother or father; and 4.7% (95% CI [3.4, 6.3]) reported living with a man or woman of no relation.

Biological Parent and Step-parent

Few First Nations youth who reported living with one biological parent also lived with a stepmother or stepfather. Only 13.7% of First Nations youth who reported living with their biological mother also lived with a stepfather; similarly, only 12.7% of First Nations youth who reported living with their biological father also lived with a stepmother.

Number of Household Members and Well-being

General and mental health (in relation to number of household members)

The general and mental well-being of First Nations youth did not vary by the number of people they reported living with.

Perceptions of loneliness, love, stress, and depression (in relation to number of household members)

The proportion of First Nations youth who reported that they felt lonely or loved varied by the number of people with whom they live. A higher proportion of First Nations youth who live with only one other person reported feeling lonely and feeling unloved, compared to those who live with more than one person (see Table 19.3). No clear association was observed regarding the number of household members and reported levels of stress or depression.

Table 19.3. Proportion of Youth Reporting Feelings of Loneliness, Love, Stress and Depression by Number of Household Members

Household Members (excluding respondent)	“Moderately to very” lonely % [95% CI]	“Not at all to moderately” loved % [95% CI]	“Quite a bit to very” stressed % [95% CI]	Symptom of depression % [95% CI]
1	21.9 [16.5, 28.4]	25.0 [17.9, 33.8]	14.6 [10.0, 20.8] ^E	35.2 [26.4, 45.1]
2	11.0 [8.2, 14.7]	18.8 [14.7, 23.7]	15.2 [12.0, 19.0]	20.0 [15.8, 24.9]
3–4	12.2 [10.4, 14.4]	18.3 [16.1, 20.7]	12.2 [10.4, 14.3]	25.3 [22.7, 28.2]
5–6	14.6 [11.7, 18.1]	18.3 [15.6, 21.4]	13.4 [10.7, 16.6]	25.5 [22.3, 29.1]
7–8	13.2 [8.7, 19.6] ^E	15.1 [11.9, 19.1]	8.8 [6.4, 12.1]	21.0 [16.7, 25.9]
9 or more	14.2 [8.4, 23.1] ^E	20.4 [13.8, 29.2] ^E	16.1 [9.2, 26.6] ^E	35.0 [26.2, 44.9]

^E High sampling variability; interpret estimate with caution.

Family Structure and Well-being

General and mental health (in relation to family structure)

A lower proportion of First Nations youth who live with both of their biological parents reported fair/poor general health and mental health (as opposed to good/very/good or excellent health), compared to those with other household make-ups (see Table 19.4).

Perceptions of loneliness, love, stress, and depression (in relation to family structure)

A lower proportion of First Nations youth who live with both biological parents reported feeling lonely, stressed and depressed, and a higher proportion reported feeling loved, compared to youth in other family structures. Approximately one-quarter of First Nations youth who reported living with their biological father but not their biological mother or neither biological parent felt “not at all” to “moderately” loved (see Table 19.5).

Table 19.4. Proportion of Youth Reporting Fair to Poor Health, by Family Structure

Family Structure	“Fair to poor” general health % [95% CI]	“Fair to poor” mental health % [95% CI]
Living with neither biological parent	9.2 [6.8, 12.4]	23.8 [20.0, 28.2]
Living with biological mother but not biological father	8.5 [6.8, 10.6]	18.4 [15.3, 21.3]
Living with biological father but not biological mother	14.5 [8.7, 23.2] ^E	24.4 [18.8, 31.0]
Living with both biological parents	4.6 [8.1, 11.1]	15.5 [13.4, 17.9]

^E High sampling variability; use estimate with caution.

Table 19.5. Proportion of Youth Reporting Feelings of Loneliness, Love, Stress and Depression by Family Structure

Family structure	“Moderately to very” lonely % [95% CI]	“Not at all to moderately” loved % [95% CI]	“Quite a bit to very” stressed % [95% CI]	Symptom of depression % [95% CI]
Living with neither biological parent	15.9 [12.9, 19.5]	23.8 [20.0, 28.2]	17.5 [14.5, 21.0]	33.3 [28.7, 38.2]
Living with biological mother but not biological father	15.6 [13.0, 18.6]	18.4 [15.3, 21.3]	14.1 [11.7, 16.9]	27.8 [24.4, 31.4]
Living with biological father but not biological mother	16.8 [12.1, 22.9]	24.4 [18.8, 31.0]	13.9 [9.8, 19.5] E	31.2 [24.8, 38.5]
Living with both biological parents	9.5 [8.1, 11.1]	15.5 [13.4, 17.9]	9.6 [8.1, 11.5]	18.8 [16.7, 21.2]

^E High sampling variability; interpret estimate with caution.

DISCUSSION

Results reveal that approximately 40% of First Nations youth reported living with both biological parents at least most of the time. This living arrangement appears to be protective with respect to the emotional well-being of First Nations youth. First Nations youth living with both biological parents felt lonely or sad, blue, or depressed less often and reported feeling loved more often than did First Nations youth who did not live with both biological parents. These findings are consistent with past research that has found positive effects for youth living in homes with more than one adult (see, for example, Astone & McLanahan, 1991; Covey & Tam, 1990; Dornbusch et al., 1985; Parish, 1991).

Although First Nations youth being raised by either a biological father or a biological mother did not differ greatly in their reported well-being, with the exception that youth from a family with only their biological mother reported feeling more loved, results do suggest that single-mother families have great support. First Nations youth who reported living with only their biological mother most of the time also lived with other extended family members, such as grandparents, uncles, aunts, or cousins, more often than those who reported living with only their biological father.

First Nations youth live with many household members at least half of the time. These results suggest that First Nations youth appear to be well surrounded by family and/or community members. Unlike previous findings, no link was observed between high household membership and negative effects on the emotional well-being of First Nations youth. Instead, the more worrisome findings were in regards to First Nations youth who reported living with only one other person. Nonetheless, high numbers of household members are consistent with findings that First Nations families are in great need of housing in order to prevent overcrowding.

It must be noted that the current research did not assess overcrowding (defined as more than one household member per room), nor did it look at household membership within one dwelling. Rather, it assessed how many people First Nations youth live with at least half of the time. Thus, it may be that First Nations youth reported living with many people because they live in more than one household. Future research might instead assess the number of household members living under the same roof.

Additionally, due to the cross-sectional nature of the survey design, it is unknown whether household factors cause variation in well-being, or whether this association is due to a factor other than housing, such as level of household income. In response to this, results must be interpreted with caution.

CONCLUSIONS

In summary, First Nations youth living on-reserve or in northern communities live, on average, with at least four other people. Much of the time, the household makeup does not include both biological parents, as only 40% of First Nations youth live with both biological parents; rather, it appears that First Nations youth are sharing homes with one biological parent along with other children, youth, and adults.

The current research revealed that, irrespective of high or low household membership, First Nations youth living with only one biological parent or neither biological parent appear to be more vulnerable to difficulties with emotional well-being: these First Nations youth reported feeling less loved and feeling more lonely. These results suggest that First Nations youth who do not live with their both biological parents may be in need of greater support. Future research is necessary to explore what factors may help to increase the emotional well-being of First Nations youth in single-parent families.

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Chapter 20

Education and Language

EXECUTIVE SUMMARY

The First Nations Regional Health Survey (RHS) 2008/10 formed the basis of an analysis of school performance and language comprehension for First Nations youth 12 to 17 years of age living on-reserve or in northern First Nations communities. Useful indicators of school performance included attendance at school, grade repetition, attitudes towards school, and learning difficulties. With respect to language, approximately one-fifth (21.5%) of First Nations youth reported using a First Nations language in their daily life and approximately half of youth (56.3%) indicated being able to understand or speak a First Nations language. With respect to education, the majority of First Nations youth reported that they were currently attending school (87.7%). With respect to educational difficulties, 34.4% reported repeating a grade and 39.0% reported experiencing learning problems at school. The RHS results demonstrated various predictors of educational success. Educational success among youth (e.g., attend school, like school, no failed classes, no problems learning) was associated with good general health, eating a nutritious diet, feeling loved and balanced, having parents with higher educational achievement, avoiding substance use, and not currently being sexually active.

KEY FINDINGS

- More than one-fifth (21.5%, 95% CI [\pm 1.8]) of First Nations youth used a First Nations language in their daily life, and 56.3% (95% CI [\pm 3.7]) understood or spoke a First Nations language. Furthermore, 86.1% of First Nations youth felt that it was either “very important” or “somewhat important” to learn a First Nations language.
- More than four-fifths (85.7%) of First Nations youth felt that traditional cultural events were “very important” or “somewhat important” in their life.
- The majority of First Nations youth (87.7%) reported that they were currently attending school.
- The majority (80.5%) of First Nations youth reported that they liked school “very much” or “somewhat.”
- Compared to RHS 2002/03, fewer youth indicated repeating a grade (41.7% in RHS 2002/03 vs. 34.4% in 2008/10 RHS).
- Just under 40% (39.0%, 95% CI [\pm 2.2]) of First Nations youth reported having experienced learning problems at school, which is a decrease from 43.6% in RHS 2002/03.
- When asked about the highest level of education they would like to achieve:
 - o 23.4% aspired to a high school diploma
 - o 20.7% aspired to a college or CEGEP diploma
 - o 5.4% aspired to a trade or vocational certificate
 - o 23.8% aspired to an university degree
 - o 7.3% aspired to a professional degree
 - o 6.0% aspired to a master’s or doctoral degree
 - o 12.4% were unsure about their educational aspirations
- Among youth, signs of educational success (e.g., attend school, like school, no failed classes, no problems learning) were positively associated with :
 - o Good health
 - o Nutritious diet
 - o Higher parental education
 - o Avoid substance use
 - o Feel loved, but not lonely or stressed
 - o Not currently sexually active

INTRODUCTION

School performance can be measured most accurately by examining the attendance and non-attendance of students at school and the proportion of students who report repeating grades (Barro & Kolstad, 1987; Janosz, LeBlanc, Boulerice, & Tremblay, 1997; Jimerson, Anderson, & Whipple, 2002). Other useful indicators of school performance are students' attitudes toward school, such as liking or disliking school, and self-reported learning problems (Janosz, LeBlanc, Boulerice, & Tremblay, 1997; Miller & Plant, 1999). While these factors are not definitive in regards to the future educational aspirations of First Nations youth, they are important in predicting current school performance.

METHODS

First Nations youth aged 12 to 17 years were asked a series of questions about learning: language, traditional culture, and education.

With respect to language, youth were asked to indicate whether the language they use most often during the day is a First Nations language (yes/no). Youth were also asked whether they could understand or speak a First Nations language (yes/no). Finally youth were asked about their perceived value of learning a First Nations language (recoded into 2 categories: 'very/somewhat important' vs. not very important/not at all important').

With respect to traditional culture, youth were asked how much they value traditional cultural events in their life (recoded into 2 categories: 'very/somewhat important' vs. not very important/not at all important'), how often they participate in local community cultural events (recoded into 2 categories: 'sometimes/almost always' vs. 'rarely/never'). Finally youth were asked who helped them in understanding their culture (possible responses: grandparents, parents, aunts and uncles, community elders, other relatives, friends, school teachers, other community members).

In terms of the educational variables assessed, youth were asked whether they were currently in school (yes/no), whether they have ever skipped or advanced a grade (yes/no), whether they have ever repeated a grade (yes/no), and whether they have had any problems learning in school (yes/no). Youth who indicated having problems learning in school were then asked about the kind of problems they have had (response categories: reading, writing, math, short attention span, too many distractions, and difficulty understanding the teacher).

Youth were also asked how they feel about school (5 options: like school very much, like school somewhat, unsure, dislike school somewhat, dislike school very much) and about their highest level of desired educational attainment [high school, college/CEGEP diploma, trade or vocational certificate, university degree, professional degree, master's degree, doctoral degree, not sure].

Possible predictors of educational achievement were also explored including perceptions of general health (excellent/very good vs. poor/fair/good), highest level of parental education (did not complete high school vs. completed high school vs. completed post-secondary school), current smoking status (yes/no), heavy drinking status (defined as: 5 or more drinks per sitting at least once a month for 12 months – among those who indicated alcohol consumption in the past 12 months) (yes/no), cannabis use in the past 12 months (yes/no), other drug use in the past 12 months (includes non-prescription use of cocaine, amphetamines, inhalants, sedatives/sleeping pills, hallucinogens, and opioids) (yes/no), and current sexual activity (yes/no). Other possible predictors explored were symptoms of depression (feeling sad, blue, or depressed for 2 weeks or more in a row in the past 12 months: yes/no), feelings of loneliness, stress and feeling loved (response options: not at all vs. moderately vs. quite a bit), and feelings of physical, mental, spiritual and emotional (most/all of the time vs. almost none of the time/some of the time).

RESULTS

Language Skill

More than one-fifth (21.5%) of First Nation youth reported that a First Nations language is the language they use most often in their daily life. More than half of First Nation youth can understand or speak a First Nations language [56.3% (95% CI [± 2.7])]. Furthermore, 86.1% of First Nations youth felt that it was "very important" or "somewhat important" to learn a First Nations language.

Traditional Knowledge

First Nations youth were asked who helped them to understand their culture. Grandparents and parents were the top two answers, 53.7% and 51.7%, respectively, followed by schoolteachers (31.2%), aunts and uncles (30.0%), community elders (22.5%), other relatives (22.3%), and friends (13.3%) (95% CIs [± 2.3], [± 2.0], [± 2.2], [± 2.1], [± 2.1], [± 1.9] and [± 1.8], respectively).

The vast majority (85.7%) of First Nations youth reported that they felt having traditional cultural events was “very important” or “somewhat important” in their life, and 74.2% of First Nations youth took part “always/ almost always” or “sometimes” in these events. The importance of traditional cultural events has increased among First Nations youth since RHS 2002/03, when only 54.8% of First Nations youth felt that having traditional cultural events in their life was important.

School Attendance

The majority of First Nations youth (87.7%) reported that they were currently attending school. A lower proportion of older youth reported attendance at school compared to younger youth: 95.3% for those aged 12 to 13 years, 90.3% for those aged 14 to 15 years, and 77.2% for those aged 16 to 17 years (95% CIs [± 1.9], [± 1.6], [± 2.6], and [± 3.4]).

Grade Repetition

Overall, 34.4% of First Nations youth reported having repeated a grade, compared to 41.7% in RHS 2002/03. Having repeated a grade tended to increase with age: 22.3% for those aged 12 to 13 years, 33.4% for those aged 14 to 15 years, and 47.7% for those aged 16 to 17 years (95% CIs [± 2.6], [± 2.0], [± 2.5], and [± 4.2]).

Grade Advancement

Approximately 10% (10.2%) of First Nations youth reported having advanced a grade as a result of high academic performance. This tended to increase with age as well: 7.2% for those aged 12 to 13 years, 10.3% for those aged 14 to 15 years, and 13.1% for those aged 16 to 17 years (95% CIs [± 1.8], [± 2.1], [± 2.6] and [± 3.7]).

Learning Difficulties

Just under 40% (39.0%, 95% CI [± 2.2]) of First Nations youth reported having experienced learning problems at school, which is a decrease from 43.6% in RHS 2002/03. No association was observed between age and reported learning difficulties. Of those who indicated having problems learning at school, approximately half indicated that most of their learning problems are with math (52.8%). Other areas of learning problems indicated were: too many distractions (39.3%), reading (33.1%), writing (28.9%), difficulty understanding the teacher (28.1%), and a short attention span (20.6%) (95% CIs [± 3.4], [± 3.5], [± 3.4], [± 2.8], [± 3.0] and [± 2.7], respectively).

Perceptions of School

The majority of First Nations youth (80.5%, 95% CI [± 1.7]) reported that they liked school “very much” or “somewhat”. The proportion of youth who indicated liking school decreased with age: 82.7% of youth 12 to 13 years, 80.7% of youth 14 to 15 years, and 77.8% of youth 16 to 17 years.

Educational Aspirations

Just over one-fifth (23.4%) of First Nations youth reported that the highest level of education they wanted to achieve was a high school diploma. Just under one fifth (20.7%) reported wanting to achieve a college or CEGEP diploma; 5.4% reported wanting to achieve a trade or vocational certificate; 23.8% reported wanting to achieve a Bachelor’s university degree; 7.3% reported wanting to achieve a professional degree; and 6.0% reported wanting to achieve a Master’s or Doctoral degree. Some First Nations youth (12.4%) reported that they were unsure of their educational aspirations.

Predictors of Educational Success

Health Status and Dietary Intake

A higher proportion of youth who perceived their health as being very good or excellent were currently in school, and a lower proportion reported having repeated a grade or having problems learning in school, compared to youth with poor to fair health (see Table 20.1). In addition, a higher proportion of youth with very good to excellent health reported liking school very much, compared to youth with good to poor health. Finally, this group also reported higher educational aspirations; for example, a higher proportion of youth with very good to excellent health reported aspiring to complete a university education (26.4%), compared to those with poor to good health (18.9%).

Table 20.1. School Performance, by General Health

	Currently attending % [95% CI]	Repeated a grade % [95% CI]	Learning problems % [95% CI]
Excellent to very good health	89.5 [± 2.7]	30.1 [± 4.1]	32.4 [± 2.5]
Poor to good health	84.2 [± 2.3]	42.7 [± 4.1]	52.0 [± 3.3]

A higher proportion of youth who ‘sometimes to always’ ate a nutritious diet reported currently attending school (89.8% vs. 81.1%), liking school very much (37.5% vs.

27.9%), and strive to complete a university degree (25.5% vs. 20.1%), compared to youth who ‘never to rarely’ ate a nutritious diet. On the other hand, a lower proportion of those who sometime to always ate a balance diet reported repeating a grade (30.9% vs. 44.8%) or having problems learning in school (35.1% vs. 50.2%), compared to youth who ‘never to rarely’ ate a nutritious diet.

Parental Educational Attainment

A lower proportion of youth whose parents did not complete high school were currently enrolled in school, had repeated a grade, and reported learning difficulties, compared to youth whose parents completed high school or completed post-secondary education (see Table 20.2).

Table 20.2. School Performance of First Nations Youth, by Level of Education of Parents

	Currently attending % [95% CI]	Repeated a grade % [95% CI]	Learning problems % [95% CI]
Parents did not complete high school	82.6 [±4.3]	41.1 [±3.3]	38.4 [±4.1]
Parents completed high school	89.0 [±2.3]	29.5 [±3.9]	38.6 [±3.5]
Parents completed post-secondary education	93.0 [±1.6]	27.5 [±4.1]	39.5 [±3.7]

Psychosocial Factors

The proportion of youth who were currently attending school was higher among those who reported feeling more loved, less lonely, and less stressed, while the proportion of youth who repeated a grade or reported learning problems was lower.(see Table 20.3).

Table 20.3. School Performance of First Nations Youth, by Emotional Factors

General health	Currently attending % [95% CI]	Repeated a grade % [95% CI]	Learning problems % [95% CI]
	Yes	Yes	Yes
Feel lonely			
Not at all/ a little	88.2 [±1.8]	32.0 [±2.3]	36.5 [±2.1]
Moderate	91.7 [±4.5]	42.9 [±10.2]	48.9 [±9.2]
Quite a bit	83.0 [±6.1]	48.9 [±8.2]	56.3 [±7.6]
Feel loved			
Not at all/ a little	81.5 [±7.0]	42.8 [±6.3] ^E	47.8 [±6.9]
Moderate	85.4 [±7.0]	29.9 [±6.7]	46.1 [±7.6]
Quite a bit	88.7 [±2.0]	33.1 [±2.7]	37.0 [±2.3]
Feel stressed			
Not at all/ a little	88.1 [±2.5]	32.6 [±2.5]	35.9 [±2.3]
Moderate	92.5 [±3.1]	31.7 [±5.5]	46.5 [±6.1]
Quite a bit	84.6 [±3.9]	41.9 [±5.3]	51.3 [±5.5]

^EHigh sampling variability. Use figures with caution.

For the most part, the proportion of youth who reported attending school and liking school was higher among those who felt balanced (‘most or all of the time’) [physically, emotionally, mentally, and spiritually], compared to those who felt less balanced (‘none or some of the time’). In contrast the proportion of youth who repeated a grade and reported a learning difficulty was higher among youth who felt less balanced (‘none or some of the time’), compared to those who felt balanced (‘most of all of the time’).

A lower proportion of youth who reported feeling sad, blue or depressed for 2 weeks in a row reported that they were currently in school (82.7%, 95% CI [±4.7]) compared to youth who did not experience symptoms of depression (89.2%, 95% CI [±2.0]). On the other hand, a higher proportion of youth with symptoms of depression reported having learning difficulties (54.1%, 95% CI [±4.7]), compared to youth without symptoms of depression (31.9%, 95% CI [±2.3]).

Alcohol and Non-Prescription Drug Use

For the most part, a higher proportion of youth who used substances [i.e., current smoker, consume alcohol heavily (5 or more drinks per sitting at least once per month for 12 months), past 12 month cannabis use, past 12 month other drug use (i.e., cocaine, amphetamines, inhalants, sedatives/sleeping pills, hallucinogens, and opioids)] reported repeating a grade and having learning

problems, compared to youth who did not use substances. Those who did not use substances were more likely to report currently attending school and liking school, compared to youth who used substances (see Table 20.4).

Table 20.4. School Performance of First Nations Youth, by Substance Use

		Currently attending % [95% CI]	Repeated a grade % [95% CI]	Learning problems % [95% CI]	Like School 'very much'
Substance use		Yes	Yes	Yes	Yes
Current Smoker	Yes	76.5 [±3.5]	53.1 [±3.7]	47.4 [±3.7]	26.6 [±3.7]
	No	93.1 [±1.8]	25.4 [±2.9]	35.0 [±2.5]	39.4 [±2.7]
Heavy alcohol consumption	Yes	78.4 [±3.5]	49.7 [±4.5]	46.2 [±4.5]	22.1 [±4.7]
	No	85.4 [±3.7]	42.2 [±5.3]	44.4 [±5.3]	30.0 [±5.1]
Past year cannabis use	Yes	80.7 [±3.1]	45.5 [±3.9]	44.8 [±3.5]	27.2 [±3.7]
	No	92.0 [±2.0]	27.1 [±2.7]	34.7 [±2.5]	40.5 [±2.7]
Other drug use	Yes	80.2 [±5.1]	55.6 [±5.9]	48.3 [±6.5]	22.9 [±5.5]
	No	88.7 [±2.2]	31.7 [±2.5]	37.8 [±2.3]	36.9 [±2.3]

Sexual Activity

A higher proportion of First Nation youth who were sexually active reported that they had repeated a grade and had learning difficulties, compared to those who were not currently sexually active. In contrast, a higher proportion of those who were not sexually active reported currently attending school and liking school, compared to those who were currently sexually active (see Table 20.5).

Table 20.5. School Performance, by Sexual Activity

Sexually active	Currently attending % [95% CI]	Repeated a grade % [95% CI]	Learning problems % [95% CI]	Like School 'very much' % [95% CI]
	Yes	Yes	Yes	Yes
No	92.0 [±2.7]	27.2 [±2.7]	36.4 [±2.7]	40.4 [±2.7]
Yes	78.9 [±2.9]	48.5 [±3.3]	42.3 [±4.1]	25.5 [±4.1]

DISCUSSION

The majority of First Nation youth acknowledge the importance of learning a First Nations language and participating in First Nation cultural activities. Many of the youth practice what they preach – that is, many youth speak or understand a First Nations language and participate in cultural events. First Nations youth reported that it was most often their grandparents and parents who helped them to understand their First Nations culture. Teachers were

also identified as an important source of understanding First Nations culture, which highlights the importance

of having culturally competent teachers, teachers' aides, and other individuals within the school system.

The proportion of First Nations youth who were currently attending school decreased with increasing age. This seems to reflect an increasing high school dropout rate once attendance in school becomes non-compulsory. Although school attendance continues to be a concern, the proportion of youth who have repeated a grade has decreased since 2002/03 and a notable proportion (one-in-ten) of First Nations youth have advanced a grade as a result of high academic performance.

A sizeable proportion of First Nations students reported having experienced learning problems, particularly in the fields of writing, reading, and math. These statistics, essentially unchanged since RHS 2002/03, identify a critical issue in the education of First Nations youth. The problem areas noticed are essential skills needed to succeed in many technical and professional occupations. As significant proportions of First Nations youth also reported having experienced learning problems related to short attention spans and distractions, it may be necessary to evaluate the experience students have within their school setting in order to design methods to improve the learning environment. First Nations youth also reported having experienced learning problems due to not being able to understand the teacher, raising questions about teacher training, cultural competency, and other potential barriers to understanding the teacher.

The majority of First Nations youth reported liking school either "very much" or "somewhat". Despite this, a small proportion of First Nations youth reported the experience as negative. One could question whether

this minority are the students who choose to drop out of school later on, and what programs or policies might be adopted to reduce this tendency. Despite the dropout rate and reported learning difficulties being experienced by some First Nations youth, there seems to be an overall desire to learn. Most First Nations youth reported having educational aspirations beyond achieving a high school diploma. One could wonder whether meeting these educational aspirations, which are to some degree at odds with levels of actual educational achievement, requires the development of programs that go beyond those of the current school system. Debate about the effect of role models and career counseling could determine whether they may assist in making the educational aspirations of First Nations youth a reality.

The majority of First Nations youth reported that their overall health was “excellent” or “very good.” The data from RHS 2008/10 suggests there is a correlation between level of reported health and positive attitudes towards school, and level of reported health and level of educational aspirations. Given the correlations between health and education, it seems clear that health and education policies should be developed in concert.

Three key variables—alcohol consumption, smoking, and sexual activity—were examined in RHS 2002/03. These variables and a fourth—non-prescription drug use—were included in RHS 2008/10. These behavioural variables, which may be characterized as both peer- and society-influencing, tended to demonstrate correlations with level of school attendance and rate of grade repetition. Smoking, in particular, had a strong correlation with overall educational performance. The correlation between smoking and educational performance in First Nations youth is likely independent of smoking’s ultimate effects on long-term health, as it takes upwards of 20 to 40 years to manifest in chronic obstructive lung disease (Centers for Disease Control and Prevention, 2003), cancer (Villeneuve & Mao, 1994), and cardiovascular disease (Ambrose & Barua, 2004). The indirect consequences that smoking may have on overall health, including poor educational performance, must be considered, especially in First Nations youth. Poor educational performance and employability are both correlated with reduced long-term health outcomes (Marmot, 2007) for First Nations youth who are smokers during their school-age years. Cigarette smoking has been shown to correlate with various characteristics of educational performance. Smoking among First Nations youth may be considered one of the most easily addressable problems currently affecting this population. First Nations communities could institute policies such as reducing cigarette sales and distribution

of cigarettes to First Nations youth in order to reduce the prevalence of smoking in this group. Programs should be created to promote non-smoking among First Nations youth; such programs could prove to have a positive effect not only on the health of First Nations youth but also on their educational performance and overall well-being.

CONCLUSIONS

Overall, the 2008/10 revealed areas of improvements and areas of concern. Youth appear to want to be involved in cultural activities and to learn to speak/understand a First Nations language. With respect to more formal education, the majority of youth report being enrolled in school and liking school; in addition, rates of grade repetition – although high – have decreased since the 2003/03 RHS. One area of greater concern is the high number of youth who have problems learning in school. Fortunately the RHS demonstrated various predictors of greater educational performance. Youth were more likely to display signs of educational success (e.g., attend school, like school, no failed classes, no problems learning) if in good general health, eat a nutritious diet, feel loved and balanced, have parents with higher educational achievement, avoid substance use, and are not currently sexually active. Programs and policies aimed at improving school attendance and performance may need to consider and incorporate the above predictors for greater effectiveness.

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Chapter 21

Physical Activity and Nutrition

EXECUTIVE SUMMARY

There is a growing body of evidence that shows an increase in the proportion of children and youth who are overweight and obese—a trend that may be largely explained by a decrease in physical activity and a change in eating habits. This chapter utilizes data from the First Nations Regional Health Survey (RHS) 2008/10 to provide a snapshot of current physical activity and nutrition patterns of First Nations youth living on-reserve and in northern communities. The findings from RHS 2008/10 reveal that half of First Nations youth are considered “active” (49.3%), while the remaining are moderately active (22.6%) or inactive (28.1%). Findings also reveal that fewer than one-quarter of youth “always” or “almost always” consume a nutritious, balanced diet (23.7%); this proportion decreased with age. The importance of and interdependence between physical activity and nutrition is highlighted as they are both associated with a host of positive factors, not only physical, but psychosocial as well. A strategy for healthy living that incorporates and harmonizes physical activity and nutrition may aid in the development of interventions to assist First Nations youth in achieving and maintaining a healthy lifestyle.

KEY FINDINGS

- More than half (57.0%) of First Nations youth were of normal weight or underweight, while 30.0% were overweight and 13.0% were obese.
- Approximately half (49.3%) of First Nations youth were considered active.
- Walking was the most frequently reported physical activity participated in during the year prior to the survey, reported by 86.9% of First Nations youth. This was followed by running or jogging (60.7%); swimming (54.6%); competitive or team sports, such as hockey, basketball, baseball, lacrosse, and tennis (53.1%); bicycle riding or mountain biking (44.6%); using weights or exercise equipment (36.1%); skating (30.2%); and fishing (29.9%).
- 38.6% of First Nations youth spent more than 1.5 hours watching television on an average day, 27.0% spent more than 1.5 hours on the computer, and 29.7% spent more than 1.5 hours playing video games (all outside of school/work).
- Less than one-quarter (23.7%) of First Nations youth reported that they always or almost always ate a nutritious balanced diet, while 53.6% sometimes did and 22.7% rarely or never did.

INTRODUCTION

Obesity is related to metabolic or genetic factors (Dyck, Klump, & Tan, 2001); environmental factors, including improved technology and suburban environments favouring motorized vehicles (Craig, Russell, Cameron, & Bauman, 2004); and behavioural factors, including high fat and carbohydrate intake and lack of physical activity (Hanley, Harris, & Gittelsohn, 2000). Canadian trends show that total energy intake has increased via carbohydrate intake, particularly soft drink consumption, during a period when the physical demands of every day are decreasing. According to the findings of the Canadian Community Health Survey (CCHS), 26% of children and youth aged 2 to 17 years were overweight or obese (Shields, 2004). More specifically, the proportion of youth aged 12 to 17 years who are overweight or obese has increased over the past 25 years, with the obesity rate being tripled in 2004 compared to 1978–79 (Shields, 2004).

The prevalence of obesity is higher among Canadians of Aboriginal descent than among the general Canadian population (Young, Dean, Flett, & Wood-Steiman, 2000). In 2004, an estimated 41% of Canadian youth of Aboriginal descent were considered overweight or obese, which is approximately 2.5 times higher than the national average (Young et al., 2000). An energy imbalance contributes to being overweight or obese, and this imbalance may be a result of reduced energy expenditure and excess consumption of calories. This chapter examines physical activity and aspects of nutrition among First Nations youth and suggests recommendations to help the decision makers in First Nations communities and policy developers shape strategies for healthy living.

Regular physical activity has been linked to numerous health benefits, such as chronic disease prevention and improved psychosocial well-being. In children and youth, physical activity aids in promoting healthy growth and development, improves mental health by reducing stress, and increases self-esteem and physical competence (Janssen & LeBlanc, 2010). Long-term benefits of an active lifestyle include decreased risk of several chronic and physical conditions, including coronary heart disease, hypertension, obesity, type 2 diabetes, osteoporosis, certain site-specific cancers (such as colon and breast cancers), and functional limitation with aging (Janssen & LeBlanc, 2010; Warburton, Nicol, & Bredin, 2006).

Despite the importance of regular activity, Canadians in general still are not sufficiently active enough to benefit. In particular, activity levels among youth remain quite low. In recent years, guidelines recommending

amounts of daily physical activity required for optimal health in children and youth have been developed and revised. The most current guidelines recommend that youth aged 12 to 17 years should accumulate at least 60 minutes of moderate-to-vigorous physical activity daily (Warburton et al., 2006). Moreover, children and youth aged 2 to 17 years should aim to incorporate vigorous intensity and muscle-strengthening activities at least three days per week (Tremblay et al., 2011). According to the Canadian Fitness and Lifestyle Research Institute's Canadian Physical Activity Levels Among Youth (CANPLAY) study, only 12% of children and youth aged 5 to 19 years accumulated enough steps in 2007–09 to be considered sufficiently active (Canadian Fitness and Lifestyle Research Institute [CFLRI], 2009). The CANPLAY study indicates that physical activity levels, here measured as the number of steps taken daily, decline with increasing age. Youth aged 15 to 19 years take fewer daily steps than children aged 5 to 14 years (CFLRI, 2009). Recent data from the Canadian Health Measures Survey (CHMS) using accelerometers to measure activity levels among children and youth show a mere 7% of children and youth accumulate enough activity to meet national guidelines (Colley et al., 2011).

Eating habits and choice of diet are also important components for consideration. Although consistent data on the nutrition of First Nations youth is fairly limited, a national study of dietary habits explored nutritional patterns of youth in Canada (Garriguet, 2006). This study found that fruit and vegetable consumption among youth is relatively low, with an average of 4.5 servings per day. Additionally, the servings of milk products drop during teen years; one-third of youth consumed food prepared in a fast-food outlet the day before the survey; and 25% of all calories come from “other” foods outside of the four food groups, such as soft drinks, sugars, and oils and fats (Garriguet, 2006). Understanding aspects of dietary intake and nutritional choices are important considerations in the energy balance equation.

This chapter provides descriptive data on physical activity and nutritional behaviours of First Nations youth as measured by RHS 2008/10. These factors were explored independently and in correlation with age and sex. Additionally, these behaviours were examined in relation to a broader cultural framework that incorporates an individual's spiritual, emotional, mental, and physical well-being, as well as social and community factors. Such a framework is similar to a multi-faceted population health or ecological approach, which is commonly used when examining health issues. This approach takes into account individual factors, such as attitudes

and beliefs; social factors, such as social support; environmental factors, such as physical environment or geography; societal factors, including culture and community; and policy-related factors, such as at a band or government level. These factors are considered to have a collective effect on any given behaviour.

METHODS

The measures that have been calculated or derived for the purposes of this chapter are summarized below. For each of these analyses, sample weights were applied and relationships were tested using 95% confidence intervals surrounding the estimates.

Body mass index (BMI) was calculated using the following formula:

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m)}^2}$$

For the purposes of these analyses, the cut-offs were based on age- and sex-specific international standards for categories of youth BMI.

Satisfaction with body weight. Youth were asked to indicate how satisfied they are with their body weight. Response options were: ‘very satisfied’, ‘somewhat satisfied’, ‘neither satisfied or dissatisfied’, ‘somewhat dissatisfied’, and ‘very dissatisfied’.

Physical activity. Level of physical activity was based on total energy expenditure (EE) calculated from the reported frequency and duration of physical activities identified in the twelve months prior to the survey. A metabolic equivalent value (MET value), which had been independently established (Ainsworth et al., 2000), was assigned to each activity [20 activities].

$$\text{EE} = \sum(\text{Ni} * \text{Di} * \text{MET}_i / 365 \text{ days})$$

Ni = number of occasions of activity i in a year,
Di = average duration in hours of activity i, and
MET_i = a constant value for the
metabolic energy cost of activity i.

For this analysis, First Nations youth with energy expenditures of less than 1.5 kcal/kg/day were considered to be inactive; those with energy expenditures between 1.51 kcal/kg/day and 2.99 kcal/kg/day were considered to be moderately active; and those with energy expenditures of 3 kcal/kg/day or greater were considered to be active.

Nutrition. Youth were asked how frequently they eat a balanced, nutritious diet. Responses were categorized into: ‘almost always to always’, ‘sometimes’, ‘rarely to never’.

Covariates

Sedentary behaviour was assessed by asking youth how much time on an average day they spend watching TV, working at a computer, and playing video games (less 0.5 hours, 0.5 to 1.0 hour, 1.0 to 1.5 hours, and more than 1.5 hours).

Youth were asked how often they ate various traditional foods [land-based animals (moose, caribou, bear, deer, bison, etc.), fresh water fish, salt water fish, other water based foods (shellfish, eels, clams, seaweed, etc.), sea-based animals (whale, seal, etc.), game birds (goose, duck, etc.), small game (rabbit, muskrat), berries or other wild vegetation, bannok/fry bread, wild rice, corn soup) in the past 12 months. Responses options were: ‘not at all’, ‘a few times’, ‘often’. In addition, youth were asked how often, in the past 12 months, did someone share traditional foods with their household. Response options were: ‘often’, ‘sometimes’, or ‘never’.

Youth were asked how often they consumed various food/drinks [milk and milk products (e.g., yogurt, cheese), protein (beef, chicken, pork, fish, eggs, beans, tofu), vegetables, fruit (excluding fruit juice), bread/pasta/rice/other grains, water, juice, soft drinks/pop, fast food (e.g., burgers, pizza, hotdogs, french fries), sweets (e.g., candy, cookies, cake). Response options were: ‘several times a day’, ‘once a day’, ‘a few times a week’, ‘about once a week’, and ‘never/hardly ever’.

Participated in various extracurricular activities was assessed (sport teams or lessons, music groups or lessons, and traditional singing, drumming, or dancing groups or lessons). Response options were: ‘4 times or more per week’, ‘1-3 times per week’, ‘less than once per week’, or ‘never’.

Youth were asked if they currently smoke cigarettes (response options: ‘yes, daily’, ‘yes, occasionally’, and ‘no’) and if they have consumed alcohol in the past year (yes/no).

Youth were asked if they have had any problems learning in school (yes/no).

Youth reported how often they felt balanced in their physical, emotional, mental, and spiritual lives, on a scale ranging from 1 (“almost none of the time”) to 4 (“all of the time”).

Levels of mastery were measured using the Self-Mastery Scale (Pearlin & Schooler, 1978). The scale comprises seven statements for which survey participants rated their agreement on a scale ranging from 0 (“strongly disagree”) to 4 (“strongly agree”). Examples of statements are “I can do just about anything I really set my mind to”

and “I have control over the things that happen to me.” Scores were summed, including items that were reverse-scored, for a minimum of 0 and a maximum of 28, with higher values indicating higher levels of mastery.

Finally, youth were asked whether they viewed the following as strengths in their community (family values, social connections, traditional ceremonial activities, good leisure/recreation facilities, use of First Nations language, natural environment, strong leadership, awareness of First Nations culture, community/health programs, low rates of suicide/crime/drug abuse, elders, educational and training opportunities, and strong economy).

Differences between estimates were tested for statistical significance, which was established at $p < 0.05$.

RESULTS

Body mass index. In RHS 2008/10, 57.0% of First Nations youth aged 12 to 17 years were of normal weight or underweight. Almost one-third (30.0%) of First Nations youth were overweight, and 13.0% were obese. These proportions have not changed significantly since RHS 2002/03 (First Nations Information Governance Committee, 2005). Comparatively, 20% of youth aged 12 to 17 years in the general Canadian population were considered overweight and 9% were considered obese (Shields, 2006). Among First Nations youth, there were no gender or age differences observed.

Satisfaction with body weight. First Nations youth were also asked about their degree of satisfaction with their weight. Just under one-third (32.7%) were very satisfied, 36.1% were somewhat satisfied, 14.5% were neither satisfied nor dissatisfied, 10.1% were somewhat dissatisfied, and 6.6% were very dissatisfied. More boys reported being very satisfied with their weight, whereas more girls reported being either somewhat or very dissatisfied with their weight.

Given the high prevalence of obesity among First Nations youth, information on the modifiable and potential protective factors, such as physical activity and diet, and their role in reducing obesity is important. The results in this chapter focused on physical activity levels and dietary information of First Nations youth.

Physical Activity

Based on the findings of RHS 2008/10, half (49.3%) of First Nations youth were considered active, 22.6% were considered moderately

active and 28.1% were considered inactive.

A higher proportion of First Nations boys (56.6%) than girls (41.5%) were considered active.

Types of physical activities. Walking was the most frequently reported physical activity participated in during the year prior to the survey, as reported by 86.9% of First Nations youth. This was followed by running or jogging (60.7%); swimming (54.6%); competitive or team sports, such as hockey, basketball, baseball, lacrosse, and tennis (53.1%); bicycle riding or mountain biking (44.6%); using weights or exercise equipment (36.1%); skating (30.2%); and fishing (29.9%). Fewer than one-quarter of First Nations youth reported participating in berry-picking or other food gathering (24.3%); dancing, including aerobic, traditional, and modern dancing, for example (23.7%); gardening or yard work (19.7%); hunting or trapping (19.3%); hiking (19.3%); skiing or snowboarding (17.0%); or bowling (16.3%). Less than one-sixth of First Nations youth reported participating in golf (14.3%), canoeing or kayaking (12.3%), aerobics or fitness classes (6.9%), snowshoeing (6.5%), or martial arts (6.1%). In general, the proportions of First Nations youth who reported participating in many of these types of physical activities decreased in the period between RHS 2002/03 and RHS 2008/10. Participation in walking, fishing, snowshoeing, golfing, bowling, skiing, using weights or exercise equipment, and martial arts remained relatively constant during the same period.

Table 21.1 summarizes the gender differences associated with participating in certain physical activities and sports. A greater proportion of boys participated in competitive team sports, bicycle riding or mountain biking, using weights or exercise equipment, fishing, skating, hunting or trapping, gardening or yard work, hiking, golfing, and skiing or snowboarding. On the other hand, a greater proportion of girls participated in walking and dancing.

Table 21.1. Proportion of First Nations Youth who Participated in Physical Activity, by Age and Gender

	Gender		Age group	
	Boys (%)	Girls (%)	12–14 (%)	15–17 (%)
Walking	83.3	90.6*	85.4	88.3
Running or jogging	63.1	58.2	63.7	57.7
Competitive or team sports (e.g., hockey, basketball, baseball, lacrosse, tennis)	59.5*	46.4	56.1	50.0
Swimming	54.0	55.3	61.2*	48.1
Bicycling riding or mountain biking	50.6*	38.2	50.4*	38.8
Weights, exercise equipment	46.0*	25.7	31.5	40.7*
Fishing	40.0*	19.3	32.6*	27.0
Skating	37.4*	22.6	35.9*	24.4
Hunting, trapping	30.4*	7.7	19.4	19.2
Gardening, yard work	23.6*	15.6	19.9	19.5
Berry picking or other food gathering	22.0	26.6	28.5*	19.9
Hiking	21.9*	16.5	18.8	19.7*
Golfing	21.1*	7.3	15.8	12.8
Skiing or Snowboarding	19.8*	14.1	20.7*	13.2
Bowling	17.0	15.5	17.7	14.9
Canoeing or kayaking	14.0	10.5	12.7	11.8
Dancing (aerobic, traditional, modern, etc.)	13.6	34.4*	24.9	22.5
Snowshoeing	7.3	5.7	8.3*	4.7
Martial arts	7.3	4.9	6.1	6.1
Aerobics or fitness classes	5.3	8.6	7.4	6.4

* Indicates a significantly higher proportion

Similarly, age-related differences were discovered with participation in certain physical activities and sports (see Table 21.1). A greater proportion of younger First Nations youth—those aged 12 to 14 years—reported that they had participated in swimming, fishing, skating, berry picking or other food gathering, skiing or snowboarding, and snowshoeing in the year prior to the survey than had older First Nations youth—those aged 15 to 17 years. In contrast, a greater proportion of older youth than younger youth reported that they had participated in hiking in the year prior to the survey.

Sedentary activities. Findings revealed that 38.6% of First Nations youth reported spending more than 1.5 hours watching television on an average day, while 24.5% reported spending between an hour and 1.5 hours, and the remaining 37.0% reported spending an hour or less. Time spent at a computer was also reported: 27.0% of First Nations youth reported spending more than 1.5 hours per day, 19.8% reported spending between an hour and 1.5 hours, 23.5% spent 30 minutes to an hour, and 29.6% reported spending less than 30 minutes. Additionally, time spent playing video games was surveyed: 29.7% of First Nations youth reported spending more than 1.5 hours playing video games per day, 16.8% reported spending between an hour and 1.5 hours, 19.3% reported spending between 30 minutes and an hour, and 34.2% reported spending less than 30 minutes.

A greater proportion of First Nations girls than boys reported spending less than 30 minutes playing video games per day (56.8% vs. 16.7%). Also, a greater proportion of older First Nations youth than younger First Nations youth reported spending more than 1.5 hours on the computer per day (30.9% vs. 23.4%).

Nutrition

Balanced, nutritious diet. Roughly one-quarter (23.7%) of First Nations youth reported “always” or “almost always” eating a nutritious balanced diet, while 53.6% “sometimes” did. The remaining youth either “rarely” (18.0%) or “never” (4.7%) ate a nutritious, balanced diet. A slightly higher proportion of First Nations youth in RHS 2008/10 than in RHS 2002/03 reported that they “always” or “almost always” ate a nutritious, balanced diet, whereas slightly fewer “sometimes” did. A greater proportion of younger youth (aged 12 to 14) than older youth (aged 15 to 17) reported “always” or “almost always” eating a nutritious, balanced diet, whereas a greater proportion of older youth (aged 15 to 17) than younger youth (aged 12 to 14) reported having “rarely” done so (see Figure 21.1).

Figure 21.1. Proportion of First Nations Youth Consuming a Nutritious, Balanced Diet, by Age

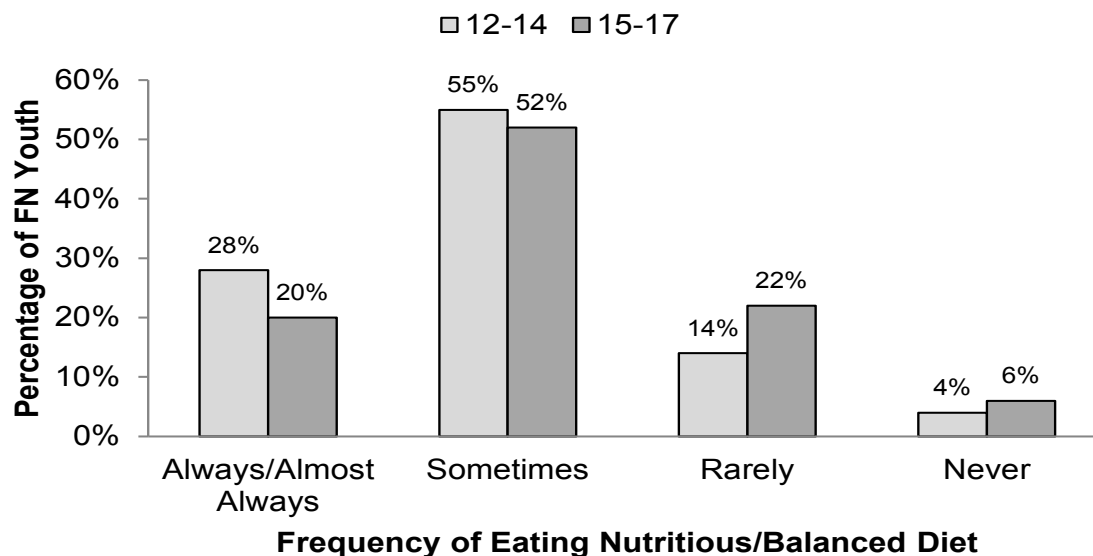


Table 21.2. Proportion of First Nations Youth Consuming Specific Food Items, by Frequency

	Several times per day (%)	Once per day (%)	Few times per week (%)	Once per week (%)	Never or hardly ever (%)
Milk and milk products (e.g., yogurt, cheese)	32.7	34.9	22.2	5.1	5.1
Protein (beef, chicken, pork, fish, eggs, beans, tofu)	31.9	39.5	23.4	3.7	1.5
Vegetables	24.0	32.0	27.6	8.1	8.3
Fruit (excluding fruit juice)	38.0	29.3	25.6	5.1	2.1
Bread, pasta, rice, and other grains	43.1	35.9	16.9	3.4	0.7 ^E
Water	72.3	17.0	6.9	1.6	2.2
Juice	55.4	24.1	14.8	3.3	2.3
Soft drinks or pop	25.9	27.4	28.4	10.8	7.6
Fast food (e.g., burgers, pizza, hotdogs, French fries)	6.5	11.0	39.0	28.8	14.7
Sweets (e.g., candy, cookies, cake)	10.9	17.3	35.0	20.4	16.3

^E High sampling variability; use figures with caution.

Types of foods consumed. In addition to asking about the consumption of a nutritious, balanced diet, RHS 2008/10 asked First Nations youth to report on their consumption of specific food items. Table 21.2 summarizes each food item by frequency of consumption.

No gender differences were observed in the frequency of consumption of potentially less nutritious foods (pop, fast food, sweets). One age difference was observed; frequent consumption (several times a day) of soft drinks was greater among First Nations youth aged 15 to 17 years than it was among First Nations youth aged 12 to 14 years.

Table 21.3. Proportion of First Nations Youth Consuming Traditional Food Items, by Frequency

	Not at all (%)	A few times (%)	Often (%)
Land based animals (e.g., moose, caribou, bear, deer, bison, etc.)	25.8	51.2	23.0
Small game (e.g., rabbit, muskrat, etc.)	72.1	21.4	6.5
Freshwater fish	41.9	42.7	15.4
Saltwater fish	81.7	14.9	3.4
Other water based foods (e.g., shellfish, eels, etc.)	86.3	11.6	2.1
Sea-based animals	97.4	1.9 ^E	0.8 ^E
Game birds (e.g., goose, duck, etc.)	63.4	28.4	8.2
Berries or other wild vegetation	27.7	52.8	19.5
Bannock, fry bread	12.0	47.8	40.2
Wild rice	66.6	26.6	6.8
Corn soup	74.6	19.1	6.3

^E High sampling variability; use figures with caution.

Sharing traditional foods. Just over one-quarter (27.1%) of First Nations youth reported that someone in their household had “often” shared traditional foods with them in the 12 months prior to the survey; the remaining youth had shared traditional food sometimes (60.4%) or never (12.5%). These numbers were very similar to those reported in RHS 2002/03.

Consumption of traditional foods. Table 21.3 summarizes each traditional food item by frequency of consumption. Some differences over the period of time between RHS 2002/03 and RHS 2008/10 regarding the consumption of these foods were discovered; for example, in RHS 2008/10 a slightly lower proportion of youth “often” consumed berries and wild vegetation, and bannock or fry bread.

Physical Activity and Nutrition in a Broader Cultural Perspective

This section examines the relationships of physical activity and nutrition to elements within a broader cultural perspective, such as an individual’s health behaviours, social environment, and community.

Physical activity

With only half (49.3%) of the First Nations youth population considered ‘active’, understanding factors associated with greater activity is important. For the purpose of this chapter, individual factors

were divided into two categories: factors related to general health and factors related to mental health.

The proportion of youth who were physically active was higher among those who:

- considered themselves to be in excellent health (55.3% were active) or very good health (52.4% were active), compared to those in who considered their health to be good (42.6%), fair (34.3%), or poor (39.4%);
- eat a nutritious, balanced diet ‘sometimes to always’ (52.8% were active) vs. those who eat a balanced diet ‘rarely to never’ (39.2%)
- were of normal weight/underweight (52.3%) or overweight (49.1%), compared to those who were obese (43.2%);
- were non-smokers (53.4%) or smoke occasionally (51.1%), compared to those who smoke daily (37.6%);
- did not consume alcohol in the past 12 months (51.7% were active) vs. those who did consume alcohol (46.0% active);
- participated in sports teams or lessons outside of school at least once a week: never participated in sports (34.9% were active), participated less than once per week (44.7% were active), participated 1-3 times per week (63.4% were active), and participated 4 or more times per week (68.5% were active);
- consumed milk products at least once per day (52.5% were active) vs. those who did so less often (43.2%);
- consumed protein foods at least once per day (51.8% were active) vs. those who did so less often (43.7%);
- ate fruit at least once per day (54.1% were active) vs. those who did so less often (40.5%);
- drank water at least once per day (51.4%) vs. those who did so less often (34.0%);
- drank pop several times a day (43.5% were active) vs. those who did so less often (e.g., once per week, 53.7% were active);
- ate fast food several times a day (38.1% were active) vs. those who did so less often (e.g., once per week, 49.9% were active);
- ate sweets several times a day (40.9% were active)

vs. those who did so less often (e.g., once per week, 50.9% were active);

- ate berries or other vegetation ‘often’ in the past year (60.0% were active), compared to those who never did (42.9%) or those who did so a few times (49.3%);
- ate fry bread/bannock ‘often’ in the past year (53.9% were active), compared to those who never did (39.3%) or those who did so a few times (48.3%);

Additionally, the association between physical activity and mental health variables were explored. The proportion of youth who were physically active was higher among those who:

- have never thought about suicide (51.8% were active) vs. those who have (42.9%);
- reported feeling physically balanced ‘most or all of the time’ (54.9% were active) vs. those who feel balanced ‘none or some of the time’ (33.4% were active). This pattern of results was also revealed for mental (55.0% vs. 39.4% active), spiritual (55.3% vs. 40.7% active) and emotional balance (53.8% vs. 41.8% active);
- perceived strengths in their community such as traditional ceremonial activities (e.g. powwows), social connections, presence of elders, awareness of First Nations culture, education and training opportunities, good leisure or recreational facilities, and community/health programs.

In addition, physically active youth had higher mean Mastery scores ($M = 19.6$) compared to youth were moderately active ($M = 18.6$) or inactive ($M = 18.3$).

Nutrition

As mentioned earlier, 23.7% of First Nations youth reported that they “always” or “almost always” ate a nutritious, balanced diet, while 53.6% “sometimes” did. Again, individual factors were categorized as those related to general health and those related to mental health. Regarding general health factors, the proportion of youth who ‘always/almost always’ ate nutritiously was higher among those who:

- considered themselves to be in excellent health (41.7% ate nutritiously), compared to those who are in very good (21.9%), good (9.3%), fair (8.2%), or poor health (statistic suppressed);
- who were underweight/normal weight or overweight

(24.6%), compared to those who were obese (19.0%);

- did not consume alcohol in the past 12 months (28.7% ate nutritiously) vs. those who did consume alcohol (16.1%);
- were non-smokers (28.2% ate nutritiously), compared to those who smoke daily (14.5%) or smoke occasionally (17.4%).

Additionally, regarding mental health factors, the proportion of youth who ‘always/almost always’ ate nutritiously was higher among those who:

- never had thoughts about suicide (26.2% ate nutritiously), compared to those who have (11.7%);
- reported feeling physically balanced ‘most or all of the time’ (27.2% ate nutritiously) vs. those who feel balanced ‘none or some of the time’ (13.3%). This pattern of results was also revealed for mental (28.7% vs. 14.5% ate nutritiously), spiritual (29.9% vs. 14.5% ate nutritiously) and emotional balance (29.0% vs. 13.9% ate nutritiously);
- did not indicate having learning problems at school (29.7% ate nutritiously) vs. those who have had problems learning in school (15.6% ate nutritiously).

Finally, results revealed that youth who always or almost always ate nutritiously had higher mean Mastery scores ($M = 20.5$) compared to youth who sometimes ($M = 18.9$), rarely ($M = 17.8$) or never ($M = 18.0$) eat a nutritious diet.

Table 21.4 summarizes the key findings of this section according to a cultural framework of the total person and total environment. In addition to the associations of physical activity and nutrition with individual factors described in the first two sections, significant associations with physical and mental health and societal and social factors are described.

Table 21.4. Association between Key Indicators and Physical Activity and Nutrition

	Physical Activity	Nutrition
Individual factors		
Age	x	✓
Gender	✓	x
Health factors		
General health status	✓	✓
Eat a balanced diet	✓	n/a
Cigarette smoking	✓	✓
Alcohol consumption	✓	✓
TV watching	x	x
Computer Use	x	x
Internet Use	x	x
BMI	✓	✓
Participating on sports teams	✓	x
Mental health factors		
Suicide ideation	✓	✓
Life in balance	✓	✓
Mastery	✓	✓
Problems learning at school	x	✓
Societal factors		
Community strengths	✓	x

Note. ✓ = Significant association at the $p = .05$ level. x = No observed association. n/a = Not applicable

DISCUSSION

In Canada, childhood obesity has increased over time (Shields, 2006; Tremblay & Willms, 2000). This trend is particularly worrisome given its consequences (Ball & McCargar, 2003). Current research also indicates that aerobic fitness levels are related to children's health in a dose-response relationship (Anderssen et al., 2007). Findings from the recent CHMS indicate that fitness levels for children and adolescents were lower in the period between 2007 and 2009 than they were in 1981 (Tremblay, Shields, et al., 2010). Flexibility and muscular strength scores were also lower in the period between 2007 and 2009, while mean BMI, waist circumference, and the sum of skinfolds were higher (Tremblay, Shields, et al., 2010).

In children and youth, physical activity contributes to healthy growth and development, improved mental health through the reduction of stress, increased self-esteem, and physical competence (Janssen & LeBlanc, 2010). Physical inactivity is an important public health

concern, given that it is a modifiable risk factor for various chronic diseases, including cardiovascular disease, type 2 diabetes, osteoporosis, hypertension, certain cancers (such as colon and breast cancers), obesity, and functional limitation with aging (Warburton et al., 2006).

Physical activity rates among youth have traditionally been measured via self-reported data. However, in recent years, objective measures of physical activity among Canadian youth have been conducted using pedometers and accelerometers. For example, the CANPLAY study examines daily steps taken as measured by pedometers. This study found that girls take fewer steps than boys and that the number of steps taken daily declines with age (CFLRI, 2009). Relatively few children and youth aged 5 to 19 years accumulated enough steps in the period between 2007 and 2009 to be considered sufficiently active (CFLRI, 2009). Recent data from the CHMS using accelerometers to measure activity levels among children and youth show a mere 7% of children and youth accumulate enough activity to meet national guidelines (Colley et al., 2011). Revised guidelines in Canada recommend that for health benefits, children and adolescents aged 5 to 17 years should accumulate 60 minutes of moderate-to-vigorous physical activity each day (Tremblay et al., 2011). Evidence also suggests that they should engage in vigorous physical activity at least three days a week.

Although inactivity appears among all youth, it is more prevalent in certain segments of the population, such as girls and older youth (CFLRI, 2008b). Additionally, certain types of activities are more popular among certain groups. For example, results from this chapter demonstrated that a greater proportion of First Nations boys than of First Nations girls of the same age participated in activities that generally involved greater intensity, such as competitive team sports, including hockey, basketball, baseball, lacrosse, and tennis; bicycle riding or mountain biking; using weights or exercise equipment; fishing; skating; hunting or trapping; gardening or yard work; hiking; golfing; and skiing or snowboarding. On the other hand, more girls reported that they participated in walking and dancing. Differences in participation rates in activities were also found between younger and older youth.

Understanding the preferences for types and intensity of activities for various groups is an important consideration when developing physical activity strategies. For example, results from the CANPLAY pedometer study indicate that children who prefer only vigorous intensity activities or who prefer both vigorous and moderate intensity activities equally take more steps than those who prefer only moderate intensity

activities. The latter group also takes more steps than those who prefer neither type of activity (CFLRI, 2008b).

Health promotion efforts for youth can also recognize the value of all physical activities, including organized and unorganized activities, outdoor activity, or active travel. The CANPLAY study examined time spent in some of these types of activities during the period between the end of school and dinner. The findings indicate that children and youth who play outdoors during this time take about 2,000 more steps—which translates roughly into about 20 minutes of activity—than those who do not play outdoors during this time, and children who participate in activities during this time also take more steps than those who do not participate (CFLRI, 2008a). Other research shows that time spent outdoors is positively correlated with physical activity levels and was a major factor differentiating between children who are active enough and those who are not (Centers for Disease Control and Prevention, 2000). Tailoring the types of physical activities preferred by certain age and gender groups and that are culturally appropriate, such as the inclusion of traditional physical activities, may be important when determining policies and strategies targeting certain groups.

In addition to recognizing the importance of physical activity, it is also important to reduce the level of sedentary activity. Sedentary behaviour is associated with obesity and metabolic disease, independent of moderate-to-vigorous activity (Andersen, Crespo, Bartlett, Cheskin, & Pratt, 1998; Crespo et al., 2001; Janssen, Katzmarzyk, Boyce, King, & Pickett, 2004). A recent review article examined methods for assessing sedentary behaviour and associations between sedentary behaviours and major health outcomes among children (Tremblay, Colley, Saunders, Healy, & Owen, 2010). These researchers noted challenges regarding the measurement of sedentary behaviours given that these activities may be sporadic and varied throughout the day (Tremblay, Colley, et al. 2010); therefore, they recommend objective measures similar to those used to measure physical activity to measure sedentary behaviour. The recent CHMS has measured sedentary time of youth via accelerometers and indicates that daily sedentary time for Canadian children and youth averages 8.6 hours or 62% of their waking hours, increasing with increasing age (Colley et al., 2011). Results from this chapter indicate that screen time varies by gender and by age among First Nations youth. Monitoring and regulating the time spent on these types of activities could be a useful component of a strategy aimed at healthy living.

Poor quality diet is an important component of the energy

balance equation. Findings in this chapter show that only one-quarter of First Nations youth always or almost always eat a nutritious balanced diet, and the proportion decreases among older youth. There may be several explanations for this decline, including preferences and potential barriers, such as access, lack of time, lack of support, and food insecurity. Further understanding of the reasons for this decline with age, as well as identifying dietary intake, may be particularly useful. For example, the nutrition component of the 2004 CCHS provides some interesting data on nutritional patterns of Canadian adolescents. The 2004 study indicated that fruit and vegetable consumption among adolescents is relatively low, with an average of 4.5 servings per day. Additionally, the servings of milk products drop during teen years; one-third of youth ate food prepared in a fast-food outlet the day before the survey, and 25% of all calories come from “other” foods outside of the four food groups, including soft drinks, sugars, and oils and fats (Garriguet, 2006). Indeed, the RHS 2008/10 data is cause for concern, in that the majority of First Nations youth consume soft drinks on a regular basis, at least weekly and at least once a day, and eat fast food at least weekly. However, the majority of youth have had traditional foods shared with them in their household, and consumption of some traditional foods is associated with being active.

A strategy for healthy living that incorporates physical activity and nutritional aspects for First Nations youth should understand and target interventions to assist individuals in certain groups to adopt and maintain healthy lifestyles. Independent physical activity and nutrition strategies are useful, but a common framework that harmonizes physical activity and nutrition and incorporates other health behaviours as well may help in developing interventions for specific population segments, such as girls and older youth (World Health Organization, 2004). The association between physical activity and nutrition in this chapter suggests that promoting positive health behaviours in one lifestyle domain may lead to overall healthier lifestyle changes. It is important that these strategies be culturally and gender appropriate for the First Nations population. For example, strategies related to diet must include consideration of traditional foods, and strategies for physical activity must consider various types and forms of physical activity, including traditional activities.

CONCLUSIONS

A key purpose of this chapter was to understand physical activity and nutrition for First Nations youth living in First Nations communities in the context of a cultural

framework. An ecological or cultural framework can be comprised of physiological factors, such as growth and development; psychological factors, such as motivation, confidence, and self-efficacy; socio-cultural factors, such as the role of family and one's socio-economic status; and ecological factors, such as the availability of opportunities to be active and to obtain nutritious foods, geography, and climate (Lindquist, Reynolds, & Goran, 1999). This chapter examined a host of factors at the individual, societal, and community level that are associated with physical activity and nutrition. As examples, results from RHS 2008/10 indicate that factors such as not smoking, not drinking feeling in balance physically, emotionally, mentally, and spiritually, and the absence of suicidal thoughts were associated with being active and eating healthily.

Suicide is an important issue among Aboriginal youth, whose rates of suicide are higher than those of other youth in Canada (Advisory Group on Suicide Prevention, 2003). The finding that the absence of suicidal thoughts is associated with being active and consuming a nutritious, balanced diet may suggest that a healthy lifestyle could contribute to the resilience of youth and therefore would be a consideration for developing a strategy to combat this issue. It is critically important when promoting strategies to understand barriers relevant to this population (Thompson et al., 2001).

Data from RHS 2008/10 provided a snapshot of current physical activity and nutrition patterns of First Nations youth on-reserve and in northern communities and provided useful information and evidence for informing strategies on these key public health issues. To supplement the self-reported data collected through the RHS, collection of baseline data involving details on food intake and diet quality, including objective measures of energy intake, and its determinants would be valuable. Moreover, monitoring of physical activity levels on a regular basis is important and could be expanded to include total physical activity across domains and objective measurement of activity, including data collection through pedometers or accelerometers. Objective anthropometric measures such as height, weight, and waist girth for this population would also be useful. Consistent data would be important for identifying and assessing the success of policies, strategies, and programs that would help shape the future health of First Nations youth by examining changes over time. This type of data could help to supplement the data collected through the questionnaire survey.

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Chapter 22

Substance Use and Misuse

EXECUTIVE SUMMARY

This chapter presents results from the First Nations Regional Health Survey (RHS) 2008/10 on licit and illicit drug use among youth living on-reserve and in northern communities. Data from the most recent RHS were compared with findings from the earlier RHS (2002/03) and with data on the general Canadian population (Health Canada, 2009a). Findings revealed that First Nations youth living in First Nations communities are more likely to be current smokers, especially daily smokers. About 60% of First Nations youth reported abstinence from alcohol; rates of abstinence in the past 12 months were higher among males than among females (64.7% vs. 57.1%). The prevalence of abstinence in the past 12 months among First Nations youth was greater than that observed among youth in the general Canadian population. However, of those First Nations youth who did consume alcohol, a higher proportion engaged in binge drinking compared to youth in the general Canadian population (51.4% vs. 39%). Results revealed some potentially protective factors with respect to use of substances. For instance, a lower proportion of First Nations youth whose biological parents are living together reported smoking, consuming alcohol in the 12 months prior to the survey, and using cannabis in the same time period, compared to youth whose parents are no longer together. Additionally, First Nations youth whose parents completed high school or pursued post-secondary education were less likely to smoke cigarettes than youth whose parents did not complete high school.

KEY FINDINGS

Smoking

- One-in-three (33.1%) First Nations youth were current smokers, compared to about 8% of youth in the general Canadian population.
- By 15-17 years of age, 29.6% of First Nations youth are daily smokers.
- Daily smoking was more common among First Nations females than among First Nations males (24.5% vs. 16.4%, respectively).
- Daily smoking decreased from 25.6% in 2002/03 to 20.4% in 2008/10.
- About 60% of First Nations youth reported living in a smoke-free home.
- The prevalence of smoking was high among youth whose biological parents were no longer together, whose parents or did not complete high school, and among youth who lived with many other household members.
- Ex-smokers reported that they quit smoking in order to improve their health, tending most often to use abrupt cessation—going cold turkey.

Alcohol Use

- About 60% of youth reported abstinence from alcohol; rates of abstinence were higher among males than among females (64.7% vs. 57.1%).
- The prevalence of abstinence among First Nations youth was greater than that observed among youth in the general Canadian population (61% vs. 47%).
- Of the First Nations youth who consumed alcohol in the 12 months prior to RHS 2008/10, more than half (56%) reported frequent binge drinking (once a month or more)—a rate much higher than that observed among youth in the general Canadian population (39%).

Drug Use

- Of all First Nation youth, approximately one in three (36.2%) reported smoking cannabis in the 12 months prior to the survey, and one in ten (9.7%) reported smoking cannabis daily or almost daily.
- 8.9% of First Nations youth reported use of other illicit drugs (besides cannabis) in the past 12 months.
- The use of sedatives/sleeping pills increased from 0.8% in the RHS 2002/03 to 2.2% in the RHS 2008/10.

INTRODUCTION

First Nations youth are at especially high risk of substance misuse. Various factors – many unique to First Nations communities – contribute to creating this increased risk, including marginalization, discrimination, intergenerational trauma, poverty, isolation, and familial separation (Hasin & Beseler, 2009). Decreasing this risk is of great importance as early initiation and frequency of substance use among First Nations youth strongly predicts later difficulties related to substance abuse and dependency.

In comparison to youth in the general Canadian population, abstinence levels are higher among First Nations youth (First Nations Information Governance Committee, 2005). However, of those who do drink, First Nations youth are more likely to engage in risky use. The 2002/03 RHS revealed that two-thirds of First Nations youth drank alcohol in the past 12 months reported binge drinking on a monthly basis (64.6%; *binge drinking defined as 5 or more drinks per drinking occasion*)¹ and more than one-in-ten (12.6%) reported binge drinking on a weekly basis.

Cigarette smoking is a leading cause of preventable death in Western countries. With respect to First Nations, it is associated with the two leading causes of death, cardiovascular disease and cancer (Young, 1994). Youth smoking is concerning given its great risk for developing lifetime dependencies. RHS data collected in 2002–03 revealed that more than a third (37.8%) of First Nations youth aged 12 to 17 years were smokers. Rates of smoking were highest among female (vs. males) and those in their later teens (vs. early teens).

Cannabis appears to be the drug of choice – besides alcohol and tobacco use – among First Nation youth. The RHS 2002/03 (First Nations Information Governance Centre, 2007) revealed that one in every three youth (32.7%) in First Nations communities reported using cannabis in the previous 12 months (prevalence was comparable to that observed among youth (15 to 24 years) in the general Canadian population in 2004: 37%; Health Canada, 2007).

The misuse of psychoactive prescription drugs and inhalants among First Nations youth has

become an increasing concern in First Nations communities. Findings from RHS 2002/03 revealed that that 3.5% of First Nations youth had misused prescription opiates (codeine, morphine, or other opiates) and 0.8% had misused sedatives, downers or sleeping pills in the year prior to the survey.

Finally, there is some indication that higher rates of solvent and inhalant abuse occur among First Nations and Inuit youth (compared to general Canadian use; see Canadian Centre on Substance Abuse, 2006). The previous RHS revealed that 1.5% of First Nations youth reported past year inhalant use of glue, gas or paint. Other reports have found much higher estimates; for example, a 2003 report from Pauingassi First Nation in Manitoba concluded that half of the children under 18 and living on reserve abused solvents (O'Brien, 2006). Inconsistent estimates of solvent/inhalant use are likely a result of fluctuations in survey question wording – some surveys include less inclusive examples of solvent and inhalants.²

The purpose of the present chapter is to describe survey results from the First Nations Regional Health Survey (RHS 2008/10) on the prevalence, frequency, and heavy use of legal and illegal substances among First Nations youth living in First Nations communities. Substance use data are also compared to findings from RHS 2002/03 (First Nations Information Governance Committee, 2005) and to data from youth in the general Canadian population.

METHODS

This chapter uses a cultural framework to better understand substance use trends among First Nations youth: the RHS Cultural Framework focuses attention on the health of the total person in the total environment (Dumont, 2005) – taking into account demographics (age and gender), as well as socio-economic circumstances, number of household members, parental marital status, and parental education.

The findings of RHS 2008/10 are compared with data from RHS 2002/03 and contrasted with general population data provided by the 2008–09 Youth Smoking Survey (YSS). The YSS is a national biannual school-based survey conducted on behalf of Health Canada. The survey provides national data on smoking and drug and alcohol use among Canadian youth aged 12 to 17 years in all 10 provinces. The YSS is not conducted within First Nations communities;

¹ The National Institute on Alcohol Abuse and Alcoholism defines binge drinking as a pattern of drinking that brings a person's blood alcohol concentration (BAC) to 0.08 grams percent or above. This typically happens when men consume 5 or more drinks, and when women consume 4 or more drinks, in about 2 hours (National Institute of Alcohol Abuse and Alcoholism. NIAAA council approves definition of binge drinking. *NIAAA Newsletter* 2004; No. 3, p. 3. Available at http://pubs.niaaa.nih.gov/publications/Newsletter/winter2004/Newsletter_Number3.pdf. Accessed February, 2011.

² For a discussion of definitions and examples of solvent and inhalant use see Canadian Center on Substance Abuse (2006). Youth Volatile Solvent Abuse. Available at: <http://www.ccsa.ca/2006%20CCSA%20Documents/ccsa-011326-2006.pdf>. Accessed February, 2011.

thus it provides for useful comparison with the RHS.

In this chapter, current smokers were defined as those reporting daily or occasional smoking at the time of RHS 2008/10. If participants reported that they had not smoked in the past 12 months, they were asked whether they had smoked in the past. Those who identified as past smokers were asked to indicate their reason(s) for quitting from among eight choices and their method(s) for quitting from among nine choices.

Alcohol use was assessed by asking about use in the previous 12 months (yes/no). Respondents were considered abstinent from alcohol if they did not consume alcohol in the 12 months before the survey. Those who did indicate past-year alcohol consumption were also asked how often they binge drink, defined as the consumption of five or more drinks on one occasion. Here, heavy drinking, or frequent binge drinking, is defined as binge drinking once a month or more in the past 12 months.

Next, youth were asked whether they had used any of the following illicit drugs or misused a prescription drug in the past 12 months: cannabis; hallucinogens, including LSD, magic mushrooms, PCP, and Special K; amphetamines, including crystal meth, speed, and ecstasy; cocaine or crack; sedatives or sleeping pills without a prescription; illicit or prescription opioids, includes illicit opioid use, like heroin, and non-prescription use of codeine, methadone, morphine, etc.; and inhalants, such as solvents, glue, and gas. Youth were also asked whether they had sought treatment for drug use or addiction and whether they had sought treatment for inhalant use or addiction in their lifetime.

Common correlates of substance use were also assessed including, biological parental marital status (married, common law, not living together/separated, or divorced), highest level of biological parental education (did not complete high school, completed high school, completed high school and pursued post-secondary education), and household members (i.e., number of people youth live with at least half of the time).

In addition, with respect to rates of youth smoking, youth were also asked whether or not they live in a smoke-free home

RESULTS

Youth Smoking

Smoking is common among First Nations youth; one in three First Nations youth (33.1%, 95% CI [30.9, 35.5]) were current smokers (daily or

occasionally) and one in five (20.4%, 95% CI [18.6, 22.3]) were daily smokers. By 15 to 17 years of age, approximately one-third were daily smokers (see Table 22.1). The prevalence of daily smoking was higher among females than among males (see Table 22.1).

Although fewer First Nations males engaged in smoking (compared to females), those who did smoke reported smoking more cigarettes per day than did female smokers (a mean daily average of 6.7 cigarettes for males vs. 5.9 cigarettes for females). On average, First Nations youth reported having started to smoke at 13 years of age (13.1 years for males and 12.7 years for females).

Table 22.1. Proportion of First Nations Youth who Smoked Daily in the 12 Months Prior to RHS 2008/10, by Age and Gender (n = 4,652)

Daily smoking	% [95% CI]
All youth	20.4 [18.6, 22.3]
12–14 years	11.1 [9.3, 13.1]
15–17 years	29.6 [27.0, 32.4]
Females	24.5 [22.2, 26.9]
Males	16.4 [13.9, 19.2]

The proportion of First Nations youth who currently smoke (occasionally or daily) remains dramatically higher than the proportion of youth smokers in the general Canadian population (33.1% vs. 7.7%, respectively [Health Canada, 2009a]). When these data are stratified by age, fewer than 4% of youth aged 12 to 14 years in the general Canadian population reported being a current smoker, compared to 20.3% of First Nations youth. Similarly, only 13.5% of those in the general Canadian population aged 15 to 17 years were current smokers in 2008–09, compared to 45.7% of First Nations youth (Health Canada, 2009b).

In contrast to the pattern for First Nations youth, smoking was more common among males than among females in the general Canadian population (Compton, 2007). Rates of current smoking (occasional + daily) among First Nations in RHS 2002/3 (37.8%) and RHS 2008/10 (33.1%) were not significantly different (95% CIs [34.9, 40.8] and [30.9, 35.5], respectively); however, rates of daily smoking decreased from 25.6% to 20.4% in 2008/10 (95% CIs [22.9, 28.4] and [18.6, 22.3]).

Approximately 8% (8.5%, 95% CI: 7.1, 10.1) of First Nations youth were ex-smokers. Among ex-smokers, the most common motivation to quit was the pursuit of a healthier lifestyle (43.1%). Other frequently cited reasons were respect for loved ones (20.3%), greater awareness of the ill effects of smoking on health (16.7%), and respect for the cultural and traditional significance

of tobacco (12.3%). The most common cessation method among ex-smokers was abrupt cessation—going cold turkey and using will power (83%).

Smoking and the socio-economic circumstances of families

Abstinence from smoking was significantly higher among First Nations youth whose parents were married (73.0%) or living together in a common-law relationship (74.6%) than among youth whose parents were not living together due to separation (62.6%), divorce (56.7%), or the death of a parent (61.8%).

Abstinence from smoking was greater among youth who had at least one biological parent who graduated from high school (73.1%) or pursued a post-secondary education (72.4%) than it was among youth whose mother and father did not graduate from high school (60.3%), 95% CIs [69.6, 76.4], [68.0, 76.4], and [56.7, 63.7], respectively.

Abstinence from smoking was greatest among youth living in homes with four or five inhabitants (70.7%, 95% CI [67.5, 73.8]); the prevalence of abstinence decreased as the number of household inhabitants increased. For example, for First Nations youth living in a home with nine or more inhabitants, the rate of abstinence was 61.3% (95% CI [54.6, 67.7]). Overall, the findings of RHS 2008/10 indicate that 60.9% of First Nations youth lived in a smoke-free home. A higher proportion of youth who live in a smoke-free home reported abstinence from smoking compared to youth who do not live in a smoke-free home (73.2% vs. 57.3%).

Alcohol Use

Prevalence of use

Approximately three-fifths (61.0%) of First Nations youth were abstinent from alcohol in the 12 months prior to RHS 2008/10 (see Table 22.1). No change in abstinence was observed since the RHS 2002/03 (57.2%, 95% CI [54.7, 59.7]). First Nation male youth were more likely than females to have abstained from drinking alcohol in that time period (see Table 22.2).

In comparison to youth in the general Canadian population (47.0%; HealthCanada, 2009b), First Nations youth are more likely to report past year abstinence from alcohol (61.0%).

Table 22.2. Abstinence Overall and by Sub-Group

	% Abstinent (95% CI)
Overall	61.0 [58.6, 63.4]
12–14 years	79.3 [76.7, 81.8]
15–17 years	42.7 [39.6, 45.8]
Females	57.1 [54.3, 60.0]
Males	64.7 [61.4, 67.8]

Frequency of use

Almost half of First Nations youth who consumed alcohol in the previous year reported consuming alcohol at least 2-3 times per month (see Table 22.2). No gender difference was observed in frequency of use. The tendency to consume alcohol more than monthly (2-3 times/month) and weekly (2-3 times/week) increased with age (see Table 22.3).

Table 22.3. Frequency of Alcohol Use Among Youth who Consumed Alcohol in the Past 12 Months: Overall and by Age-Group.

Frequency of Use	Overall (% , 95% CI)	12-14 yrs (% , 95% CI)	15-17 yrs (% , 95% CI)
2–3 times a year	31.7 [28.4, 35.3]	41.8 [34.8, 49.2]	28.5 [24.7, 32.6]
Once a month	26.2 [23.4, 29.2]	28.4 [22.5, 35.2]	25.5 [22.3, 29.1]
2–3 times a month	28.9 [25.8, 32.2]	19.2 [15.3, 23.9]	31.9 [28.2, 35.9]
2–3 times a week	12.2 [10.6, 14.1]	9.3 [6.8, 12.5]	13.2 [11.3, 15.4]
Daily	1.0 [0.6, 1.7]	F	F

F= suppressed due to small cell size or extreme sampling variability

Binge drinking

Approximately half of First Nations youth reported binge drinking monthly or more often. No statistical difference was observed since the previous RHS 2002/03 (51.4%, 95% CI [48.0, 54.8]).

Compared to youth in the general Canadian population (39%), a greater proportion of First Nations youth reported monthly binge drinking (51.4%).

Monthly or more binge drinking among First Nation youth increased significantly during the teen years (see Table 22.4). No gender differences

were observed in frequency of binge drinking.

Table 22.4. Frequency of Binge Drinking (among youth who consumed alcohol in the past 12 months)†: Overall and by Age-Group

Frequency of Binge Drinking	Overall (% , 95% CI)	12-14 yrs (% , 95% CI)	15-17 yrs (% , 95% CI)
Never	22.3 [19.5, 25.3]	35.2 [29.3, 41.4]	17.8 [14.9, 21.2]
Less than once a month	26.3 [23.4, 29.4]	25.5 [20.9, 30.7]	26.7 [23.1, 30.6]
Once per month	19.4 [16.8, 22.3]	16.4 [11.8, 22.3]	20.4 [17.4, 23.8]
2–3 times per month	21.3 [18.8, 24.1]	15.0 [11.8, 18.9]	23.5 [20.3, 27.1]
Once per week or more	10.6 [9.2, 12.3]	8.0 [5.8, 10.7]	11.5 [9.7, 13.7]

† Binge drinking is defined here as consumption of 5 or more alcoholic drinks per sitting.

Treatment seeking

Approximately 6% (5.8% (95% CI: 4.7, 7.1) of First Nations youth reported they had sought treatment for alcohol abuse or addiction at some point in their lives

Alcohol use and parental marital status, parental level of education, and number of household members

Abstinence from alcohol was highest among First Nations youth whose biological parents are married or living in a common-law relationship and lowest among youth whose parents are divorced (see Table 22.5). Parental marital status did not have an impact on binge drinking.

No difference in binge drinking was observed between First Nations youth whose parents had less than a high school education and those whose parents completed high school (63.2% vs. 65.9%, 95% CIs [59.1, 67.0] and [62.0, 69.6]).

The number of household members with whom youth live with at least half of the time did not appear to have an impact on the prevalence of youth abstinence from alcohol or binge drinking.

Table 22.5. Prevalence of Abstinence from Alcohol by Youths' Biological Parent Marital Status

Biological Parent Marital Status	% Abstinent from Alcohol (95% CI)
Married	68.2 (64.7, 71.5)
Living together/common-law	70.4 (65.1, 75.3)
Separated	55.8 (52.5, 59.0)
Parent(s) deceased	51.8 (38.9, 64.5)
Divorced	41.6 (32.6, 51.3)

Cannabis Use

Overall, 36.2% (95% CI: 34.1, 38.4) of First Nations youth reported having used cannabis in the previous 12 months. No change was observed since the earlier RHS 2002/03 (32.7%, 95% CI: 30.2, 35.2).

Approximately 10% of the First Nations youth population reported smoking cannabis daily or almost daily (9.7%, 95% CI: 8.5, 11.1). No gender difference was found in the prevalence of past-year cannabis use, frequency of use, or daily/almost daily use (see Table 22.6).

The prevalence and frequency of almost daily/daily cannabis use in the 12-month period prior to RHS 2008/10 increased with age; 6.4% of youth aged 12 to 14 years used cannabis compared to 25.5% of youth 15 to 17 years of age.

Cannabis use and parental marital status, parental level of education, and number of household members

Abstinence from cannabis in the 12 months prior to the survey was higher among First Nations youth whose parents were married or living in a common-law relationship compared to youth whose parents were not living together/separated, divorced, or youth who had lost a parent(s).

Level of parental education—that is, whether a parent had less than high school, high school, or more than a high school education—was not linked with the prevalence of cannabis use in the 12 months prior to the survey.

Table 22.6. Prevalence of Abstinence from Cannabis by Youths' Biological Parent Marital Status

Biological Parent Marital Status	% Abstinent from Cannabis (95% CI)
Married	70.8 [67.0, 74.3]
Living together/common-law	71.0 [66.2, 75.3]
Separated	58.9 [55.5, 62.1]
Parent(s) deceased	54.5 [40.5, 63.19]
Divorced	51.9 [47.4, 61.5]

Prevalence of cannabis use did not differ substantially with the number of household members, with the exception of youth living in households of three or fewer members; such youth were more likely to use cannabis those living with four to five household members (41.9% vs. 33.3%, 95% CIs [37.4, 46.5] and [30.3, 36.5]). This result suggesting that cannabis use is more likely in single parent homes.

Other Drug Use

Fewer than 10% (8.9%, 95% CI: 7.9, 10.1) of First Nations youth reported past year use of illicit drugs or misuse of prescription drugs (i.e., cocaine, amphetamines, inhalants, sedatives, hallucinogens, and opioids). Regarding gender differences, the prevalence of amphetamines was higher among females than among males (see Table 22.7).

No change was observed in the prevalence of cocaine or inhalants/solvent use since RHS 2002/03. However, use of sedatives/sleeping pills increased from 0.8% in RHS 2002/03 to 2.2% in RHS 2008/10.

Change in prevalence of amphetamine, hallucinogen, and opioid use between RHS 2002/3 and RHS 2008/10 could not be assessed due to changes in question wording.

Table 22.7. Illicit Drug Use and Prescription Drug Misuse by First Nations Youth in the 12 Months prior to RHS 2008/10

Substance	% using substance in past 12 months [95% CI]
Cannabis	
Females	36.3 [33.7, 39.1]
Males	36.1 [32.9, 39.4]
Overall	36.2 [34.1, 38.4]
Hallucinogens*	
Females	4.5 [3.6, 5.6]
Males	3.4 [2.6, 4.4]
Overall	3.9 [3.2, 4.7]
Amphetamines**	
Females	4.8 [3.8, 6.0]
Males	2.5 [1.8, 3.4]
Overall	3.6 [3.0, 4.3]
Cocaine or crack	
Females	3.0 [2.2, 3.9]
Males	2.6 [1.9, 3.4]
Overall	2.8 [2.2, 3.4]
Sedatives or sleeping pills***	
Females	3.0 [2.3, 3.8]
Males	1.5 [1.0, 2.3] ^E
Overall	2.2 [1.7, 2.8]
Illicit or prescription opioids****	
Females	1.5 [0.9, 2.3] ^E
Males	1.1 [0.6, 1.9] ^E
Overall	1.3 [0.8, 1.9] ^E
Inhalants (solvents, glue, gas)	
Females	1.1 [0.6, 2.0] ^E
Males	1.1 [0.7, 1.8] ^E
Overall	1.1 [0.8, 1.7] ^E
Sought treatment in lifetime	
Drug abuse/addiction	5.1
Solvent abuse/addiction	2.3 ^E

*Hallucinogen category included LSD, magic mushrooms, PCP and Special K.

**Amphetamines category included crystal meth, speed, and ecstasy.

***Use without a prescription only. Category includes Valium, Serepax, Rohypnol, etc.

****Category includes illicit opioids use (e.g., heroin) and non-prescription use of codeine, methadone, morphine, etc.

^E Moderate sampling variability; interpret estimate with caution.

DISCUSSION

The RHS 2008/10 collected data on the rates of legal and illegal drug use among First Nations youth living in First Nations communities. This data was compared to findings from RHS 2002/03 and to data from youth in the general Canadian population.

Results highlight various areas where interventions may be focused. The current smoking rate among First Nations youth is exceptionally high. Approximately one in three First Nations youth reported being current smokers, and one in five were daily smokers; females were more likely to smoke than males. Rates of current and daily smoking were dramatically higher than those observed in the general Canadian population. On a positive note, approximately 8% of First Nations youth were ex-smokers and indicated a desire to live a healthier life as their reason for quitting. In addition, youth raised in smoke-free homes were half as likely to smoke as those raised in a home with a smoker. These latter two findings suggest potential areas for intervention: increasing rates of smoking cessation by encouraging a healthy lifestyle, and encouraging smoke-free family homes.

Rates of abstinence from alcohol were higher among First Nations youth than among youth in the general Canadian population. However, when First Nations youth did drink, they were more likely to drink heavily. These findings suggest that intervention efforts should encourage abstinence from alcohol, or with respect to harm reduction, encourage moderate and responsible drinking. Results revealed that youth were more likely to remain abstinent from alcohol if their biological parents were still living together – suggesting that a stable home-life may help to decrease risk of alcohol use.

Regarding drug use, cannabis was the most commonly used drug among First Nations youth. One in three youth had used cannabis in the past year, compared to fewer than one in 10 using other drugs. Educating youth on the risks associated with cannabis use, including later abuse and dependency issues, may encourage some youth to decrease or cease using.

Social and health determinants of drug and alcohol use were also assessed. Parental marital status was consistently related to youth substance use. Licit and illicit drug use was more common among youth whose parents were no longer together due to separation, divorce, or death of a spouse than it was among those whose parents were married or living in a common-law relationship. These results suggest that youth

whose biological parents are not still together may require extra support to adopt healthy behaviours.

When it comes to intervention efforts, a multi-level approach is needed that considers causes at the individual, community and systemic level. Efforts should be grounded in the strengths of First Nations youth and their communities. Community-level interventions may include the development of health education and treatment programs designed to reduce substance use, particularly those that include a cultural component, given the protective effects of First Nations culture on youth substance use (Dell et al., 2011; Herman-Stahl, Spencer, & Duncan, 2003; Stone, Whitbeck, Chen, Johnson, & Olson, 2005). Research suggests interactive programs that allow participants to identify the pressures they feel to use substances and learn the skills needed to resist those pressures are more effective than programs that simply provide information about harmful effects (Canadian Centre for Substance Abuse, 2007).

Additionally, and perhaps more importantly, intervention efforts should not shy away from tackling the effects that the current and historical marginalization and mistreatment of First Nations peoples have had on substance use and addiction among youth. Outcomes stemming from this marginalization, such as poverty, racial discrimination, and cultural deterioration are also likely to increase risk of youth substance use. Community coalitions have been shown to be effective for identifying the social forces that are driving youth substance use in a particular community and for developing effective strategies to address the problem (Canadian Centre for Substance Abuse, 2007).

CONCLUSIONS

Results from RHS 2008/10 revealed a number of areas in which improvements are necessary with respect to youth substance use, mainly current and daily smoking, binge drinking, and cannabis use. Compared to youth in the general Canadian population, youth living in First Nations communities are at greater risk of substance use. The present chapter highlights some potential areas for change. Efforts to encourage prevention or reduce substance use on-reserve and in northern communities must consider individual, community, and societal factors that are associated with an increased risk of substance use among First Nations youth.

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Chapter 23

Sexual Health

EXECUTIVE SUMMARY

The First Nations Regional Health Survey (RHS) 2008/10 demonstrated that 27.9% of First Nations youth aged 12 to 17 years living on-reserve and in northern communities were sexually active. Of those youth, 92.5% reported being sexually active within the 12 months prior to the survey. Just under half (47.2%) of older youth, those aged 15 to 17 years, reported being sexually active. This prevalence is double the estimated 29% of Canadian youth aged 15 to 17 years who report being sexually active (Rotermann, 2008). Fewer than one in 10 (9.9%) of younger youth, those aged 12 to 14, reported being sexually active. Despite this, younger First Nations youth aged 12 to 14 years reported having more sexual partners than older youth aged 15 to 17 years, in comparison to Canadian youth, who report more sexual partners with age. This information suggests that younger First Nations youth are participating in more risky sexual behaviours. Prevalence of condom use among First Nations youth are similar to the rates among Canadian youth, with 79.1% of sexually active First Nations youth reporting using condoms, compared to 81% of Canadian youth. Also, 22.5% of First Nations youth reported the use of birth control pills, while 8.2% reported no use of birth control. Prevalence of pregnancy was unchanged in the period between RHS 2002/03 and RHS 2008/10, at 16.0% and 16.1% respectively. Of those First Nations youth who reported having had a child, 58.0% reported having had the child between the ages of 12 and 15. Only 9.6% of First Nations youth reported having ever been tested for sexually transmitted infections (STIs), while 6.8% reported having been tested for HIV/AIDS. Alarming, 80% of First Nations youth who reported being sexually active had consumed alcohol in the year prior to the survey. The data presented illustrate the current sexual health situation of First Nations youth living in First Nations communities in Canada. Of particular concern is the high prevalence of teenage pregnancy and parenthood, which make First Nations youth more vulnerable to single parenthood, low educational attainment, poverty, and poor health outcomes. The relationship between alcohol use and sexual behaviours is also concerning and must be examined further. First Nations youth are particularly vulnerable to such risky behaviours as a result of colonial history, which continues to affect the health and well-being of First Nations communities. Concerted effort should be made to address the individual, family, and community-level concerns, utilizing cultural strengths to improve sexual health education and programming.

KEY FINDINGS

- More than one-quarter (27.9%) of First Nations youth aged 12 to 17 years reported being sexually active.
- Sexual activity for First Nations youth increased with age, with 64.7% of 17-year-olds reporting being sexually active.
- Less than one in 10 (9.9%) of First Nations youth aged 12 to 14 years reported sexual activity.
- First Nations youth aged 12 to 14 years reported more sexual partners than did older youth aged 15 to 17 years.
- More than three-quarters (79.1%) of sexually active First Nations youth reported using a condom.
- More First Nations boys (84.1%) reported using a condom than girls (74.4%).
- First Nations youth aged 15 to 17 years reported more condom use (80.0%) than did younger youth aged 12 to 14 years (75.1%).
- 59.0% of First Nations youth who reported using condoms stated that they “always” used condoms.
- The most frequently reported reason (26.5%) for not always using condoms was being with a steady partner.
- Less than one-quarter (22.5%) of First Nations youth who were sexually active in the year prior to the survey reported using birth control pills.
- Less than one-fifth (16.0%) of sexually active First Nations youth reported having been pregnant or having gotten someone pregnant.
- 60.7% of those First Nations youth who reported having been pregnant or having gotten someone pregnant reported having one child.
- 58.0% of First Nations youth with children had their first child a very young age, between the ages of 12 and 15 years.
- Only 9.6% of First Nations youth reported having ever been tested for STIs, while only 6.8% of First Nations youth reported having been tested for HIV/AIDS.
- 80.0% of First Nations youth who reported being sexually active also reported having consumed alcohol in the year prior to the survey.

INTRODUCTION

Current statistics on the sexual health of First Nations youth are concerning. Rates of sexually transmitted infections, HIV, unplanned pregnancy and pregnancy at an early age are on the rise among First Nations youth and are significantly higher than the rates among youth in the general Canadian population (Anderson, 2000; Public Health Agency of Canada [PHAC], 2004). Sexual health concerns among First Nations youth must be understood within the historical and cultural context that has shaped the lives of First Nations people and communities. This requires a deeper examination of the colonial history that continues to affect First Nations people.

This chapter analyzes data gathered on sexual health and sexual activity of First Nations youth aged 12 to 17 years from RHS 2008/10. Where applicable, comparison data for Canadian figures on youth sexual activity was drawn from the 2005 Canadian Community Health Survey (CCHS), Cycle 3.1 (Rotermann, 2008). A cultural framework guided the analysis of the RHS data. Utilizing a cultural framework provides the cultural context for human sexuality and sexual health behaviours, creating an analysis process appropriate to the unique history and circumstance of First Nations youth. A historical overview will illustrate the factors that have influenced the sexual health of First Nations youth. Drawing on the current data, patterns of sexual behaviour among First Nations youth, including sexual activity and birth control, are presented. From this information, potential concerns, as well as approaches to address the needs of First Nations youth in relation to their sexual health, are discussed.

Cultural Framework

The four directions of the RHS Cultural Framework provide a culturally based approach to understanding First Nations health and well-being (National Aboriginal Health Organization [NAHO], 2005). Within the four directions model, it is essential that the total health of the individual be promoted through the mind, body, spirit, and heart, while also contextualizing this within the environment of the family and community. The western door emphasizes the significance of knowledge, education, and learning, and reflecting on the current data will promote an understanding of First Nations sexual health in order to facilitate direction. The northern door highlights the importance of healthy sexual behaviours for individuals, family, and community well-being. The eastern door recognizes the importance of culture and

spirituality to personal and community health, calling attention to the need to restore traditional beliefs, values, teachings, ceremonies, and medicines to facilitate health. The southern door emphasizes the significance of a healthy living environment where harmony and balance support stability, health, and well-being

Historical Contexts

Canada's First Nations youth are disproportionately affected by STIs (Health Canada, 2001), HIV (PHAC, 2004), teen pregnancy, and sexual abuse (Aboriginal Nurses Association, 2002). For example, rates of chlamydia and gonorrhoea in Canada are highest among Aboriginal (First Nations, Métis, and Inuit) adolescents (PHAC, 2007). Evidence suggests that First Nations youth are highly overrepresented in newly diagnosed HIV infection cases (Health Canada, 2001). Teen pregnancy among First Nations youth is also much higher, at rates up to six times those of Canadian youth (Cloe & Guimond, 2009; UNICEF Canada, 2009). Sexual abuse is also a serious and widespread concern among Aboriginal youth (Ontario Federation of Indian Friendship Centres [OFIFC], 2002).

The state of sexual health of First Nations youth is the result of complex interactions among historical, cultural, social, developmental, and behavioural factors. Similar to other Canadian youth, First Nations youth are more vulnerable to infections (Rotermann, 2008), more susceptible to peer pressure, more likely to engage in risk-taking behaviours, and more often lacking skills and confidence to negotiate safe sex (Flicker et al., 2010) than are adults. These issues are pronounced among First Nations youth and compounded by additional factors resulting from a history of colonization and oppression. These factors include poverty (Statistics Canada, 2006c), abuse (Aboriginal Healing Foundation, 2004), neglect (National Collaborating Centre for Aboriginal Health, 2010), culture loss (Aboriginal Healing Foundation, 2004), and poor self-esteem and identity confusion (Hundleby et al., 2007). The following will explore this history and the key concerns influencing the sexual health of First Nations youth.

Throughout history First Nations people have experienced significant cultural and social change that has influenced their views of human sexuality. In traditional First Nations cultures, sex is viewed as a gift from the Creator that is meant to be pleasurable (Newhouse, 1998). In traditional First Nations cultures, expressions of sexuality were accepted and expected as a normal part of human development (Aboriginal Nurses Association,

2002; McGeough, 2008). Sex was regarded as necessary to personal well-being and reproduction (Kliest, 2008). Sex was considered a sacred experience for its ability to produce human life, which sustains people (Newhouse, 1998). The openness and celebration of sex and sexuality among First Nations cultures was in stark contrast to Christian-influenced Western views on human sexuality, which regard sex and sexuality as dirty and something that needs to be controlled and relegated to the private (Newhouse, 1998). This dichotomy of views represents a source of conflict for First Nations youth, which has undoubtedly interrupted the formation of healthy sexuality and sexual behaviours. Research by the Ontario Federation of Indian Friendship Centres (2002) has also found that Aboriginal youth who reported having been sexually abused were three times more likely to report having sex because they desire love. Sexually abused youth were also more likely to have six or more sexual partners, less likely have monogamous relationships, less likely to use contraception, and much more likely to become pregnant or cause a pregnancy (OFIFC, 2002). The high rate of sexual abuse in First Nations communities is a significant factor affecting sexual health (OFIFC, 2002).

Many First Nations have also suffered great cultural losses, including the loss of puberty or coming-of-age ceremonies (Duran, Duran, & Braveheart, 1998). Puberty or coming-of-age ceremonies existed among most First Nations cultures and were performed to facilitate positive identity development and to educate youth about the power of human sexuality and its connection to Creation and spirituality. These ceremonies acknowledge the transition from childhood to adolescence or adulthood as a critical stage in which youth are at heightened risk for biological and psychosocial stress (Markstrom, 2008). It was understood that this critical stage in development necessitated special attention to foster healthy development (Markstrom, 2008). Coming-of-age ceremonies were the primary method for transmission of sexual health knowledge, moral codes, values, and appropriate behaviours to First Nations youth. The influence of Western culture, much to the detriment of First Nations peoples, has seen the replacement of these ceremonies with unhealthy coming-of-age practices, such as the first time drinking alcohol, going to a party, or the first time having sex (Markstrom, 2008). With the loss of these ceremonies among many First Nations communities, valuable cultural knowledge and teachings on human sexuality and relationships are no longer being transmitted to First Nations youth.

Additionally, the history of colonization and assimilation policies and practices in Canada has contributed to the

conditions of poverty in First Nations communities. Currently, one in four First Nations children lives in poverty, compared to one in nine Canadian children (Statistics Canada, 2006a). It is well documented that living in poverty has several ill effects on the lives and health outcomes of children and youth (National Aboriginal Consultation Project & Save the Children Canada, 2002). Family violence, lack of education, poor health, and substance abuse are just some of the negative effects associated with poverty. Of particular concern are the increased levels of alcohol and drug abuse reported by First Nations youth (Chiefs of Ontario, 2009; National Aboriginal Consultation Project and Save the Children Canada, 2002; Saskatchewan Ministry of Health, 2009). Compared to Canadian youth, more First Nations youth are using alcohol and drugs, and are doing so at an earlier age (Chiefs of Ontario, 2009; Saskatchewan Ministry of Health, 2009; van der Woerd et al., 2005). Further research has established that First Nations youth who use alcohol and drugs are more likely to engage in risky sexual behaviours (OFIFC, 2002). The consumption of alcohol has also been found to be a contributing factor in teenage pregnancies among First Nations youth (OFIFC, 2002). Moreover, there are few sexual health education programs for First Nations youth, and what is available is often delivered in culturally inappropriate ways (Banister & Begoray, 2006).

It has been acknowledged that Western biomedical approaches to health are ineffective and incongruent with First Nations understandings of health and well-being that are based in the concepts of balance and wholism (Banister & Begoray, 2006). In particular, with regard to sex and sexual health, Western and First Nations understandings contrast (Newhouse, 1998). Western values and individualistic views present puberty as a personal or private concern, serving to isolate youth at the critical stage of puberty when they are in special need of meaningful connections, especially to family and community (Banister & Begoray, 2006). It is in fact the family and community ties that are the centre of First Nations culture (Banister & Begoray, 2006) and that promote identity development in First Nations youth. These are important factors that function to promote healthy youth sexuality and sexual behaviours among First Nations youth

METHODS

The RHS 2008/10 asked First Nations youth aged 12 to 17 years living in First Nations communities to report whether they were sexually active and whether they had had sexual intercourse in the 12 months

prior to the survey. Additionally, a series of questions regarding the characteristics of their injuries was posed:

- How many people have you had sexual intercourse with in the past 12 months?
- Which of the following birth control or protective methods do you and/or your partner(s) use?
- What is the main purpose of that/those methods?
- How often do you use condoms?
- What is the main reason for not always using condoms?
- Have you ever been pregnant or gotten someone pregnant?
- How many children have you given birth to or fathered?
- At what age did you have your first child?
- Have you ever been tested for Sexually Transmitted Diseases (STDs) or Sexually Transmitted Infections (STIs)?
- Without revealing the test result, have you even been tested for HIV/AIDS?

Potential links between sexual habits and other variables included in RHS 2008/10 were also assessed, including alcohol use.

RESULTS

Sexual Activity

In RHS 2008/10, 27.9% of First Nations youth reported that they were sexually active. This figure was consistent with the RHS 2002/03 data, which found that 28.4% of First Nations youth were sexually active. As seen in Figure 23.1, 9.9% of First Nations youth aged 12 to 14 years reported being sexually active—a slight increase from RHS 2002/03, which found only 7.9% of this age group sexually active. Also, 47.2% of older youth aged 15 to 17 years reported being sexually active, compared to 46.1% of First Nations youth in RHS 2002/03. The prevalence of sexual activity was much higher among First Nations youth than among older Canadian youth aged 15 to 17, of whom only 29% reported sexual activity. Comparatively, only 8% of younger Canadian youth aged 15 or under reported being sexually active, while 9.9% of First Nations youth aged 12 to 14 reported the same. As seen in Table 23.1, more First Nations youth reported being sexually active as age increased.

Figure 23.1. Sexual Activity, by Age Group

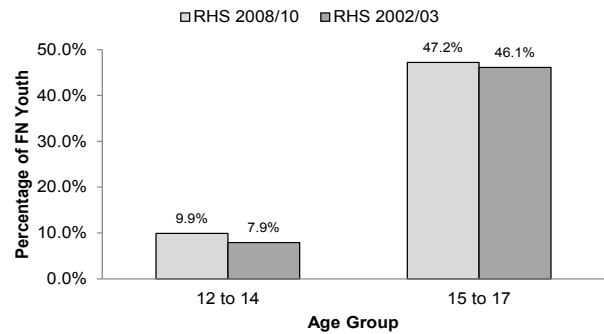
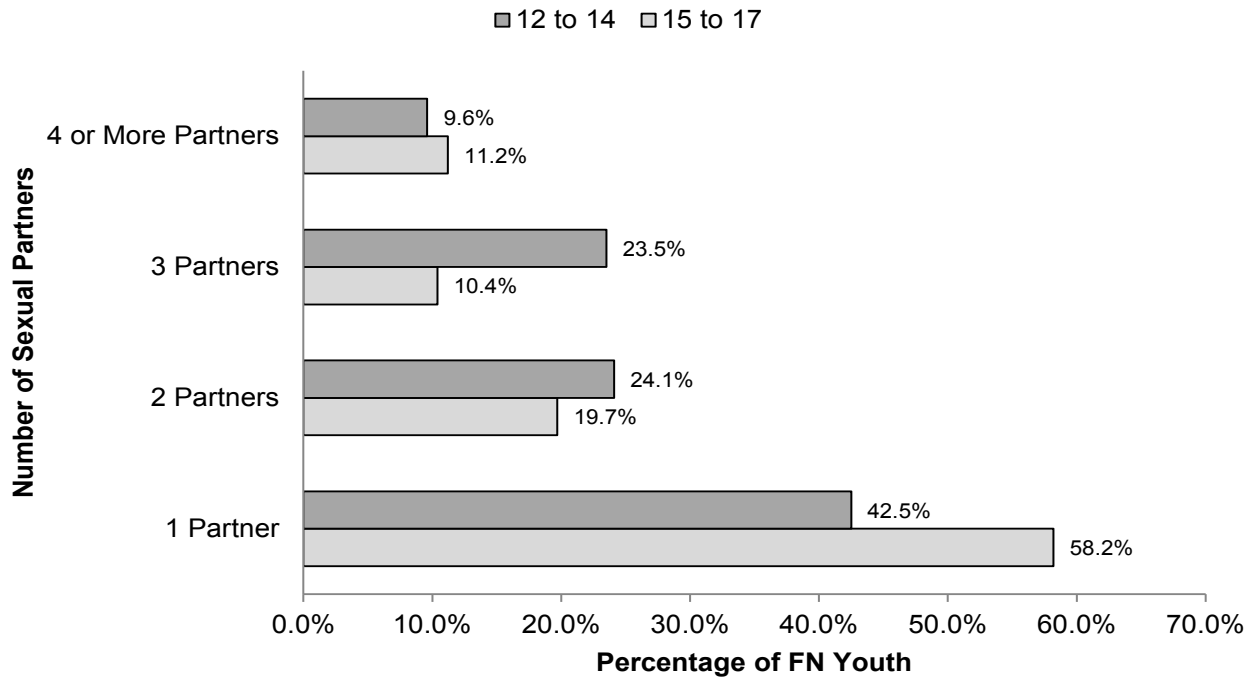


Table 23.1. Percentage of Youth Sexually Active, by Age

Age	Sexually active (%)
12	3.0
13	8.6
14	16.8
15	29.2
16	50.8
17	64.7

Examining the number of sexual partners by age of First Nations youth revealed that 58.2% of First Nations youth aged 15 to 17 years and 42.5% of First Nations youth aged 12 to 14 years reported having only one sexual partner in the 12 months prior to the survey. Figure 23.2 illustrates the reported number of sexual partners by age group. Younger First Nations youth who reported being sexually active had more sexual partners than older First Nations youth. Just under one-quarter (24.1%) of younger First Nations youth reported having two sexual partners, compared to 19.7% of older First Nations youth. Again, just under one-quarter (23.5%) of younger First Nations youth reported three sexual partners, compared to 10.4% of older First Nations youth. Fewer than one in 10 (9.6%) younger First Nations youth reported having four or more sexual partners, compared to 11.2% of older First Nations youth. In contrast, youth in the general Canadian population report more sexual partners with age.

Figure 23.2. Number of Sexual Partners, by Age Group



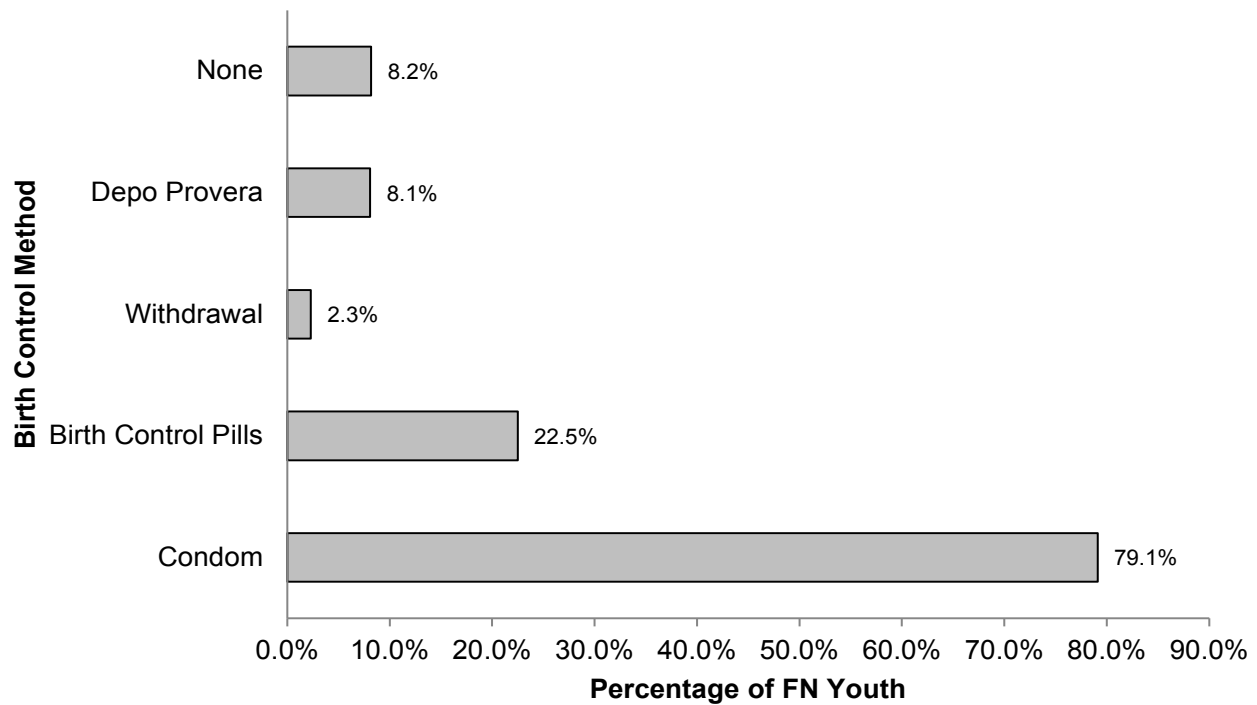
Examining gender differences in sexual activity demonstrated that 29.2% of First Nations female youth reported being sexually active, compared to 26.7% of males. Regarding age and gender, the proportions of First Nations youth who were sexually active were similar among males and females. Among First Nations youth, of those aged 12 to 14 years, 9.3% of males and 10.6% of females reported being sexually active. Of those aged 15 to 17 years, 45.5% of males and 48.9% of females reported being sexually active. First Nations male and female youth also reported similar numbers of sexual partners, with 54.3% of males and 56.4% of females reporting one sexual partner in the 12 months prior to the survey, and 13.2% of First Nations male youth and 8.8% of female youth reporting four or more sexual partners in the 12 months prior to the survey. Data from the general Canadian population demonstrated that male youth are more likely to have multiple sexual partners.

youth reported use of birth control and protection methods both to avoid pregnancy and to protect against STIs.

Birth Control and Protection Methods

Birth control and protection methods fall under two main categories: prevention of pregnancies and reducing the risk of STIs. Figure 23.3 summarizes the leading birth control protection methods reported for First Nations youth. More than one-quarter (27.4%) of all First Nations youth reported using birth control to avoid pregnancy, while 15.9% reported using birth control for protection against STIs. More than half (55.8%) of all First Nations

Figure 23.3. Leading Birth Control or Protection Methods



Among First Nations youth who reported having sexual intercourse in the 12 months prior to the survey, 79.1% reported using condoms as a form of birth control or protection. This figure decreased only slightly from RHS 2002/03, when 81% of First Nations youth reported using condoms. Although the 2005 CCHS reported more specifically on condom use at last intercourse, 81% of older Canadian youth aged 15 to 17 years reported using a condom. Condom use among younger First Nations youth aged 12 to 14 years was 75.1%, while it was 80.0% for older First Nations youth aged 15 to 17 years. Categorizing First Nations youth by gender showed that 84.1% of males and 74.4% of females reported using condoms. Similarly, male youth in the general Canadian population are more likely to report having used a condom at last intercourse than are female youth (80% vs. 70%, respectively [Rotermann, 2008]).

When asked how often they used condoms, 59.0% of First Nations youth stated that they “always” used condoms; 22.8% reported that they used condoms “most of the time”; 11.6% reported that they “occasionally” used condoms; and another 6.7% reported “never” using condoms. Table 23.2 summarizes the reported reasons for not “always” using a condom.

Table 23.2. Reasons for Not “Always” Using a Condom

Reason for not “always” using a condom	Percentage
With a steady partner	26.5
Did not have a condom at the time	18.5
Under the influence at the time	16.5
Did not want to use one	7.3
Did not think to use one	7.2
Partner wanted to get pregnant	2.4
Could not afford one	1.3
Other	6.5

Of the First Nations youth who reported being sexually active, 22.5% reported using birth control pills. The use of birth control pills by age group was as follows: 15.1% of youth aged 12 to 14 years and 24.2% of youth aged 15 to 17 years reported using birth control pills. Fewer than one in 10 (8.1%) of the First Nations youth who reported being sexually active also reported using Depo-Provera (injection) birth control. One in 10 (10.0%) younger First Nations youth reported using Depo-Provera, compared to 7.7% of older First Nations youth. Fewer than one in 10 (8.2%) First Nations youth reported using no form of birth control: 6.8% of younger First Nations youth and 8.5% of older First Nations youth reported using no form of birth control.

Pregnancy or Fathering a Child

Information was gathered to assess the rates of pregnancy and parenthood among First Nations youth. The data demonstrated that 16.0% of First Nations youth who reported being sexually active had been pregnant or had gotten someone pregnant. This was comparable to the 16.1% of sexually active youth in RHS 2002/03 who reported having been pregnant or having gotten someone pregnant, indicating that pregnancy rates have remained unchanged. Figures for male and female First Nations youth who reported being sexually active and having ever been pregnant or having gotten someone pregnant differed somewhat, at 14.3% for males and 17.5% for females. Of the First Nations youth who reported mothering or fathering a child, 60.7% reported having one child. The data showed that more First Nations youth (58.0%) with children had their first child at a very young age (12 to 15 years) while another 42.0% had their first child at age 16 or 17

Patterns of Testing: STIs and HIV/AIDS

When asked if they had ever been tested for an STI, the majority (90.4%) of First Nations youth answered no. Among the First Nations youth who reported having been tested, being tested increased with age, from 3.4% of younger First Nations youth to 16.0% of older First Nations youth. A higher percentage of First Nations female youth than male youth reported being tested for STIs (14.2% vs. 5.3%, respectively).

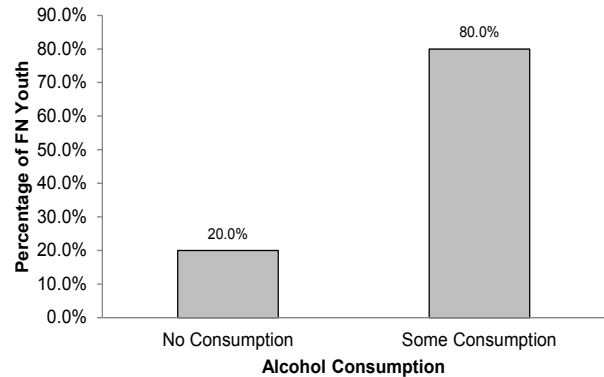
The data revealed similar findings for First Nations youth who reported being tested for HIV/AIDS. Only 6.8% of First Nations youth reported having ever been tested for HIV/AIDS: 3.8% of those aged 12 to 14 years and 9.9% of those aged 15 to 17 years. Additionally, more First Nations female youth than male youth reported having been tested for HIV/AIDS (8.5% vs. 5.1%, respectively). Having an increased number of sexual partners was associated with a higher prevalence of HIV/AIDS testing. For example, of those who reported having one sexual partner in the 12 months prior to the survey, 16.3% had undergone HIV/AIDS testing, whereas 33.5% of those who had four or more sexual partners reported being tested for HIV/AIDS.

Other Factors

Regarding sexual activity, the data demonstrated that 80% of First Nations youth who reported being sexually active also reported having consumed alcohol in the 12 months prior to the survey (see Figure 23.4). Of those who reported having ever been pregnant or

having gotten someone pregnant, 79% also reported consuming alcohol in the 12 months prior to the survey.

Figure 23.4. Sexual Activity, by Alcohol Consumption



DISCUSSION

The Western Door

Exploring the sexual habits of First Nations youth provides insight into their current sexual health situation. It is important to understand what the data tell us in order to provide direction for sexual health education and promotion for First Nations youth. Examining the data, we can see that First Nations youth's rates of sexual activity are comparable to rates of sexual activity in the general Canadian youth population. First Nations youth and Canadian youth also show similar patterns of increased sexual activity with age. However, when examining these data more closely, we can see where First Nations youth differ in sexual habits. A comparable 9.6% of First Nations youth and 8% of general Canadian youth under 15 years of age report sexual activity. However, younger First Nations youth aged 12 to 14 years reported more sexual partners than older First Nations youth aged 15 to 17; in contrast, youth in the general Canadian population report more sexual partners with age (Devries et al, 2007). This information suggests that younger First Nations youth who are sexually active are engaging in potentially more risky sexual behaviours at a younger age.

Other research has established that early sexual activity may increase the risk of unsafe sex (Kotchick, Shaffer, & Forehand, 2002) and teenage pregnancy and contracting sexually transmitted infections (Langille & Curtis, 2002). Although the RHS did not collect information on rates of STIs among First Nations youth, the data did demonstrate that, despite having more sexual partners, younger First Nations youth reported lower rates of testing for STIs and HIV/AIDS than did older First Nations youth. Younger First Nations youth who were sexually active also

reported using condoms and birth control pills less often than older First Nations youth. Additionally, most First Nations youth with children had their first child at a very young age, from 12 to 15 years old. Given the negative consequences of early sexual behaviour, it is imperative to establish ways to decrease the number of First Nations youth who engage in risky sexual behaviour by understanding the factors that contribute to this behaviour.

The data also showed that First Nations youth who consumed alcohol engaged in sexual activity more often. The current data also support other research that has shown that frequent alcohol use is a predictive factor for risky sexual behaviours among youth. This relationship was found for any alcohol consumption in the past year, rendering it unclear in relation to frequent alcohol consumption. However, other research has identified alcohol consumption as a significant factor in risky sexual behaviours among youth (Devries, Free, & Jategaonker, 2007; Kotchick et al., 2002). The Ontario Federation of Indian Friendship Centres (2002) cited similar findings in its report on urban Aboriginal youth sexual health and pregnancy when it reported that alcohol and drug use was the most cited reason for Aboriginal youth pregnancy (OFIFC, 2002). Given this data, alcohol consumption presents a serious concern that must be further examined in relation to First Nations youth sexual health.

The Northern Door

Langille (2007) explains that among youth, the choices to become sexually active and to use contraception are influenced by a number of factors that operate at the individual level (e.g., knowledge, attitudes and beliefs), the intra-familial level (e.g., family structure, parent-child communication, and socio-economic status), the extra-familial level (e.g., peer influences, sexual health education at school, and health services) and the community level (e.g., norms and values). Despite this, sexual health research, policy, and programs tend to take a self-orientated focus to factors that relate to sexual behaviours (Kotchick et al., 2002). An awareness of the importance of family and social context provides a better approach to understanding sexual health among First Nations youth. It is not enough to address the sexual health knowledge, beliefs, and attitudes of youth, as many health education programs attempt to do, because it is known that individuals live in an environment where multiple factors influence decision making. This is particularly applicable to the lives of First Nations youth, where historical influences continue to permeate all levels with a host of factors that interplay and influence how youth navigate sexual decision making.

At the family level, factors such as parental education, single parenting, socio-economic status, and parent education have all been found to influence youth sexual behaviours (Kotchick et al., 2002). Understanding these factors in relation to the context of First Nations youth sexual health is imperative when over one-third of Aboriginal children live in poverty and are more than twice as likely to live in a single-parent home (Statistics Canada, 2006b). Research has also shown that parents, particularly mothers, act as an important role model for sexual behaviour (Kotchick et al., 2002; OFIFC, 2002). Thus, it becomes important that we simultaneously address the sexual health of First Nations parents, particularly women, in promoting positive role modeling in First Nations communities.

The Eastern Door

The loss of First Nations ceremonies, teachings, and practices of sexual health and well-being may help to explain the current sexual health practices among First Nations youth. The eastern door highlights the importance of culture and spirituality to personal and community health. The need to restore traditional cultural beliefs, values, teachings, ceremonies, and medicines is identified as critical to address the effects of the colonial history that has disrupted First Nations culture, health, and well-being (NAHO, 2008; Wilson, 2002).

Research performed by OFIFC (2002) on urban Aboriginal youth sexual health and pregnancy identified that almost half of the Aboriginal youth surveyed identified with Native spiritual traditions but felt that concrete cultural teachings on sex and family planning were lacking. OFIFC also found that the youth who identified with Native spirituality were less likely to have been pregnant or to have gotten someone pregnant. In their sample, 63% of the youth who identified with Native spirituality had not conceived as of yet, compared with 52% of youth who were Christian and 48% of youth with no spiritual ways (OFIFC, 2002). This information suggests that First Nations culture and spirituality may act as a protective factor to risky sexual behaviours. Similar research has found that adolescents who report higher levels of religiosity are less likely to be sexually active (Brigham & Crockett, 1996; Kotchick et al., 2002). Unfortunately, there is limited research to establish the relationship between Native spirituality, culture, and sexual health. However, considering the negative outcomes associated with risky sexual behaviour, it is crucial that we consider the possible protective features of First Nations culture and spirituality.

Above all, it is essential to consider how sex and sexual health are understood in First Nations cultures. In traditional First Nations cultures, sex is viewed as a gift from the Creator that was an accepted and expected part of human development, facilitating reproduction and personal well-being (Newhouse, 1998). However, due to cultural oppression and colonial influence, significant cultural change has ensued and influenced the ways in which sexuality is expressed. The sexual abuse experienced by many First Nations children and youth in the residential school system has affected the ability of generations of First Nations families to discuss, express, and role model healthy sexuality. Further, valuable First Nations ceremonies and rites of passage that were intended to educate youth on puberty, sex, relationships, and family planning are no longer commonly passed down to youth in many First Nations communities. Adolescence is a period when great physical, emotional, and social change is taking place, and because of this, it is a critical stage in development in which youth require considerable support and guidance. Furthermore, at this stage youth are shaping and exploring their identity, which has significant implications for self-esteem. Kotchick et al. (2002) have found that self-esteem is a significant predictor of sexual behaviours and that youth with lower self-esteem are more likely to engage in unprotected sex. Promoting First Nations culture and spirituality has the potential to facilitate positive identity development and self-esteem, as well as to provide important cultural teachings about human sexuality.

The Southern Door

The southern door emphasizes the importance of a healthy living environment where harmony and balance support stability, health, and well-being. Balance is at the heart of all First Nations people. Balance among all Creation, balance among the physical, mental, emotional and spiritual aspects of the self, and, especially, balance among men and women are all important aspects in the lives of First Nations people (Boyer, 2009). Balance among the sexes was promoted through the distinct, but equally respected, roles and responsibilities of men and women (Boyer, 2009). This balance is critical to a harmonious family, community, and nation. However, through colonial policy and influence, such as the Indian Act and patriarchal value, this balance has been disrupted. Women, in particular, have lost a great deal of their political, social and legal status, and authority (Boyer, 2009). The diminished roles and status of First Nations women have also left them at an increased risk of physical and sexual abuse (Amnesty International,

2009). Aboriginal women are victims of sexual and physical violence at three to four times the rate of non-Aboriginal women (Amnesty International, 2009).

Very much a result of negative representations of First Nations women as hyper-sexualized, these stereotypes continue to influence First Nations women's reality and, consequently, their understanding and respect for themselves as sexual beings (Anderson, 2000). While the data showed that only slightly more First Nations female youth than male youth are sexually active, and similar percentages are reported for number of sexual partners, females were much less likely to report condom use than males. First Nations female youth also reported slightly higher rates of having ever been pregnant, compared to male rates of having ever gotten someone pregnant. It is known from the literature that single-parenting is much higher among female adolescents. Furthermore, because female youth often take on the majority of parenting responsibilities, they have fewer educational and employment opportunities and are subsequently more vulnerable to poverty and poor health (Langille, 2007).

Additionally, intergenerational impacts of the residential school legacy have also left First Nations youth vulnerable to physical and sexual abuse. In its survey of Aboriginal youth, OFIFC found that 61% of female youth, compared to 35% of male youth, report having been sexually abused (OFIFC, 2002). It was also found that sexual abuse manifested itself in the lives of male and female youth, who were more likely to have sex because they desired love, more likely to have multiple partners, less likely to use protection, and more likely to become pregnant or cause a pregnancy.

At the community level there is an obligation to provide adolescents with a safe passage into adulthood. This requires that First Nations communities seek community well-being and promote healthy behaviours, including the promotion of culture, to address the negative influences of colonization and healing from intergenerational traumas, such as the residential school legacy. The promotion of traditional First Nations culture means restoring the balance between genders and the respect and authority of First Nations women within the community.

CONCLUSIONS

The data from RHS 2008/10 provide a glimpse into the sexual health behaviours of First Nations youth. Although First Nations youth show similar patterns of sexual activity to youth in the general Canadian population, closer examination reveals many differences. Early initiation of

sexual activity and increased numbers of sexual partners among very young First Nations youth are highly predictive of risky sexual behaviours. This may explain the elevated rates of teenage pregnancy and rates of STIs among First Nations youth. The current data also suggest that alcohol consumption is associated with increased rates of sexual activity among First Nations youth. As a serious concern among First Nations communities and a predictive factor in risky sexual behaviour among youth, alcohol consumption is an important sexual health concern that must be examined further and addressed.

Taking a multi-system approach is critical to developing a comprehensive understanding of the factors that shape the sexual health of First Nations youth, as it is those factors that indirectly affect First Nations youth that produce the greatest concern for sexual health. Most important, we must address societal factors, including the impacts of colonial history, which are far-reaching, affecting health and well-being on all levels. The complexity and multiplicity of historical influences on the sexual health of First Nations youth, in combination with the biological and developmental risks facing all youth, are indeed challenging to address but necessary if any efforts are to be effective.

Colonial influence and policy devastated First Nations cultures, disrupting societies and breaking down political, economic, community, and clan systems that were designed to support the health and well-being of First Nations people. Restoring these systems is necessary to return gender balance, family and community well-being, and ultimately individual health and well-being. Serving as a cultural strength and protective factor for youth, First Nations culture has the potential to promote healthy development and sexual health behaviours. Efforts should be made to address the current lack of culturally competent programs to provide effective sexual health education for First Nations youth. It is also imperative that First Nations communities, including First Nations youth, be included in the development of sexual health programs to ensure they are meaningful to each community's culture and needs.

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Chapter 24

Chronic Health Conditions and Health Status

EXECUTIVE SUMMARY

This chapter explores the self-reported presence of chronic health conditions, determinants of health, and health status among First Nations youth aged 12 to 17 years living on reserve and in northern communities. More than one-third (37.8%) of First Nations youth reported having been diagnosed with at least one chronic condition, the most common being allergies (16%), asthma (12.7%), and learning disabilities (5.8%). The distribution of health conditions among First Nations youth remained approximately the same when compared with RHS 2002/03, with the exception of an increase in the presence of learning disabilities (3.5% in RHS 2002/03 vs. 5.8% in RHS 2008/10). Some health conditions were observed to differ by gender; a higher proportion of First Nations girls were diagnosed with allergies, whereas a higher proportion of First Nations boys were diagnosed with attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD) and other learning disabilities. Regarding the treatment of health conditions, First Nations youth diagnosed with allergies (approximately 40%), ADD/ADHD or learning disabilities (approximately 45%), or asthma (approximately 60%) were currently undergoing treatment or taking medications for their conditions. Overall, the majority of First Nations youth rated their general health and mental health as being “excellent” or “very good.” Those with at least one health condition rated their general health and mental health less positively than those without a health condition. A higher proportion of First Nations youth with diabetes perceived their general health and mental health as being “poor” (11.5% and 20.9%, respectively) compared to those without diabetes, of whom fewer than 3% considered their general and mental health to be “poor.” Apart from the difficulties First Nations youth experienced directly related to their health conditions, First Nations youth with a health condition were also more likely to face difficulties in other areas of their lives. A higher proportion of those with at least one health condition suffered from depression, had thought about suicide, or had attempted suicide compared to those with no health conditions. Regarding education, a lower proportion of First Nations youth with a health condition reported that they liked school and a higher proportion reported having had difficulties learning, compared to those without a health condition. On a positive note, no difference was observed between First Nations youth with or without a health condition regarding diet, obesity (with the exception of youth with diabetes), alcohol intake, smoking, or drug use. The majority of First Nations youth with at least one health condition appeared to be receiving care from a health professional. In the year prior to the survey, 77.4% of First Nations youth with at least one health condition reported having seen a doctor or community health nurse.

KEY FINDINGS

- The RHS 2008/10 revealed that 37.8% (95% CI [35.7, 39.9]) of First Nations youth reported having been diagnosed with at least one chronic health condition.
- The most commonly reported health conditions among First Nations youth were allergies (16.0%), asthma (12.7%), learning disabilities (5.8%), and dermatitis (4.3%).
- Compared to RHS 2002/03, a higher proportion of First Nations youth in RHS 2008/10 with allergies reported that they were currently seeking treatment or taking medication (39.1% in RHS 2008/10 vs. 26.3% in RHS 2002/03, 95% CIs [34.4, 44.1] and [20.9%, 30.5%], respectively).
- Slightly higher proportions of ADD/ADHD (5.1% vs. 2.3%) and learning disabilities (7.4% vs. 4.2%) were reported among First Nations boys than girls.
- The presence of learning disabilities has increased since RHS 2002/03 (5.8% vs. 3.5%).
- A lower proportion of First Nations youth with a health condition reported that they liked school and a higher proportion reported having had learning difficulties compared to those without a health condition.
- First Nations youth with a health condition did not differ from those without a health condition with respect to future educational goals.
- The majority of First Nations youth with a health condition rated their general health and mental health “good” or “very good/excellent.”
- A higher proportion of First Nations youth with at least one health condition reported having felt sad, blue, or depressed in the past year, or to have thought about or attempted suicide, compared to those with no health conditions.
- (43.1%) of First Nations youth are overweight or obese.
- First Nations youth with at least one health condition were no more or less likely to report consuming nutritious meals than those without a health condition.
- Although a large variation was seen among First Nations youth who reported undergoing treatments for health conditions, the majority of those with a health condition (77.4%) reported having seen a health care professional (e.g., doctor, community health nurse) in the year prior to the survey.

INTRODUCTION

Previous research has revealed that First Nations youth are at a substantial risk for future development of a wide variety health conditions. By adulthood, the presence of diabetes, respiratory disease, heart disease, liver disease, and psychological distress (depression, suicide ideation, and suicide attempts) is dramatically larger within First Nations youth living in First Nations communities than in the general Canadian population (First Nations Information Governance Committee, 2005; Public Health Agency of Canada [PHAC], 2003; Waldram, Herring, & Young, 2006; Young et al., 1998). In addition, early onset of health conditions increases the likelihood of developing other health conditions (co-morbidity). For example, the early onset of diabetes is linked with a future higher incidence of diabetic complications, including blindness, kidney disease, heart disease, and stroke (PHAC, 2003).

When age-standardized, the higher prevalence of health conditions among the First Nations population may be the result of a higher prevalence of individual risk factors (e.g., smoking, obesity, poor nutrition, lack of physical activity) as well as social, economic (e.g., lower educational attainment, lower income), and environmental (e.g., poor housing conditions) factors (Health Canada, 2009). In addition, various protective factors (e.g., nutritional diet combined with physical activity) may be harder to achieve for the First Nations population. For example, the high cost, poor quality, and lack of variety and availability of perishable foods, and the lack of recreational opportunities greatly increases the likelihood of obesity (Willows, 2005). The availability of health care is also problematic; the First Nations population faces many barriers to accessing health care, including gaps in insurance coverage, isolation, and language barriers (Peiris, Brown, & Cass, 2008). Thus, First Nations communities appear to lack many of the elements that would help to keep their residents healthy.

This chapter provides a summary of RHS 2008/10 data on health conditions among First Nations youth living on reserve and in northern communities, outlining the distribution of various health conditions by demographic characteristics such as gender, and compares these results with RHS 2002/03. This chapter also compares First Nations youth with health conditions to those without, on various risk factors and determinants of health (e.g., obesity, nutrition, activity level, education level, visits to health care professionals). Finally, suggestions are made regarding the areas of health care that most need improvement.

METHODS

Analyses were based on data from First Nations youth aged 12 to 17 years living on reserve and in northern communities. Survey participants were asked whether they had been diagnosed with any of the following conditions: asthma, chronic back pain, allergies, blindness or serious vision problems that cannot be corrected with glasses, hearing impairment, epilepsy, emphysema, psychological or nervous disorders, cognitive or mental disability, ADD/ADHD, learning disability, stomach or intestinal problems, HIV/AIDS, hepatitis, tuberculosis, diabetes, anemia, fetal alcohol spectrum disorder (FASD), chronic ear infections, liver disease (excluding hepatitis), or dermatitis or atopic eczema.

The RHS 2008/10 also included questions about common covariates of health conditions: gender, substance use (e.g., cigarette smoking, alcohol consumption, illicit drug use), body mass index (BMI), education-related questions, symptoms of depression, and suicide ideation and suicide attempts.

Participants' responses to the health conditions variables were recoded to create a dichotomous variable: "at least one health condition" versus "no health condition." Similarly, treatment seeking was also dichotomized into "undergoing treatment for condition" versus "not undergoing treatment for condition." To assess co-morbidity of conditions, participants were categorized as having zero, one, two, or three or more health conditions.

To assess whether those with at least one health condition differed from those with no health conditions with respect to the health-related variables or behaviours (e.g., obesity, drug use) cross tabulations were used. Percentages and 95% confidence intervals are reported

RESULTS

Distribution of Health Conditions

The RHS 2008/10 revealed that 37.8% (95% CI [35.7, 39.9]) of First Nations youth reported having been diagnosed with at least one health condition. No gender differences were observed. The most commonly reported health conditions were allergies (16.0%), asthma (12.7%), learning disabilities (5.8%), and dermatitis (4.3%; see Table 24.1).

Regarding co-morbidity of health conditions among First Nations youth, 10.1% reported having been diagnosed with two health conditions and 6.3% reported having been diagnosed with three or more health conditions (95% CIs [8.9, 11.5] and [5.4, 7.4], respectively.

Table 24.1. Distribution of Health Conditions, RHS 2002/03 vs. RHS 2008/10

Health Condition	RHS 2002/03 % [95% CI]	RHS 2008/10 % [95% CI]
ADD/ADHD	2.4 [1.9, 3.1]	3.8 [3.0, 4.7]
Allergies	15.1 [13.3, 17.0]	16.0 [14.6, 17.6]
Anemia (chronic)	n/a	1.5 ^E [1.1, 2.2]
Asthma	13.6 [11.7, 15.7]	12.7 [11.3, 14.3]
Blindness or serious vision problems that cannot be corrected with glasses	1.9 [1.4, 2.5]	3.5 [2.7, 4.4]
Cerebral palsy	F	n/a
Chronic bronchitis	2.4 [1.8, 3.0]	1.5 [1.1, 2.0]
Chronic ear infections	4.8 [3.9, 5.8]	2.6 [2.0, 3.2]
Cognitive or mental disability	0.8 [0.6, 1.1]	0.8 ^E [0.5, 1.3]
Dermatitis or atopic eczema	n/a	4.3 [3.5, 5.2]
Diabetes	0.8 ^E [0.6, 1.1]	0.8 ^E [0.6, 1.2]
Epilepsy	0.4 ^E [0.2, 0.6]	1.0 ^E [0.7, 1.6]
FASD	n/a	0.8 ^E [0.5, 1.3]
Hearing impairment	1.7 [1.3, 2.2]	1.9 [1.5, 2.5]
Hepatitis	F	F
HIV/AIDS	F	F
Kidney disease	0.4 ^E [0.2, 0.7]	n/a
Learning disability	3.5 [2.9, 4.2]	5.8 [5.0, 6.8]
Liver disease	F	F
Physical disability	0.8 [0.6, 1.0]	n/a
Psychological or nervous disorder	1.2 [0.9, 1.5]	1.7 ^E [1.2, 2.4]
Stomach or intestinal problems	n/a	3.9 [3.1, 4.7]
Tuberculosis	0.7 ^E [0.5, 1.1]	0.6 ^E [0.3, 1.0]

n/a = not assessed at time point

F = suppressed due to low cell count (n < 5) or very high CV (>.333).

^E = interpret with caution, high CV (.166 to .332)

Table 24.2. Percentage of First Nations Youth Seeking Treatment or Taking Medication (of those who were diagnosed with the condition), RHS 2002/03 vs. RHS 2008/10

Health Condition	RHS 2002/03 % [95% CI]	RHS 2008/10 % [95% CI]
ADD/ADHD	34.2 ^E [21.8, 49.2]	45.0 [34.6, 55.8]
Allergies	26.3 [20.9, 32.5]	39.1 [34.4, 44.1]
Anemia (chronic)	n/a	70.9 [53.8, 83.6]
Asthma	55.9 [49.6, 62.0]	57.5 [51.7, 63.1]
Blindness or serious vision problems that cannot be corrected with glasses	16.7 ^E [9.3, 28.1]	48.0 [37.3, 58.9]
Cerebral palsy	F	n/a
Chronic bronchitis	16.5 ^E [10.2, 25.8]	37.9 ^E [24.5, 53.5]
Chronic ear infections	33.6 [25.8, 42.4]	25.2 ^E [17.5, 34.8]
Cognitive or mental disability	F	57.6 ^E [32.4, 79.4]
Dermatitis or atopic eczema	n/a	69.7 [55.3, 81.0]
Diabetes	64.8 [47.0, 79.3]	65.9 [44.3, 82.5]
Epilepsy	55.3 ^E [32.4, 76.1]	68.2 [46.6, 84.1]
FASD	n/a	F
Hearing impairment	F	35.6 ^E [23.0, 50.5]
Hepatitis	F	F
HIV/AIDS	F	F
Kidney disease	F	n/a
Learning disability	12.6 ^E [8.3, 18.7]	44.3 [35.7, 53.2]
Liver disease	F	F
Physical disability	37.2 ^E [21.7, 55.8]	n/a
Psychological or nervous disorder	18.1 ^E [10.5, 29.4]	42.0 ^E [25.0, 61.0]
Stomach or intestinal problems	n/a	41.9 [31.9, 52.7]
Tuberculosis	F	F

n/a = not assessed at time point

F = suppressed due to low cell count ($n < 5$) or very high CV ($> .333$).

^E = interpret with caution, high CV (.166 to .332)

Allergies

Allergies were the most common health conditions among First Nations youth (16.0%; see Table 24.1). No change in distribution was observed between RHS 2002/03 and RHS 2008/10. However, improvements were seen; in RHS 2008/10, a higher proportion of First Nations youth with allergies reported that they were currently undergoing treatment or taking medication compared to RHS 2002/03 (39.1% in RHS 2008/10 vs. 26.3% in RHS 2002/03, 95% CIs [34.4, 44.1] and [20.9, 30.5], respectively; see Table 24.2).

The presence of allergies varied between genders; a higher proportion of First Nations girls reported having allergies (13.5% of boys vs. 18.5% of girls, $p < .05$).

Asthma

The second most commonly reported health condition among First Nations youth was asthma, at 12.7% (95% CI [11.3, 14.3]; see Table 24.1). This was comparable to the presence of asthma observed in the general Canadian population; approximately 11.5% of Canadian youth aged 12 to 19 years reported having asthma (Statistics Canada, 2005).

Approximately 20% (19.8%; 95% CI [15.8, 24.5]) of First Nations youth with asthma reported having had an asthma attack within the year prior to the survey. The presence of asthma and the recent occurrence of asthma attacks did not differ between boys and girls.

Overall, 57.5% (95% CI [51.7, 63.1]) of First Nations youth with asthma reported that they were currently undergoing treatment or taking medication for their condition (see Table 24.2).

The mean age of asthma diagnosis was 5.4 years old (95% CI [5.0, 5.8]); however, a substantial proportion of First Nations youth (29.4%, 95% CI [24.3, 35.1]) were diagnosed with asthma before their first birthday.

The percentage of First Nations youth with asthma, and the percentage of those with asthma seeking treatment or taking medication for their condition, did not differ between RHS 2002/03 and RHS 2008/10.

ADD/ADHD and learning disabilities

Approximately 6% (5.8%) of First Nations youth reported having a learning disability, and 3.8% reported having been diagnosed with ADD/ADHD (95% CIs [5.0, 6.8] and [3.0, 4.7], respectively; see Table 24.1). The average age of diagnosis for both ADD/ADHD and learning disabilities was 8 years (8.5 years and 7.9 years respectively).

Regarding gender differences, a higher proportion of First Nations boys reported having been diagnosed with a learning disability (7.4% of boys vs. 4.2% of girls, $p < .05$) or ADD/ADHD (5.1% of boys vs. 2.3% of girls, $p < .05$).

The presence of learning disabilities has increased (5.8% in RHS 2008/10 vs. 3.5% in RHS 2002/03, 95% CIs [5.0, 6.8] and [2.9, 4.2], respectively) and the presence of ADD/ADHD was unchanged since RHS 2002/03.

Among First Nations youth with learning disabilities or ADD/ADHD, slightly fewer than half reported that they were currently undergoing treatment or taking medication for a learning disability or for ADD/ADHD (44.3% and 45.0%, respectively, 95% CIs [37.5, 53.2] and [34.6, 55.8]; see Table 24.2).

Other health conditions

Fewer than 5% of First Nations youth reported having been diagnosed with any of the other health conditions (anemia, dermatitis or atopic eczema, blindness or serious vision problems that cannot be corrected with glasses, hearing impairment, tuberculosis, psychological or nervous disorders, cognitive or mental disability, FASD, chronic ear infections, chronic bronchitis, diabetes, HIV/AIDS, hepatitis, or epilepsy (see Table 24.1).

Compared to RHS 2002/03, in RHS 2008/10, more First Nations youth reported blindness or serious vision problems that could not be corrected with glasses (3.5% vs. 1.9%) and epilepsy (4.8% vs. 2.6%, 95% CIs [2.7, 4.4], [1.4, 2.5], [3.9, 5.8], and [2.0, 3.2], respectively; see Table 24.1). Comparisons in the distribution of stomach and intestinal problems, anemia, FASD, and dermatitis or atopic eczema could not be reported on because these conditions were not included in RHS 2002/03.

Large variations were observed between health conditions in the percentage of those afflicted undergoing treatment or taking medication. Almost 70% of First Nations youth who reported being diagnosed with anemia, epilepsy, diabetes, or dermatitis or atopic eczema also reported that they were undergoing treatment or taking medication for these conditions, while fewer than half of First Nations youth who reported being diagnosed with tuberculosis, chronic bronchitis, or stomach or intestinal problems also reported currently undergoing treatment or taking medication for these conditions.

Perceived Health Status

General health status

First Nations youth were asked whether they perceived their general health as “very good/excellent,” “good,” “fair,” or “poor.” Overall, the majority of First Nations youth (65.4%) reported that their general health was “very good/excellent.” Only 0.8% reported their general health as “poor” (95% CIs [63.0, 67.7] and [0.6, 1.2], respectively). No gender differences were observed with regards to perceived general health status.

A lower proportion of First Nations youth with at least one health condition rated their general health as “very good/excellent” compared to those with no health conditions. Seventy (70.8%) percent of First Nations youth who reported not being diagnosed with a health condition rated their general health as “very good/excellent,” whereas 62.4% of those who reported having been diagnosed with one health condition, 52.2% of those who reported having been diagnosed with two health conditions, and 51.6% of those who reported having been diagnosed with three or more health conditions rated their general health as “very good/excellent” (95% CIs [67.7, 73.7], [57.9, 66.6], [46.2, 58.2], and [44.0, 59.1], respectively). Regardless of whether First Nations youth reported being diagnosed with a health condition, the number of those who rated their general health as “poor” remained low.

Mental health status

First Nations youth were asked whether they perceived their mental health as “very/good excellent,” “good,” “fair,” or “poor.” Overall, the majority of First Nations youth, 64.8%, reported that their mental health was “very good/excellent.” Only 0.8% reported their mental health as “poor” (95% CIs [62.4, 67.2] and [0.6, 1.1], respectively.) No differences were observed between genders with regards to perceived mental health status.

A lower proportion of First Nations youth with at least one health condition rated their mental health as “very good/excellent” compared to those with no health conditions (59.4% vs. 69.7%, 95% CIs [55.7, 63.1] and [66.5, 72.8], respectively). No differences were observed among First Nations youth with or without a health condition when their rating of their mental health was “good,” “fair,” or “poor.”

Depression, suicide ideation, and suicide attempts

A higher proportion of First Nations youth who reported having been diagnosed with at least one health condition reported feeling sad, blue, or depressed in

the year prior to the survey compared to those who had not been diagnosed with a health condition (31.6% vs. 20.6%). Similarly, a higher proportion of First Nations youth with at least one health condition reported having thought about suicide (23.0% vs. 12.0%), or having attempted suicide (8.1% vs. 4.5%) compared to those who had not been diagnosed with a health condition.

A higher proportion of youth with certain health conditions reported feelings of depression, suicide ideation, and suicide attempts. More specifically, this was the case for First Nations youth who reported being diagnosed with psychological or nervous disorders, or diabetes.

Changes in perceived health status

First Nations youth were asked whether they felt their health had improved, remained the same, or worsened over the year prior to the survey. Only 6.1% (95% CI [5.2%, 7.0%]) of First Nations youth reported that their health had worsened during the past year. First Nations youth with at least one health condition were more likely to perceive that their health had worsened during the past year compared to those without a health condition (7.6% vs. 4.9%, 95% CIs [6.2, 9.4] and [3.7, 6.3], respectively).

Health Conditions and Determinants of Health

Nutrition

The majority (77.3%, 95% CI [75.1, 79.4]) of First Nations youth reported eating a nutritious diet at least sometimes. No differences were observed between those with and those without a health condition in their tendency to eat a nutritious diet.

Body mass index (BMI)

Utilizing BMI, First Nations youth were categorized as either normal or underweight, overweight, or obese. Almost half of First Nations youth were categorized as overweight or obese (30.0% and 13.0%, respectively, 95% CIs [28.0, 32.0] and [11.9, 14.4]). With respect to BMI, no differences were observed between First Nations youth without or without a health condition, with the exception of those with diabetes. A higher proportion of First Nations youth who reported having been diagnosed with diabetes were categorized as obese compared to those without diabetes (27.9% vs. 12.7%, 95% CIs [16.1, 43.8] and [11.6, 14.0], respectively).

Substance use

Compared to those without a health condition, a higher proportion of First Nations youth who were diagnosed

with at least one health condition reported having consumed alcohol in the year prior to the survey (45.0% vs. 35.1%). No differences were observed in the frequency of drinking or binge drinking in that year.

No differences were observed in substance use (cannabis, cocaine, amphetamines, inhalants, sedatives, hallucinogens, opioids) or smoking rates (daily, occasionally) among First Nations youth with or without a health condition

Health Conditions and Educational Enrollment, Attitudes and Aspirations

First Nations youth who reported having been diagnosed with at least one health condition were no more or less likely than those without a health condition to be currently attending school.

When asked to rate how they felt about school (“dislike very much,” “dislike somewhat,” “unsure,” “somewhat like,” “very much like”), the majority of First Nations youth (80.4%) reported that they “somewhat like/very much like” school. A lower proportion of First Nations youth who reported having been diagnosed with at least one health condition indicated that they liked school compared to those without a health condition (76.5% vs. 84.1%, 95% CIs [78.7, 82.1], [73.2, 79.4], and [81.9, 86.1], respectively.) In addition, a higher proportion of youth who were diagnosed with a health condition reported that they had experienced learning problems at school (52.1% vs. 30.3%). On a more positive note, when asked about their future educational aspirations, First Nations youth who reported having been diagnosed with a health condition were just as motivated to complete a post-secondary education as those without a health condition.

Health Conditions and Visits to Health Professionals

First Nations youth were asked to report how frequently (“never,” “in the past 12 months,” “in the past 1 to 4 years”) they had visited three types of health care providers: a traditional healer, a doctor or community health nurse, or a mental health service provider (e.g., for counselling, psychological testing). Compared to First Nations youth with no health conditions, a higher proportion of those who reported having been diagnosed with at least one health condition had visited a doctor (77.4% vs. 66.8%) or a mental health professional (19.9% vs. 9.9%) in the year prior to the survey; no significant difference was observed in the proportion of youth who visited a traditional healer (13.7% vs. 10.8%).

DISCUSSION

As determined in the adult questionnaire, it appears that First Nations youth are at a high risk of developing chronic health conditions such as diabetes or heart disease later in life. Although a substantial proportion of First Nations youth reported having been diagnosed with at least one health condition, many of these conditions, such as allergies or asthma, tended to be fairly controllable with treatment and/or medications. First Nations youth tended to rate both their general health and their mental health as “good,” or “very good/excellent,” with very few First Nations youth rating their health as “poor”.

Differences between genders were observed in the distribution of certain health conditions. For example, a higher proportion of First Nations boys were diagnosed with ADD/ADHD or learning disorders, compared to girls. This finding may be attributable to other factors, however, as past research has suggested the symptoms of ADD/ADHD and learning disorders are presented more aggressively in boys than in girls (Biederman et al., 2002). Regardless of the reasons behind the condition, a learning disability is likely to affect future educational achievement. Perhaps more striking is that fewer than half of First Nations youth who reported having been diagnosed with ADD/ADHD or learning disorders also reported that they were undergoing treatment or taking medication.

Although First Nations youth did not report high levels for most of the health conditions examined, they did present certain signs of an overall unhealthy lifestyle. Almost half of First Nations youth reported being physically inactive and overweight or obese. Physical activity and maintaining a healthy weight are both protective effects for the future development of a broad range of health conditions, including diabetes and heart disease. It is imperative that First Nations youth be encouraged to make healthier lifestyle choices to reduce the risk of future illnesses.

First Nations youth who reported having been diagnosed with a health condition were shown to have alarmingly high rates of depression and suicide ideation, compared to those without a health condition. This appears to be the case for particular health conditions, mainly among First Nations youth with psychological or nervous disorders, or diabetes, although rates were also slightly higher among those with hearing or visual impairment, anemia, or learning disabilities. These findings suggest that the mental health of First Nations youth diagnosed with certain health conditions should be more closely monitored by a health care professional. Future research should be conducted to assess what factors lead First

Nations youth who are diagnosed with a health condition to experience higher rates of depression and suicide ideation.

It appears that a substantial number of First Nations youth were not currently undergoing treatment or taking medication for some of the more serious conditions they were living with. For example, First Nations youth with epilepsy (30%), diabetes (30%), or FASD (40%) were not currently undergoing treatment or taking medications for these health conditions. A few reasons can be put forth in an attempt to explain why this is the case. First, prescribing treatment or medications for certain health conditions is not straightforward. For epilepsy, treatment varies based on the type and duration of seizures a patient presents with, and only some can be controlled by anti-seizure medication. For FASD, there are currently no standard prescribed treatments. Instead, an attempt is made to control the symptoms a patient presents with, such as memory issues, hyperactivity, or poor social skills (Chudley et al., 2005; Canadian Institutes of Health Research, n.d.). Second, the wording of the question regarding treatment status may have led to an underestimation of the number of First Nations youth who had sought some form of treatment or medication for their condition in their lifetime. In RHS 2008/10, First Nations youth were asked if they were “currently undergoing treatment(s) or taking medication(s) for these condition(s).” Previous successful treatment or medication of the health condition or a current lack of physical manifestation of the health condition may have led some First Nations youth to not require treatment at the time they participated in the survey. Finally, it is possible that some First Nations youth who reported being diagnosed with a health condition required treatment or medication but were unable to obtain it because of barriers to accessing health care, such as gaps in insurance coverage, isolation, or language barriers. Despite this, 80% of First Nations youth who reported having been diagnosed with a health condition also reported having seen a doctor or community health nurse in the year prior to the survey. Future research should be directed at identifying how First Nations youth are managing their health conditions and what barriers they encounter during the treatment-seeking process.

CONCLUSIONS

Although almost half of First Nations youth reported having been diagnosed with at least one health condition, the vast majority of them reported their perceived health as being at least “good.” The most common conditions that First Nations youth reported having been diagnosed with, allergies and asthma, did not appear to be any

more common than was observed among youth in the general Canadian population. First Nations youth did appear to have opportunities to visit with a health professional about possible treatment or medication, as 80% of those who reported having been diagnosed with a health condition also reported visiting a doctor or community health nurse in the year prior to the survey.

First Nations youth are at a high risk of developing serious long-term health conditions in adulthood. The risk associated with developing many of these health conditions, such as diabetes or heart disease, can be lowered by engaging in healthy behaviours such as eating nutritious meals or staying physically active. A large percentage of First Nations youth are overweight or obese and report being physically inactive. Healthy behaviour (e.g., health education, funding for nutritious meals and recreational opportunities) must be promoted and supported both provincially and nationally, in order to benefit both the community (e.g., through opportunities to participate in organized sports and fitness) and the family (e.g., through encouraging physical activity and healthy eating).

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Chapter 25

Oral Health

EXECUTIVE SUMMARY

This chapter examines inequalities in access to dental care, dental pain experience, and self-perceived dental treatment needs among First Nations youth aged 12 to 17 years living on-reserve and in northern communities. Results are based on comparisons between the First Nations Regional Health Survey (RHS) 2008/10, the Oral Health Module of the 2007–09 Canadian Health Measures Survey (CHMS), and previous results from RHS 2002/03. Three-quarters (75.9%) of First Nations youth reported receiving dental care in the year prior to RHS 2008/10. About 9% more (84.5%) youth aged 12 to 19 years in the general Canadian population received dental care in the year prior to the CHMS. Factors influencing greater access to dental care by First Nations youth include having parents or guardians who have more than a high school education; having an appreciation for and participating in traditional cultural events; attending school regularly and not repeating a grade; having good self-rated mental health and not feeling depressed for two weeks or more in a row in the past 12 months; eating a nutritious, balanced diet; and not smoking.

A total of 21.1% of First Nations youth (26.0% females and 16.4% males) reported having dental pain in the month prior to the survey. In RHS 2002/03, 19.1% of First Nations youth experienced some dental pain in the month prior to the survey, while in the CHMS, 10.4% of Canadians aged 12 to 19 years (7.6% males and 13.4% females) reported mouth pain in the 12 months prior to that survey. In addition, 5.3% of First Nations youth reported dental injury in the 12 months prior to the RHS, 3.1% for those aged 12 to 14 years and 7.2% for those aged 15 to 17 years. The highest prevalence of dental injury (9%) occurred in females aged 15 to 17 years. The occurrence of dental pain was associated with health determinants very similar to those that influenced access to care, but dental injuries proved less of a concern for this cohort of adolescent First Nations.

Nearly 78% of First Nations youth perceived a need for dental treatment, compared to 24.9% of Canadians aged 12 to 19 years, whose dental needs were clinically assessed in the CHMS. The most common treatment needs reported by First Nations youth was maintenance, such as checkups and cleanings (57.1%), followed by restorative (42.0%) and orthodontic (13.9%) needs, the latter most frequently reported among females (16.5%). Self-perceived need of dental care has increased for all types of treatment since RHS 2002/03, most notably for regular maintenance and restorative procedures. The CHMS findings for Canadians aged 12 to 19 years show that 13.0% required restorations and 6.4% needed orthodontics, numbers much lower than those found in the RHS. Despite differences in methodologies, First Nations youth appear to have more dental care needs than youth in the general population, particularly where restorative and orthodontic treatments are concerned.

Though First Nations youth have a slightly lower rate of access to dental care than youth in the general Canadian population, the RHS data consistently show that the experience of dental pain remains unequal. First Nations youth also report more dental care needs. These data provide evidence to support addressing the determinants of First Nations' health to improve the oral health status of their youth.

KEY FINDINGS

- Three in four (75.9%) First Nations youth reported receiving dental care in the year prior to RHS 2008/10, yet 21.1% had experienced a recent episode of dental pain in the month prior to the survey.
- Having parents or guardians who have more than a high school education, having an appreciation of traditional culture and participating in community cultural events, attending school regularly and not repeating a grade, having good self-rated mental health and not feeling depressed for two weeks or more in a row in the past 12 months, eating a nutritious and balanced diet, and not smoking were factors associated with increased access to dental care.
- The occurrence of dental pain was associated with understanding or speaking a First Nations language, not attending school, repeating a grade or having problems learning at school, having poor self-rated general and mental health, having depression or diabetes or being very dissatisfied with one's weight, drinking soft drinks and eating sweets several times per day and rarely eating a nutritious, balanced diet, and smoking.
- Overall, 5.3% of First Nations youth reported a dental injury in the 12 months prior to the survey, 3.1% for those aged 12 to 14 years and 7.2% for those aged 15 to 17 years. The highest prevalence of dental injury (9%) occurred in females aged 15 to 17 years.
- Over three quarters (77.7%) of First Nations aged 12 to 17 years perceived a need for dental treatment, compared to 24.9% of Canadians aged 12 to 19 years, whose dental needs were clinically assessed in the 2007–09 CHMS.
- The most common treatment needs reported by First Nations youth was maintenance, such as checkups and cleanings (57.1%), followed by restorative (42.0%) and orthodontic (13.9%) needs, the latter most frequently reported among females (16.5%). The next most common was fluoride treatment (13.7%), most frequently reported by those aged 12 to 14 years (16.6%). This was followed by the need for extractions (7.2%). Periodontic, prosthodontic, and urgent care needs were each found among 2.1%, 1.1%, and 1.1% of First Nations youth, respectively.
- Self-perceived need of dental care among First Nations youth has increased for all types of treatment compared to the findings of RHS 2002/03, most notably for regular maintenance and restorative procedures.
- First Nations youth appear to require more restorative and orthodontic treatment than youth in the general Canadian population (57.1% vs. 13.0%, and 13.9% vs. 6.4%, respectively).

INTRODUCTION

Access to oral health care is demonstrably poorer among First Nations people living in First Nations communities than it is among the general Canadian population. However, survey data from the youth component of RHS 2002/03 (First Nations Information Governance Committee [FNIGC], 2005) indicated that the receipt of dental care in the year prior to the survey was high, almost 79%, among First Nations youth, which was comparable to the national rate for Canadian youth. At the same time, RHS data on self-reported dental needs also showed that a large proportion of First Nations youth said they needed maintenance-type services, such as checkups or teeth cleaning (42%), followed by nearly 37% who said they required dental fillings or other types of restorative treatment (FNIGC, 2005). These findings suggest that First Nations youth may be utilizing dental services for emergency care only when oral symptoms arise. When people experience symptoms of oral disease, such as pain, swelling, and bad breath, they are more likely to perceive a need for dental care, which can, in turn, influence their likelihood of accessing care.

This chapter examines access to oral health care services and the prevalence of perceiving a current need for individual types of dental care among First Nations youth aged 12 to 17 in RHS 2008/10. A comparison of RHS findings from 2008/10 with those of RHS 2002/03 provides insight into the change in the levels of access to dental services provided to First Nations youth and their perception of their dental care needs. In addition, the recently released report on the findings of the oral health component of the 2007–09 Canadian Health Measures Survey (CHMS) allows us to test the hypothesis that First Nations youth are less likely to access dental services than are youth in the general Canadian population (Health Canada, 2010b).

One of the most devastating consequences of decreased access to preventive and restorative dental care is the onset of dental pain or toothache. Toothache in children and youth is mainly due to dental decay (cavity) or a tooth abscess. If left untreated, the pain can persist and become disabling to the point of having an impact on oral health-related quality of life (Milnes, Rubin, Karpa, & Tate, 1993; Schroth, Harrison, & Moffatt, 2009). Thus the experience of toothache signals the need for urgent care, as acting quickly on symptoms can result in less frequent complications and can prevent tooth loss when young people reach adulthood.

Disparities in self-reported experience of toothache

are well recognized, with poor and low-income ethnic minorities and those with special health care needs being disproportionately represented (Lewis & Stout, 2010; Slade, 2001). In RHS 2002/03, a relatively sizeable percentage (19.1%) of First Nations youth had had a recent episode of dental pain (FNIGC, 2005). Still, this prevalence was not as high as the 26.2% of Aboriginal Australians aged 16 to 20 years who reported having “trouble with their teeth, gum or jaw right now” when interviewed as part of Wave-3 of the dental component of the Aboriginal Birth Cohort (ABC) study, a prospective longitudinal investigation of Aboriginal individuals born in 1987–90 (Jamieson, Roberts-Thomson, & Sayers, 2010b).

Dental pain can also result from traumatic dental injuries. Such injuries usually affect the front (anterior) teeth where dental caries tends to be less prevalent. Injuries to teeth vary greatly in severity, from minor cracks in the enamel to major damage involving complicated tooth fractures, from the tooth being moved from its natural position (displacement) to the tooth being knocked out of the socket (avulsion of teeth). In general, injury rates are higher in youth than in any other age group, and the RHS 2002/03 results showed that First Nations youth are at much greater risk of physical injury than other Canadians. Dental injuries, in particular, were reported by 4.3% of youth in RHS 2002/03—3.7% among those aged 12 to 14 years and 4.8% among those aged 15 to 17 years. These age-specific prevalence estimates were lower than the prevalence of 11.4% of dental injuries to the permanent incisors of schoolchildren aged 12 to 14 years in Ontario (Fakhruddin, Lawrence, Kenny, & Locker, 2008). The difference in prevalence can be explained by the fact that RHS 2002/03 asked about injuries serious enough to require medical attention, while the study undertaken in Ontario schools was based on clinical evidence of traumatized teeth and included mostly minor fractures of the enamel that would not commonly require medical attention. To date, there has been little documentation of dental injury rates among First Nations populations. Estimating the magnitude of this problem is therefore important because some types of dental injuries that occur mainly among youth can be prevented. For instance, many sports injuries can be prevented or made less serious by wearing a mouthguard (Fakhruddin, Lawrence, Kenny, & Locker, 2007).

METHODS

The same oral health-related questions included in RHS 2002/03 were included again in RHS 2008/10. All youth were first asked when they had last received dental care for any reason. The following frequencies

were provided: less than six months ago, between six months and one year ago, between one and two years ago, between two and five years ago, more than five years ago, and never. Participants' responses were later classified as "having dental care within the past year" or "having dental care more than one year ago or never" because most children, youth, and adults should see their dentist for a regular cleaning and checkup every six months or at least once every year.

Youth were also asked what type of dental treatment they thought they currently needed. Respondents could select multiple responses from the following: none; cavities filled or other restorative work (e.g., fillings, crowns, and bridges); maintenance (e.g., checkups or teeth cleaning); extractions (taking teeth out); fluoride treatment; periodontal (gum) treatment; prosthetics (e.g., denture work, including repair and maintenance); urgent care (dental problems requiring immediate attention); orthodontics (e.g., braces); other.

The last question specific to oral health asked whether the respondent had experienced any dental problems or pain in the month prior to the survey, with "yes," "no," "don't know," or "refused" as response options. "Don't know" and "refused" responses were interpreted as missing data for the purpose of analysis.

With regard to dental injuries, youth were initially asked whether, in the year prior to the survey, they had been injured. For those who answered in the affirmative, a second question asked whether they had experienced any of a list of injuries, including dental injury. For a given type of injury, respondents could answer "yes" or "no." They could also answer "yes" to more than one type of injury and to being injured more than once during the past year. The question on injuries in RHS 2008/10 differed from the question in RHS 2002/03, which asked about injuries "that required the attention of a health care professional."

The data analysis was guided by the RHS Cultural Framework, in which oral health is viewed through a holistic lens (Dumont, 2005). The framework sees good oral health as more than just the absence of disease, with a healthy and pain-free mouth contributing to the physical, mental, and social well-being of First Nations people. The analysis focused on the health determinants that have an impact on accessibility to dental care and on the experience of dental pain. Key variables assessed included age and sex; parental level of education; the importance of and participation in traditional cultural activities; the ability to understand or speak a First Nations language; measures of school attendance and performance; self-rated general

health status and health conditions, such as diabetes and obesity; personal wellness measures, such as self-rated mental health status and symptoms of depression; dietary habits; and cigarette smoking. Geographic location can also limit access to timely dental care needed to prevent the onset and progression of cavities and periodontal disease. Unlike in RHS 2002/03, measures of geographic isolation and health transfer status of the community where each respondent resides have not been considered here since these determinants of disease have been well articulated in the past and are now well understood.

Data from RHS 2008/10 were compared to those from RHS 2002/03 and to the Canadian population and Aboriginal off-reserve population data from the CHMS where appropriate (FNIGC, 2005; Health Canada, 2010b). There were some comparability issues between the RHS and the CHMS that made it difficult to show comparative statistics for First Nations and other youth. Essentially, the Canadian results included a wider age range than the RHS, with respondents aged 12 to 19 years rather than 12 to 17 years. In addition, the term "Aboriginal people" as used by the CHMS includes First Nations, Métis, and Inuit peoples, and because the number of Aboriginal respondents in the CHMS was small, many of the results were withheld because the estimates were unreliable.

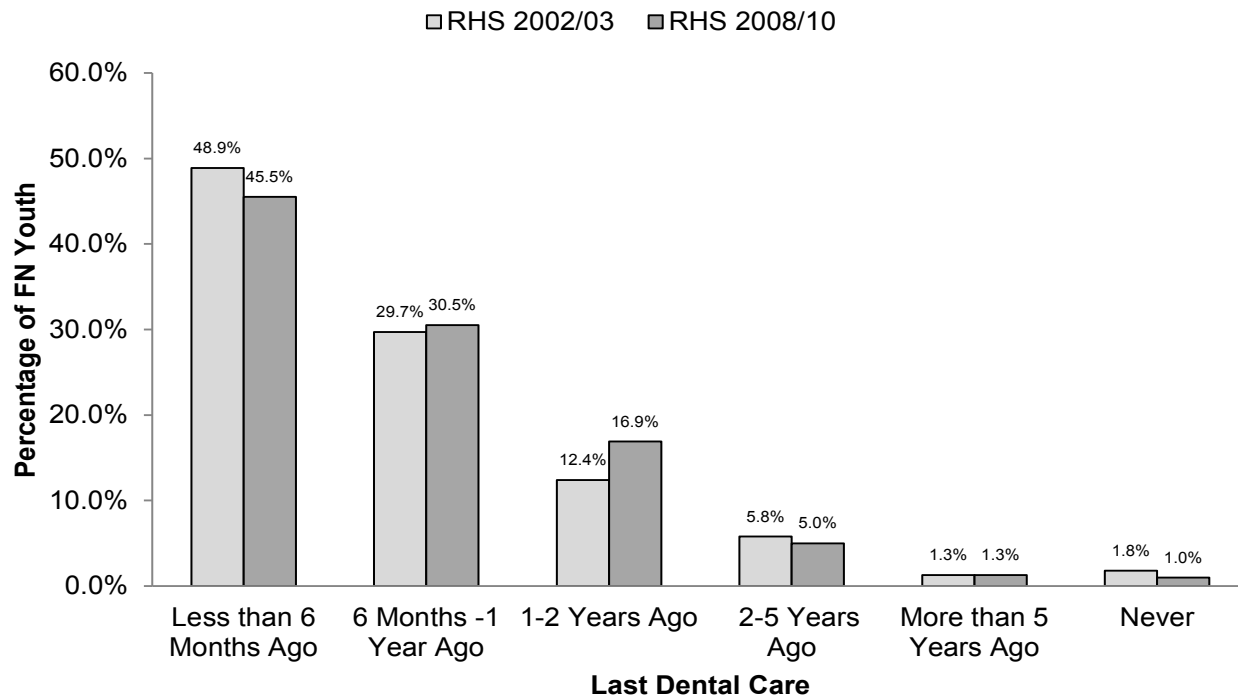
For the most part, this chapter reports only on those differences in proportions that were statistically significant.

RESULTS

Access to Dental Care

Just over three-quarters (75.9%) of First Nations youth reported receiving dental care for any reason in the year prior to the survey, while approximately 17% had received dental care between one and two years previously and 6.3% more than two years previously (see Figure 25.1). Compared to the results from RHS 2002/03, utilization rates have decreased slightly for First Nations youth, as nearly 79% of First Nations youth received some form of dental care in the year prior to RHS 2002/03.

Figure 25.1. Last Time Dental Care was Obtained in RHS 2002/03 (n = 4,983) and RHS 2008/10 (n = 4,510)]

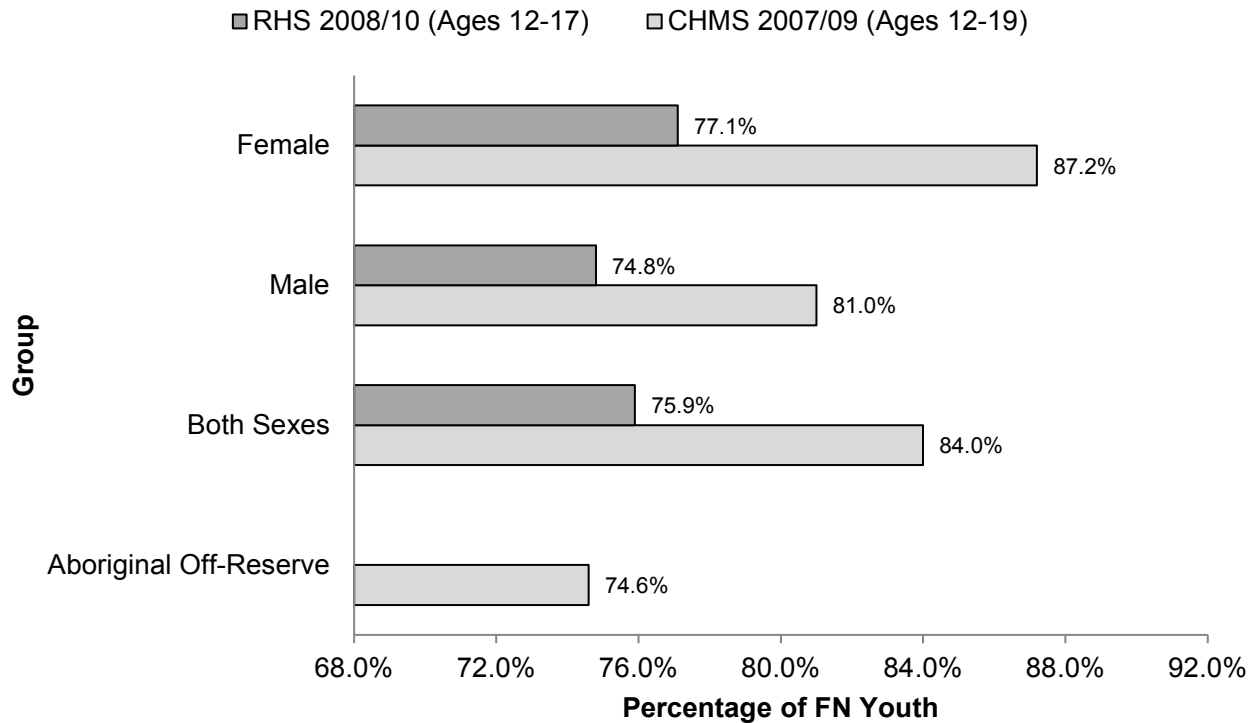


Note. E = High sampling variability—coefficient of variation is 16.6% to 33.3%; interpret estimate with caution.

The prevalence of dental care did not differ significantly between females and males but was lower for the RHS population than for the CHMS population (see Figure 25.2). About 8% more youth aged 12 to 19 years in the general Canadian population (84.0%) had had some dental care in the 12 months prior to the CHMS survey, compared to 75.9% of First Nations living on-reserve and in northern communities in RHS 2008/10 and 74.6% of Aboriginal people living off-reserve in the CHMS (Health Canada, 2010b). As noted above, the sample of youth claiming Aboriginal heritage in the CHMS was very small and made up only 5.6% of the Canadian youth covered in that study (Health Canada, 2010b). This resulted in estimates in the CHMS report having a cautionary note or being suppressed because of extreme sampling variability.

As seen in Table 25.1, factors influencing greater access to dental care by First Nations youth include having parents or guardians who have more than a high school education; having an appreciation of traditional culture and participating in community cultural events; attending school regularly and not repeating a grade; having good self-rated mental health and not feeling sad, blue, or depressed for two weeks or more in a row in the past 12 months; and eating a nutritious, balanced diet and not smoking.

Figure 25.2. Percentage of Youth Reporting any Dental Care in the 12 months prior to the CHMS 2007–09 (n = 1,008) and RHS 2008/10 (n = 4,510)



Dental Pain

In RHS 2008/10, 21.1% of First Nations youth reported dental problems or pain (toothache) in the month prior to the survey, compared to 19.1% of youth in RHS 2002/03 (see Figure 25.3). The highest prevalence of dental pain was among females aged 15 to 17 years (27.2%). Dental pain was least frequently reported by males aged 12 to 14 years (15.4%). Compared to RHS 2002/03, the prevalence of dental pain increased among all gender and age groups, except for adolescent males aged 12 to 14

Table 25.1. Percentage of First Nations Youth Reporting any Dental Care in the 12 Months Prior to the Survey, by Selected Determinants of Health

Health determinant (unweighted <i>n</i>)	Dental care in the 12 months prior to the survey	
	%	95% CI
All (4,510)	75.9	[73.8, 77.9]
Mother or guardian has less than high school diploma (2,876)	73.6	[71.1, 76.0]
Mother or guardian has more than high school diploma (1,247)	83.7	[79.7, 87.1]
Father or guardian has less than high school diploma (2,832)	74.7	[72.3, 77.0]
Father or guardian has more than high school diploma (677)	86.5	[83.3, 89.2]
Rated importance of traditional cultural events		
Very important (1,849)	77.6	[74.4, 80.4]
Somewhat important (1,790)	76.1	[73.0, 79.0]
Not very important (475)	71.9	[67.3, 76.1]
Not important (232)	66.9	[58.6, 74.3]
Participates in community cultural events		
Always/almost always (1,116)	76.0	[72.2, 79.4]
Sometimes (2,217)	79.3	[76.5, 81.8]
Rarely (751)	71.9	[66.9, 76.3]
Never (359)	66.1	[60.1, 71.5]
Not currently attending school (433)	62.0	[54.4, 69.1]
Attending school (4,049)	78.0	[75.9, 79.9]
Has never repeated a grade (3,004)	79.2	[76.8, 81.4]
Has repeated a grade (1,453)	69.2	[65.6, 72.6]
Self-rated mental health		
Excellent/very good/good (4,238)	76.2	[74.1, 78.2]
Fair/poor (247)	69.6	[62.3, 76.1]
Did not feel depressed for 2+ wks in a row in the past 12 months (3,199)	77.2	[74.8, 79.4]
Felt depressed for 2+ wks in a row in the past 12 months (1,024)	72.9	[69.0, 76.6]
Eats a nutritious, balanced diet		
Always/almost always (1,092)	80.7	[76.4, 84.4]
Sometimes (2,412)	75.4	[72.7, 77.8]
Rarely (711)	75.0	[70.9, 78.7]
Never (152)	65.0	[53.6, 75.0]
Cigarette smoking		
Not at all (3,034)	80.6	[78.3, 82.8]
Daily/occasionally (1,334)	65.1	[61.4, 68.7]

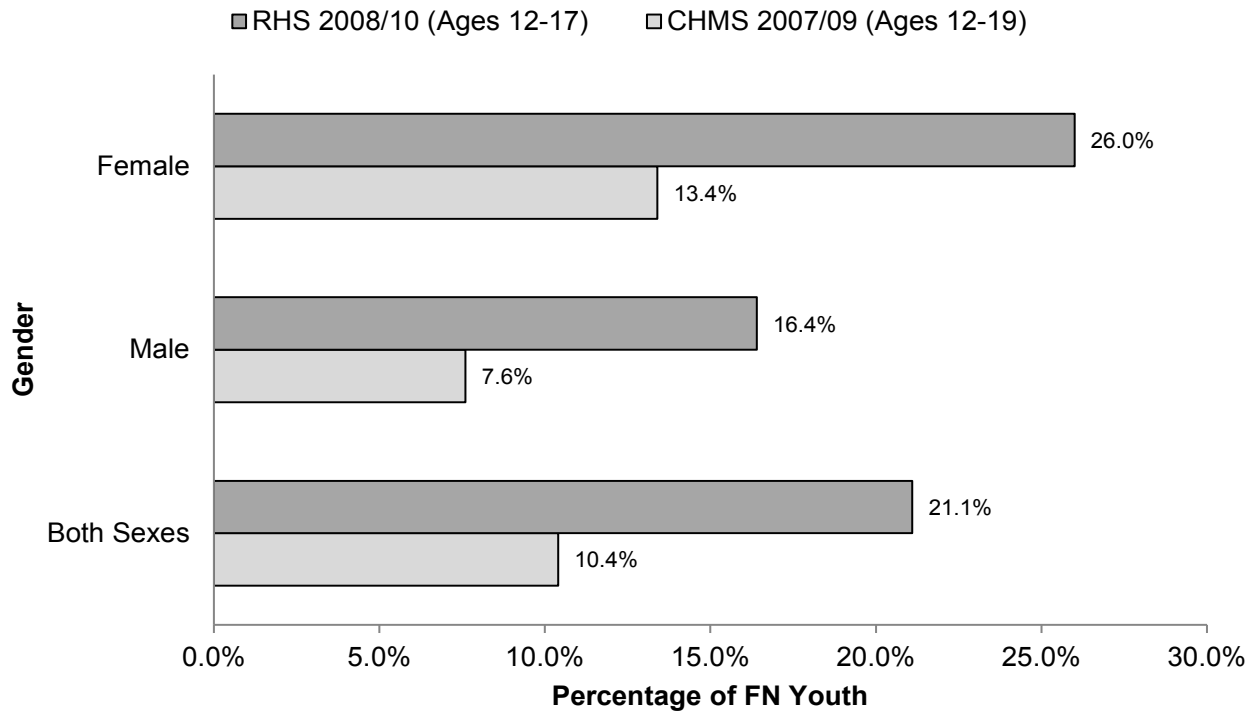
Note. CI = Confidence Interval.

Figure 25.3. Prevalence of Dental Problems or Pain in the Month Prior to the Survey among First Nations Youth, by Gender and Age Group in RHS 2002/03 (n = 4,798) and RHS 2008/10 (n = 4,686)



The proportion of females aged 12 to 17 years reporting a recent episode of any type of dental pain in the month prior to the survey was significantly higher than that of males (26.0% vs. 16.4%; see Figure 25.4). Among those aged 12 to 19 years who participated in the 2007–09 CHMS, 10.4% (13.4% females and 7.6% males) reported persistent pain or ongoing pain somewhere in their mouth in the 12 months prior to the survey (Health Canada, 2010b).

Figure 25.4. Percentage of Youth Reporting Dental Problems or Pain in the CHMS 2007–09 ($n = 1,008$) and RHS 2008/10 ($n = 4,686$)



*Statistically significantly higher for females than males in RHS 2008/10.

Table 25.2 provides the findings on prevalence of pain or problems with teeth experienced by First Nations youth in the month prior to the survey as a function of selected determinants of health. The occurrence of dental pain was associated with understanding or speaking a First Nations language, not attending school, repeating a grade or having problems learning at school, having poor self-rated general and mental health, having depression or diabetes, being very dissatisfied with one’s weight, drinking soft drinks, eating sweets several times per day, rarely eating a nutritious and balanced diet, and smoking. In contrast, dental care in the 12 months prior to the survey had no association with the prevalence of dental pain in the past month (data not shown).

Table 25.2. First Nations Youth Reporting Dental Problems or Pain in the Month Prior to the Survey, by Selected Determinants of Health

Health determinant (unweighted <i>n</i>)	Dental pain in the past month	
	%	95% CI
All (4,686)	21.1	[19.0, 23.3]
Cannot understand or speak a First Nations language (1,989) Can understand or speak a First Nations language (2,491)	17.7 23.0	[15.1, 20.6] [20.1, 26.3]
Not currently attending school (456) Attending school (4,195)	30.8 19.4	[21.3, 42.3] ^E [17.6, 21.3]
Never repeated a grade (3,105) Repeated a grade (1,516)	18.1 26.9	[15.8, 20.6] [23.5, 30.5]
Never had problems learning at school (2,776) Problems learning at school (1,682)	16.9 27.7	[14.1, 20.0] [24.8, 30.8]
Self-rated general health Excellent/very good/good (4,346) Fair/poor (324)	20.0 35.2	[17.8, 22.4] [28.7, 42.4]
Self-rated mental health Excellent/very good/good (4,407) Fair/poor (250)	20.4 32.5	[18.3, 22.7] [26.2, 39.6]
Did not feel depressed for 2+ wks in a row in the past 12 months (3,319) Felt depressed for 2+ wks in a row in the past 12 months (1,066)	16.3 35.2	[14.3, 18.5] [30.5, 40.3]
Non-diabetic (4,465) Diabetic (30)	20.4 40.8	[18.3, 22.7] [26.7, 56.7] ^E
Degree of satisfaction with body weight Very satisfied (1,509) Somewhat satisfied (1,547) Neither satisfied/dissatisfied (662) Somewhat dissatisfied (480) Very dissatisfied (260)	16.8 21.1 22.0 24.0 35.4	[13.6, 20.6] [17.8, 24.7] [17.7, 27.0] [19.7, 29.0] [28.8, 42.6]
Frequency of drinking soft drinks Several times a day (1,192) Once a day (1,119) A few times a week (1,409) About once a week (507) Never/hardly ever (410)	22.4 24.3 19.6 17.2 15.3	[19.1, 26.1] [20.6, 28.4] [16.4, 23.2] [12.8, 22.6] [12.1, 19.1]
Frequency of eating sweets Several times a day (490) Once a day (754) A few times a week (1,625) About once a week (931) Never/hardly ever (773)	29.9 26.9 20.4 15.8 16.4	[25.0, 35.2] [21.4, 33.3] [17.4, 23.7] [12.7, 19.6] [12.8, 20.7]
Eats a nutritious, balanced diet Always/almost always (1,131) Sometimes (2,505) Rarely (733) Never (163)	13.6 21.1 31.6 22.9	[10.0, 18.1] [18.5, 24.0] [27.0, 36.6] [15.3, 32.7] ^E
Cigarette smoking Not at all (3,144) Daily/occasionally (1,396)	17.1 29.8	[15.0, 19.5] [25.9, 33.9]

Note. CI = Confidence Interval.

E = High sampling variability; interpret estimate with caution.

Dental Injuries

Overall, 30.5% of First Nations youth reported being injured in the 12 months prior to the survey, and of those, 5.3% (95% CI [4.1, 6.8]) reported a dental injury. Although the low numbers reporting a dental injury prevent an analysis of factors that may influence the prevalence of traumatized teeth, there was a trend for higher prevalence among females than males (6.3%^E vs. 4.5%, 95% CIs [4.2, 9.3] and [3.3, 6.1], respectively). The prevalence of dental injuries varied significantly by age group: 3.1%^E for those aged 12 to 14 years and 7.2% for those aged 15 to 17 years (95% CIs [1.9, 4.9] and [5.3, 9.8], respectively). The highest rate of dental trauma occurred in females aged 15 to 17 years (9%^E, 95% CI [5.6, 13.9]). In comparison, the prevalence of dental injuries was 3.7% for those aged 12 to 14 and 4.8% for those aged 15 to 17 in RHS 2002/03 (FNIGC, 2005). The slight increase in the prevalence of self-reported tooth injuries over the five-year period between the two phases of RHS could have been the result of wording differences in the questionnaires.

Sixteen percent (16.1%) of Canadian youth had evidence of trauma to their front teeth as reported in the 2007–09 CHMS (Health Canada, 2010b). This is a much higher prevalence than the 5.3% found in RHS 2008/10. It should be noted, however, that evidence of trauma was not assessed clinically in the RHS, which may explain why the RHS estimate is lower than the estimates of incisor trauma in non-Aboriginal youth (15.5%) and off-reserve Aboriginal youth (26.4%) aged 12 to 19 years measured in the 2007–09 CHMS (Health Canada, 2010b).

Perceived Dental Treatment Needs

In RHS 2008/10, 77.7% (95% CI [75.8, 79.6]) of First Nations youth perceived a need for dental treatment. Of these youth, the most common types of treatment needed were maintenance, such as checkups and cleanings (57.1%; see Table 25.3), followed by restorative (42.0%) and orthodontic (13.9%) needs. No gender and age differences were observed with the exception that a higher proportion of females cited orthodontic needs, compared to males (16.5% vs. 11.2%), and a higher proportion of 12-14 year olds cited a need for fluoride treatment, compared to youth 15-17 years (16.6% vs. 12.9%; see Figures 25.5 and 25.6).

Table 25.3. Type of Treatment Required (among those who indicated needing some form of treatment)

Type of dental treatment required (among those requiring treatment)	RHS 2008/10
	% [95% CI]
Restorative (e.g. cavities filled, crowns, bridges)	42.0 [39.7, 44.4]
Maintenance (e.g. check-ups or teeth cleaning)	57.1 [54.6, 59.5]
Dental extractions	7.2 [6.2, 8.3]
Fluoride treatment	13.7 [11.8, 15.7]
Periodontics (gum care)	2.1 [1.5, 2.9]
Prosthodontics (e.g. dentures, including repair and maintenance)	1.1 ^E [0.8, 1.6]
Orthodontics (e.g. braces)	13.9 [12.4, 15.5]
Urgent care (dental problems requiring immediate attention)	1.1 ^E [0.7, 1.5]

^E = Interpret with caution (high sampling variability)
- coefficient of variation 16.6% to 33.3%.

Figure 25.5. Type of Treatment Required (among those who indicated needing some form of treatment) by Gender (n = 4,830)

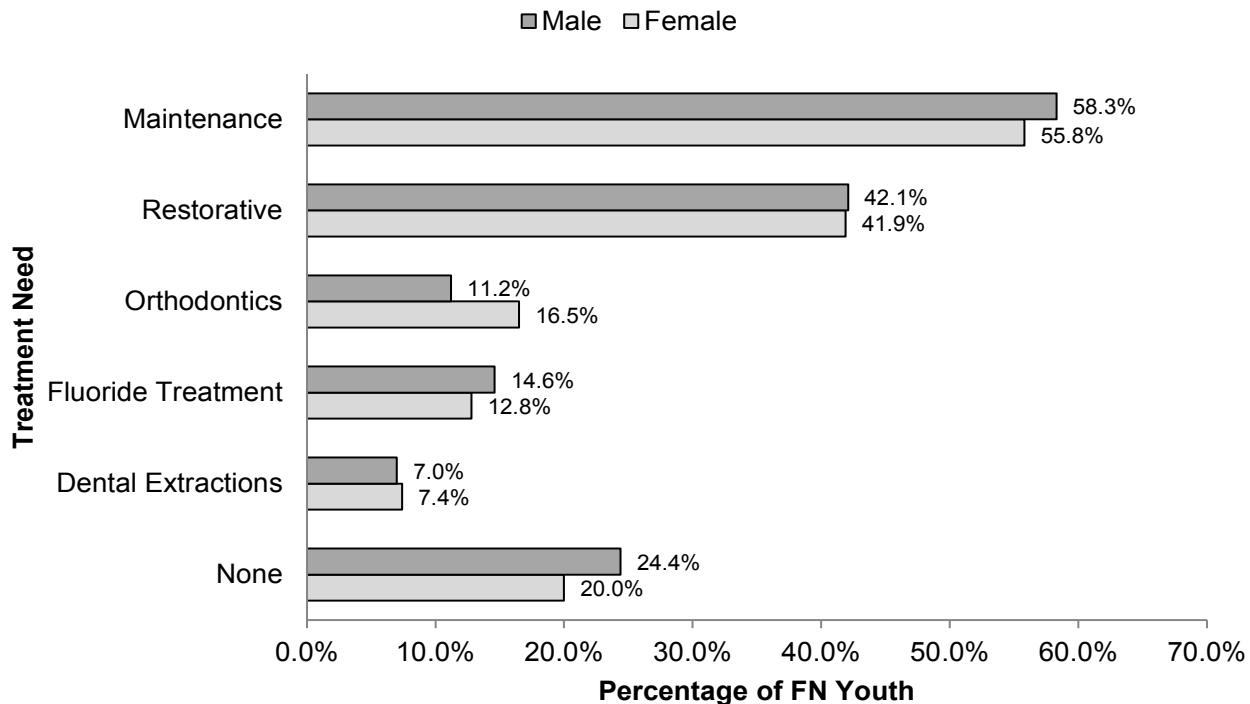
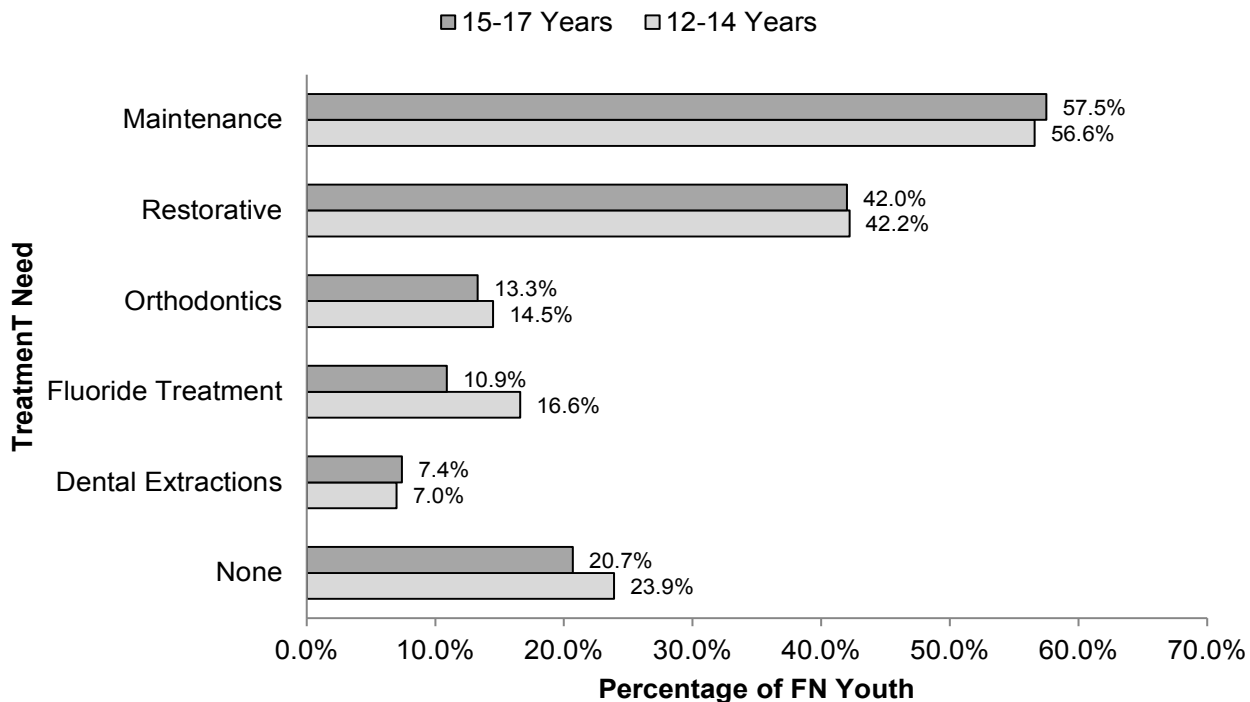


Figure 25.6. Type of Treatment Required (among those who indicated needing some form of treatment) by Age Group (n = 4,817)



Three-quarters (75.1%) of Canadian youth had no treatment needs as identified in the CHMS examinations, compared to 22.3% (95% CI [20.4, 24.2]) of First Nations youth reported in the RHS 2008/10. The CHMS findings for those aged 12 to 19 years show that 13.0% required restorations and 6.4% needed orthodontics (Health Canada, 2010b). These results among Canadian youth are very different from the findings of the RHS. Despite differences in methodologies, First Nations youth appear to have more dental care needs than youth in the general Canadian population, particularly where restorative and orthodontic treatment needs are concerned.

DISCUSSION

The Canadian Dental Association recommends that the interval between oral health checkups for patients under 18 years of age should be no longer than 12 months, though it recognizes that the frequency of dental checkups truly depends upon the patient's oral health needs. Visiting a dental professional for oral health care for any reason within the past 12 months is an indicator of access to care. For this reason, the RHS defined receiving dental care in the 12 months prior to the survey for any reason as an indicator of access to care, for children, youth, and adults. There was no significant change from RHS 2002/03 in the prevalence of receiving dental care in the past 12 months for youth. However, there was a difference in the prevalence between First Nations youth and their counterparts in the general Canadian population. Overall, three in four (75.9%) First Nations youth aged 12 to 17 reported receiving dental care in the year prior to the survey, while 84.5% of non-Aboriginal youth aged 12 to 19 received dental care in the year prior to the CHMS (Health Canada, 2010b). The prevalence of receiving some dental care in the previous 12 months was on par with the corresponding figure for Aboriginal youth living off-reserve (74.6%) as reported in the CHMS (Health Canada, 2010b). This same disparity based on ethnicity was found in the 2009 New Zealand Oral Health Survey (Ministry of Health, 2010). As with First Nations in Canada, all children and youth in New Zealand are eligible to receive free, publicly funded oral health care from birth until the day before they turn 18 years of age. Yet, among children and youth aged 2 to 17 years, *Māori* and Pacific Island children and youth were significantly less likely to have visited a dental professional in the past 12 months than non-*Māori* and non-Pacific Island children and youth, respectively (Ministry of Health, 2010).

The youth components of both RHS 2002/03 and RHS 2008/10 probed health determinants that could explain the disparity in access to dental care between First

Nations youth living in First Nations communities and youth in the general Canadian population. In this phase of the RHS, the highest percentages of youth indicating receipt of dental care in the year prior to the survey were obtained from those whose parents or guardians had more than a high school diploma, and those who had an appreciation of traditional culture and participated in community cultural events, regularly attended school and had never repeated a grade, had a good self-rated mental health and did not feel sad, blue, or depressed for two weeks or more in a row in the past 12 months, and reported “always” or “almost always” eating a nutritious, balanced diet and not smoking.

As anticipated, most of these same health determinants were found to be associated with the prevalence of pain or other dental problems experienced by First Nations youth in the month prior to the survey. Specifically, the strongest determinants of the prevalence of dental pain included a youth's ability to speak or understand a First Nations language; indicators related to formal school experience, such as not attending school, repeating a grade or having problems learning at school; poor self-rated general and mental health; having depression; being diabetic; being very dissatisfied with one's weight; drinking soft drinks and eating sweets several times per day; rarely eating a nutritious, balanced diet; and smoking. These associations were expected because according to the First Nations' view of health, oral health is interconnected with overall health and well-being and includes physical, mental, emotional, and spiritual aspects and a healthy connection with both the natural and the socio-cultural environments (Dumont, 2005). For example, children with poorer oral health status are more likely to experience dental pain and miss or perform poorly in school (Jackson, Vann, Kotch, Pahel, & Lee, 2011). While improved oral health will by no means alleviate all of the educational problems facing First Nations youth living in First Nations communities, improved oral and general health can enhance their learning experience. However, only when concerns over socio-economic conditions and other problems facing their communities are addressed will school attendance and performance among First Nations youth improve, which, in turn, is likely to lead to improvements in their general and oral health.

According to the findings of the 2007–09 CHMS, the prevalence of dental pain or toothache was higher among Aboriginal people living off-reserve than among the general Canadian population (Health Canada, 2010b). Similarly, experiencing dental pain appears to be high for indigenous young adults in Australia (Jamieson et al.,

2010b). Untreated dental decay is the most common cause of toothache, and dietary behaviours, such as regular consumption of soft drinks and sweets, were found to be strong risk indicators for dental caries among Australian Aboriginal young adults (Jamieson, Roberts-Thomson, & Sayers, 2010a). Likewise, drinking soft drinks and eating sweets several times per day and rarely eating a nutritious, balanced diet were indicative of dental problems and pain among First Nations youth living in First Nations communities in Canada, as reported in this RHS. Of note, nutritious food choices are not always available to First Nations people living in First Nations communities, given the high cost and limited variety of healthy foods in many remote or northern communities. Hence, public health actions directed toward increasing access to nutritious foods and improving food security in these communities would go a long way to reducing acute oral symptoms, such as dental pain, among First Nations youth.

In RHS 2008/10, adolescent females aged 15 to 17 years were 1.8 times as likely to have experienced toothache in the month prior to the survey as males aged 12 to 14 years. In the literature, it is common to find women and younger people reporting higher levels of dental pain and anxiety than men and older people (Liddell & Locker, 1997). We cannot say from this survey whether dental pain was caused by untreated caries. It could potentially be caused by traumatized or fractured teeth, as females aged 15 to 17 years were more likely to report dental injuries occurring in the 12 months prior to the survey than were younger males. What is known is that the prevalence of dental problems and pain among First Nations youth has increased from 19% in RHS 2002/03 to 21% in RHS 2008/10. Though a 3% increase may not seem startling, the figure of 21% is twice that recorded for youth aged 12 to 19 in the general Canadian population (Health Canada, 2010b).

Additionally, self-perceived dental treatment needs have also increased in relation to the previous RHS results, most notably for regular maintenance and restorative care. First Nations youth who said they needed dental treatment were asked to specify the kind of dental care they required. It should be noted that self-reported dental needs are subjective measures and may be influenced by other factors, including the interpretation of questions asked, awareness of dental health needs, and cultural perceptions of health and well-being. In spite of the limitations of self-reported data, First Nations youth appear to have greater dental needs than other adolescent Canadians, when findings from the RHS are compared with those of the 2007–09 CHMS. Roughly three in four

(77.7%) First Nations youth perceived a need for dental treatment, compared to one in four youth in the CHMS (Health Canada, 2010b). Some of the factors behind the high rate of dental needs among this age cohort of First Nations include administrative barriers that discourage dentists from participating in the Non-insured Health Benefits (NIHB) Program, limited access of communities to dental hygienists and therapists, and NIHB's restrictive eligibility criteria for orthodontic services (Lemchuk-Favel, 2010). For example, the NIHB Program covers only cases of severe and functionally handicapping malocclusion (crooked, crowded, or protruding teeth) and requires predetermination¹ prior to the initiation of treatment (Health Canada, 2010a). Despite a desire on the part of some First Nations parents or caregivers to obtain orthodontic care for their youth, the rates of rejection for orthodontic treatment remain high despite numerous appeals by clients for coverage (Lemchuk-Favel, 2010).

In RHS 2008/10, orthodontic needs were cited by 16.5% of female and 11.2% of male adolescents. However, these rates of self-perceived orthodontic needs may have been under-reported. Reports from earlier studies indicate a very high prevalence of severe malocclusion among First Nations youth at 40.8% and 45.7% among those aged 13 to 15 years in 1988, and at 33% and 28.0% among 12-year-olds in 1990–91 and 1996–97 (Department of Community Dentistry University of Toronto & National School of Dental Therapy, 1992; Harrison & Davis, 1996; Saskatchewan Indian Federated College, National School of Dental Therapy, 2000). More recently, the CHMS reported a prevalence of less-than-acceptable occlusion among Aboriginal people aged 12 to 19 years living off-reserve of 43.1%^E (95% CI [24.3, 64.2]) in 2007–09 (Health Canada, 2010b).

CONCLUSIONS

Findings from RHS 2008/10 reveal that while three-quarters (75.9%) of First Nations youth had dental care in the year prior to the survey, they still experienced more dental pain and reported significantly more treatment needs than youth in the general Canadian population. Furthermore, the need for maintenance and restorative treatment among First Nations youth showed dramatic increases compared to the previous survey phase in RHS 2002/03. The reasons for the elevated rates of dental treatment needs are thought to be fundamentally associated with the determinants of health explored in this chapter. These determinants

¹ Predetermination is a common administrative review used by most insurance programs to determine if the proposed dental services are covered under the program's criteria, guidelines, and policies.

include parental and youth education, language and traditional culture, personal and community wellness factors, health conditions, diet, and smoking. These data provide further evidence to support addressing the determinants of First Nations' health in order to improve the oral health status of their youth. Access to oral health prevention and treatment services for all First Nations, regardless of age, also must be increased to meet the pressing oral health care needs of this population.

Meeting the oral health care needs of First Nations youth living on-reserve and in northern communities will require a comprehensive approach to providing timely access to appropriate dental preventive and treatment services, with an optimum balance between preventive care and treatment. Approaches might involve the integration of oral health promotion, prevention, and treatment with other local health care services, the removal of administrative barriers to accessing NIHB coverage for dental and orthodontic care, and continuing efforts to tackle the ongoing problems of poverty and food security in First Nations communities across Canada.

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Chapter 26

Injury

EXECUTIVE SUMMARY

Injuries are a leading cause of death worldwide; more than five million people worldwide die as a result of injuries every year, making up 9% of global mortalities. Among youth in the general Canadian population and among First Nations youth, injuries are the leading cause of death and the second leading cause of potential years of life lost, after cancer. However, rates of mortality as a result of injury are much higher among First Nations youth; injuries are responsible for 26% of deaths of First Nations youth compared to 6% of deaths in the general Canadian population. The First Nations Regional Health Survey (RHS) 2008/10 asked First Nations youth aged 12 to 17 years living on-reserve or in northern communities about injuries they experienced in the 12 months prior to the survey. Approximately one-third (30.5%, 95% CI [28.5, 32.6]) reported that they had been injured. The most common types of injury occurred due to falling, accidental contact with another person or animal, or bike riding. The occurrence of injury was linked to greater rates of depression, suicide ideation, and suicide attempts, as well as to greater alcohol and drug use.

KEY FINDINGS

- In RHS 2008/10, 30.5% (95% CI [28.5, 32.6]) of all First Nations youth reported that they had been injured in the 12 months prior to the survey.
- The three most common types of injuries reported were minor cuts, scrapes, or bruises; major sprain or strain; and broken or fractured bones.
- Hands, ankles, and arms were named as the most common locations of injury.
- Injuries most often occurred in the home, at sports fields or facilities of school, and on the street, highway, or sidewalk.
- Falls, accidental contact with another person or animal, and bike riding were the causes of most injuries reported.
- For First Nations youth who received medical treatment for their injury, this treatment most often occurred at the hospital emergency room, at home, or at a doctor's office.
- Approximately one in 10 First Nations youth (10.9%, 95% CI [8.4, 14.0]) were under the influence of alcohol, and 4.5% (95% CI [3.5, 5.9]) were under the influence of marijuana when their injury occurred.
- Prevalence of injury were higher among youth who felt sad, blue, or depressed for two or more weeks in a row in the 12 months prior to RHS 2008/10, who had ever thought about committing suicide, or who had ever attempted suicide.

INTRODUCTION

Injuries may result from seemingly everyday events, such as contact with a hot liquid or strenuous movement, to more traumatic, tragic, or severe events, including motor vehicle collision, domestic or family violence, house fires, and self-inflicted injury or suicide.

Responsible for 9% of global mortality, injury is the leading cause of death worldwide; and for those fortunate enough to recover from their injuries, temporary or permanent disability may be a reality (World Health Organization, 2011).

No exception to the rule, injury is also the leading cause of death and the second leading cause of potential years of life lost, after cancer, among youth in the general Canadian population (Public Health Agency of Canada [PHAC], 2006). In 2005–06, Canadians aged 19 years or younger experienced almost 30,000 separate hospitalizations as a result of injury (PHAC, 2009). Additionally, in 2005, 720 Canadians aged 19 years or younger died as a result of their injuries (PHAC, 2009).

Injuries among Canadian youth occurred most often as a result of motor vehicle accidents, at a rate of more than six times that of any other type of injury, while secondary causes included drowning; fire or contact with a hot object or substance—for example, a house fire or being burned by a stove or hot liquid; suffocation; poisoning; and falls (PHAC, 2009).

Among youth aged 15 to 19 years, males suffered the highest rate of death as a result of unintentional injury—29.0 per 100,000 persons—by far the highest rate and well more than double the rate for females of the same age—12.6 per 100,000 persons (PHAC, 2009).

Mortality rates resulting from injury are much higher among First Nations people. Compared to only 6% among the general Canadian population, more than one-quarter (26%) of all deaths among First Nations people occurred due to injury (Health Canada, 2008). Of particular concern is the finding that approximately one-quarter of all deaths due to injury in the First Nations population are due to suicide, with the rate of suicide being three to four times higher than that in the general Canadian population (National Aboriginal Health Organization, 2006).

The purpose of the present chapter is to present the most recent data from RHS 2008/10 on youth injury among First Nations youth living in First Nations communities. Commonly cited predictors of injury, such as substance use, were also assessed.

METHODS

The RHS 2008/10 asked First Nations youth aged 12 to 17 years living in First Nations communities to report whether they had been injured in the 12 months prior to the survey. Additionally, a series of questions regarding the characteristics of their injuries was posed:

- What type of injury(ies) did you have?
- What part of your body was injured?
- Where did the injury(ies) occur?
- What were you doing when the injury(ies) occurred?
- What caused the injury(ies)?
- Where did you get medical treatment for your injury(ies)?
- When the injury(ies) happened, did alcohol, marijuana, or other substances have an influence on your injury?

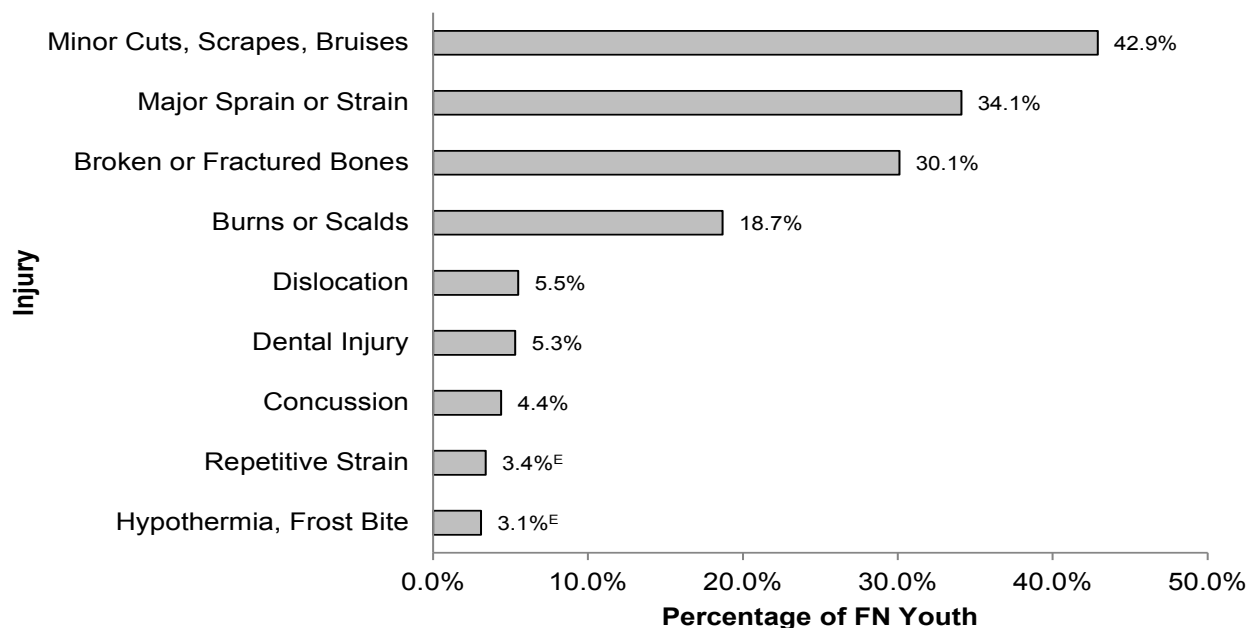
Potential links between injury prevalence and other variables included in RHS 2008/10 were also assessed, including degree of physical activity, experience of bullying, experience of depression, suicide ideation or attempted suicide, perceived emotional support, and alcohol and drug use.

RESULTS

In RHS 2008/10, 30.5% (95% CI [28.5, 32.6]) of First Nations youth reported that they had been injured in the 12 months prior to the survey. No difference was observed between male and female youth or between younger and older youth.

The three most common types of injuries reported were minor cuts, scrapes, or bruises; major sprains or strains; and broken or fractured bones (see Figure 26.1). The proportions of injuries reported did not vary by gender; however, older First Nations youth—those aged 15 to 17 years—were more likely than younger First Nations youth—those aged 12 to 14 years—to report experiencing major sprains or strains (40.6% vs. 26.6%) and dental injury (7.2% vs. 3.1%), 95% CIs [35.5, 45.9], [22.1, 31.6], [5.3, 9.8], and [1.9, 4.9], respectively.

Figure 26.1. Type of Injury (among youth who indicated being injured in past 12 months) (n = 1,349)



Note. "Poisoning" and "Injury to internal organ" categories suppressed due to high sampling variability.

^E High sampling variability. Use figure with caution.

Among youth who reported being injured, hands, ankles, and arms were the most common bodily locations for injury (see Table 26.1). No consistent gender or age differences in location of injury were observed.

Table 26.1. Body Part Injured (among youth who indicated being injured in past 12 months) (n = 1,349)

Body Part	Percentage	95% CI
Hand	31.4	[28.2, 34.9]
Ankle	31.1	[27.3, 35.1]
Arm	29.0	[25.3, 33.2]
Knee	26.4	[23.5, 29.6]
Leg	24.9	[21.3, 28.9]
Foot	22.3	[18.6, 26.5]
Wrist	21.1	[18.3, 24.2]
Head	13.2	[10.9, 15.9]
Torso	7.4	[5.6, 9.8]
Eye(s)	3.2 ^E	[2.1, 4.8]

^E High sampling variability. Use figure with caution.

With respect to where the injury occurred, youth were most likely to name their home, sports fields or facilities of school, and the street, highway, or sidewalk (see Table 26.2).

More First Nations female youth, compared to male youth reported that they were injured at home (43.5% vs. 31.0%, 95% CIs [37.9, 49.3] and [25.8, 36.7], respectively).

On the other hand, First Nations male youth were more likely than female youth to have been injured at sports fields or facilities of schools (37.8% vs. 26.7%, 95% CIs [32.8, 43.1] and [22.1, 31.9], respectively). No age differences were observed in place where injury occurred.

Table 26.2. Where the Injury Occurred (among youth who indicated being injured in past 12 months) (n = 1,349)

Location	Percentage	95% CI
Home	36.7	[32.5, 41.1]
Sports fields or facilities of school	32.8	[28.9, 36.9]
Street, highway, sidewalk	25.2	[21.5, 29.4]
School, college, university	24.3	[21.4, 27.5]
Countryside, forest, woodlot	9.5	[7.4, 12.0]
Community buildings (community centre, band office)	5.9	[4.6, 7.6]
Lake, river, ocean	5.0	[3.8, 6.4]
Industrial or construction area	F	
Office	F	

^F Suppressed due to extreme sampling variability or low cell count.

Among youth who had been injured, more than half (58.9%, 95% CI [55.2, 62.5]) reported that the injury occurred while participating in sports or physical exercise, and one-quarter (24.6%, 95% CI [21.5, 28.0]) reported that the injury occurred while participating

in a leisure activity or hobby. A minority of injuries occurred when completing unpaid work or chores around the house (8.7%), traveling to and from work or school (6.8%), or working at a job or business (4.2%), 95% CIs [6.9, 10.9], [5.5, 8.3], and [2.9, 5.9]^E, respectively.

The most common sources or causes of injury reported by First Nations youth were experiencing a fall, accidental contact with another person or animal, and riding a bike (see Table 26.3).

No real gender differences were observed, with the exception that First Nations males were more likely to report injury due to riding a bike than were First Nations females (20.7% vs. 8.8%, 95% CIs [16.6, 25.6] and [6.6, 11.7], respectively).

Age differences were observed in cause of injury: First Nations youth aged 15 to 17 years were more likely than those aged 12 to 14 years to suffer injury due to physical assault (10.3% vs. 3.1%, 95% CIs [7.5, 13.9] and [1.9, 4.9]) and contact with a machine or tool (4.9% vs. 1.6%, 95% CIs [3.5, 6.7] and [0.8, 3.3], respectively).

Table 26.3. Cause of Injury (among youth who indicated being injured in past 12 months) (n = 1,349)

Cause of injury	Percentage	95% CI
Fall	44.0	[39.5, 48.7]
Accidental contact with another person or animal	16.7	[14.0, 19.7]
Riding a bike	15.3	[12.6, 18.4]
Other physical assault	6.9	[5.2, 9.0]
Contact with hot liquid, object, etc.	6.0	[4.6, 7.8]
Smoke, fire, flames	4.8	[3.7, 6.2]
Overexertion or strenuous movement	4.6 ^E	[3.2, 6.5]
Motor vehicle collision	3.7 ^E	[2.6, 5.3]
ATV collision	3.3	[2.4, 4.6]
Contact with a machine, tool, etc.	3.3	[2.4, 4.6]
Suicide attempt or other self-inflicted injury	1.8 ^E	[1.1, 3.0]
Domestic or family violence	1.7 ^E	[1.0, 2.9]
Snowmobile collision	1.7 ^E	[1.1, 2.6]
Thin ice	1.3 ^E	[0.7, 2.3]
Hunting accident	F	
Boating accident	F	
Extreme weather or natural disaster (i.e., flood)	0.3 ^E	[0.1, 0.5]

^E High sampling variability. Use figure with caution.

^F Suppressed due to extreme sampling variability or low cell count.

Fewer than 20% (17.5%, 95% CI [14.7, 20.7]) of First Nations youth with an injury did not seek any medical treatment. When treatment was sought, the most common sources were at a hospital emergency room, at home, and at the doctor's office (see Table 26.4). No substantial gender differences were observed. With respect to age differences, more First Nations youth aged 12 to 14 years than youth aged 15 to 17 years reported receiving treatment at a doctor's office (22.2% vs. 12.0%, 95% CIs [15.4, 30.9] and [9.3, 15.3], respectively).

Table 26.4. Where Medical Treatment was Received (among youth who indicated being injured in past 12 months) (n= 1,348)

Location	Percentage	95% CI
Hospital emergency room	41.2	[37.0, 45.5]
At home	18.5	[15.7, 21.7]
Doctor's office	16.8	[13.0, 21.3]
Community health centre or nursing station	10.8	[9.0, 13.0]
Walk-in clinic	10.4	[8.5, 12.7]
At school	6.9	[5.4, 8.9]
Traditional healer	1.6 ^E	[0.9, 2.6]
At work	0.9 ^E	[0.5, 1.7]
By telephone	F	

^E High sampling variability. Interpret figure with caution.

^F Suppressed due to extreme sampling variability or low cell count.

Among First Nations youth who reported being injured, the majority (82.9%) reported that they were not under the influence of any licit or illicit substances. Few youth reported being under the influence of alcohol (10.9%), marijuana (4.5%), or other drugs (1.7%^E) when the injury occurred (95% CIs [79.5, 85.8], [8.4, 14.0], [3.5, 5.9], and [0.9, 3.2], respectively).

Physical Activity

No difference was observed in rates of injury among active and physically inactive youth (see Table 26.5).

Bullying

No association between injury and bullying was observed (see Table 26.5).

Depression

First Nations youth who reported feeling sad, blue, or depressed for two or more weeks in a row in the 12 months prior to the survey were more likely to report having been injured than were those who did not report this symptom of depression (41.7% vs. 26.0%; see Table 26.5).

Suicide Ideation and Attempts

First Nations youth who had thought about committing suicide were more likely to report having been injured in the 12 months prior to RHS 2008/10 than were those who did not report suicidal thoughts (37.4% vs. 26.0%; see Table 26.5). First Nations youth who reported that they had attempted suicide were more likely than those who had never attempted suicide to have been injured in the 12 months prior to the survey (39.7% vs. 29.5%; see Table 26.5).

Emotional Support

First Nations youth who felt they had emotional support all of the time, that is, someone they could count on to listen to when they needed to talk, were less likely to have experienced injury in the 12 months prior to the survey than were those who felt they had emotional support very rarely or never (29.6% vs. 36.2%; see Table 26.5).

Table 26.5. Potential Correlates of Injury

	Percentage	95% CI
Physical activity		
Active	33.0	[30.0, 36.1]
Inactive	29.7	[25.1, 34.8]
Bullying		
Currently being bullied	28.3	[23.2, 34.1]
Not currently being bullied	30.6	[28.4, 32.8]
Depression*		
Depressed	41.7	[36.9, 46.6]
Not depressed	26.0	[23.8, 28.3]
Suicide*		
Thought about suicide	37.4	[32.8, 42.3]
Had not thought about suicide	28.1	[26.0, 30.4]
Attempted suicide	39.7	[32.7, 47.1]
Had not attempted suicide	29.5	[27.4, 31.6]
Emotional support		
“All of the time”	29.6	[26.9, 32.4]
“Almost none of the time”	36.2	[28.6, 44.5]

*Statistically significant ($p < 0.05$)

Alcohol

More First Nations youth who consumed alcohol in the 12 months prior to RHS 2008/10 reported that they had been injured in an ATV accident (5.0% vs. 1.9%), by smoke, fire, or flames (6.5% vs. 2.6%), or during contact with a machine or tool (4.5% vs. 1.6%), than those who did not consume alcohol.

Marijuana Use

More First Nations youth who used marijuana in the 12 months prior to RHS 2008/10 reported that they had been injured from contact with a machine (5.2% vs. 2.1%), in a snowmobile accident (3.4% vs. 0.5%^E), or in a physical assault (13.8% vs. 2.1%^E), than those who did not use marijuana.

DISCUSSION

Injuries are a common occurrence among First Nations youth, most often due to a fall, accidental contact with another person or animal, or riding a bike. The findings of RHS 2008/10 revealed that, although common, most injuries experienced by First Nations youth are accidental—those that occur without any reasonable intent or premeditation.

Unintentional injuries make up the largest proportion of injuries that occur worldwide, representing almost two-thirds of the total number of deaths that occur due to injury (Norton, Hyder, Bishai, & Peden, 2006). These injuries, which include motor vehicle accidents, poisonings, falls, fires, and drowning, result in the greatest burden on the health care system. Perhaps most distressing is that although unintentional injuries occur at such a high frequency, they are entirely preventable.

First Nations are at particular risk of experiencing injury. For instance, exposure to a harsher physical climate, particularly in remote, northern communities, poor housing conditions, increased use of certain vehicles, such as snowmobiles and ATVs, and increased use of licit and illicit substances, including alcohol, all contribute to the heightened levels of unintentional injuries resulting in mortality within First Nations populations (Health Canada, 2005).

Although treatment of injury is one way of ameliorating harm, there is much need for prevention work to avoid injury. This type of preventive work requires data, as presented here, on the types of injuries, causes of injuries, and risk factors most commonly associated with injury. The findings of RHS 2008/10 shed some light on these factors, revealing that the most common types of injury were falls, accidental contact with another person or animal, and while riding a bike. With respect to risk factors, depression, suicide ideation, suicide attempts, and substance use appeared to increase the risk of injury.

Health Canada has undertaken various initiatives to promote injury prevention in First Nations communities. Information for First Nations people related to fall

prevention (Health Canada, 2007a), fire safety (Health Canada, 2007b), poison prevention (Health Canada, 2007c), road safety (Health Canada, 2007d), suffocation hazards (Health Canada, 2007e), and water safety (Health Canada, 2007f) are all available for public consumption. These initiatives attempt to identify the means by which First Nations can improve their personal safety when participating in various activities.

With respect to reducing risk factors for injury, reducing risky alcohol use has been one target of programming. The National Native Alcohol and Drug Abuse Program, which originated in the 1970s, now consists of over 550 prevention programs employing 700 workers, largely controlled by First Nations communities (Health Canada, 2006). By creating public awareness through campaigns, meetings, school programs, and other media events, the dangers that alcohol and drug use pose to First Nations, especially youth, are being spotlighted. As alcohol and drug abuse have been highlighted as being indirectly involved in a large proportion of injuries reported by First Nations youth, any means to reduce this problem is invaluable to the health and safety of First Nations youth.

In contrast to prevention work regarding accidental or unintentional injuries, some types of injuries require a more complicated response. For instance, the results of RHS 2008/10 demonstrate that First Nations youth who reported having been depressed or having thought about or attempted suicide are more likely to experience injury than are youth with greater emotional well-being. The nature of this link and how to reduce risk must be explored much further in future research.

CONCLUSIONS

Youth, in general, are more likely to engage in higher risk activities—many related to rites of passage: joining sports teams, learning to drive, and consuming licit and illicit substances, including alcohol and marijuana—rendering them particularly vulnerable to bodily harm. Injuries appear to be more common and result in greater rates of mortality among First Nations youth living in First Nations communities than among youth in the general Canadian population. This suggests that preventive factors, such as safety measures and knowledge, may be less present, and risk factors, such as risky substance use, may be more present among First Nations youth in First Nations communities. This chapter attempted to shed light on the nature of injuries among First Nations youth living on-reserve and in northern communities. Findings highlighted the need for greater intervention efforts to protect First Nations youth from harm.

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Chapter 27

Health Care Utilization and Preventive Care

EXECUTIVE SUMMARY

This chapter focuses on the utilization of Western health care and preventive health screening services, counselors, and mental health services, as well as traditional healers, by First Nations youth aged 12 to 17 years living on-reserve or in northern communities. Results from the First Nations Regional Health Survey (RHS) 2008/10 are compared to findings from the 2007–08 Canadian Community Health Survey (CCHS) for youth, the previous RHS 2002/03, and various other published studies. A number of important findings have emerged from this analysis. First, results suggest that utilization of physical examinations and health screening tests among First Nations youth fall short of Canadian guidelines. With regard to mental health services, it was found that well over half (56.7%) of First Nations youth who reported fair or poor mental health had never utilized counseling or mental health services, indicating a potentially high level of unmet needs. In addition, the proportion of First Nations youth who reported that they had ‘never’ consulted with a traditional healer slightly increased from 65.0% [95% CI: 62.0, 67.9] in RHS 2002/03 to 70.6% [95% CI: 68.0, 73.1]. The decline in the use of traditional healers is a concern given the importance of traditional healing practices within First Nations culture and spirituality. While the data presented here are important from a national perspective, a regional-level analysis is needed to aid in the development of more focused strategies to improve health care utilization and health care access for First Nations youth.

KEY FINDINGS

- 13.0% of First Nations youth reported never having visited a doctor or community health nurse. Prevalence was higher among male youth.
- 70.6% of First Nations youth reported never having consulted with a traditional healer, up from 65.0% in RHS 2002/03.
- More than half (56.7%) of all First Nations youth who reported fair or poor mental health had never received counseling or mental health services, suggesting a potentially high level of unmet needs.
- One-fifth (19.6%) of asthma sufferers who reported having an attack in the year prior to the survey did not obtain treatment.
- Approximately two-thirds (65.9%) of youth with diabetes said they were receiving treatment.
- A lower proportion of First Nations youth received health screening tests and preventive care than youth in the general Canadian population, and less than what is recommended by the College of Family Physicians of Canada and the Canadian Paediatric Society.
- There is a positive relationship between level of parents' education and frequency of physical examinations and health screening among First Nations youth.

INTRODUCTION

This chapter focuses on the utilization of Western health care and preventive health screening services, as well as traditional healers, by First Nations youth aged 12 to 17 years. Numerous studies have shown that there is a disproportionate disease burden among First Nations people, compared to the general Canadian population, for a wide range of conditions, including infectious diseases, diabetes, heart disease, renal diseases, and mental illness (Government of Canada, 1996; Health Canada, 2003; MacMillan, MacMillan, Offord, & Dingle, 1996; MacMillan et al., 2003; Webster, Weerasinghe, & Stevens, 2004; Young, Reading, Elias, & O’Neil, 2000). Primary care services can play an important role in reducing these health burdens through focusing on prevention, early intervention, and management. Many of the health problems that disproportionately affect First Nations people when they are older may be preventable if warning signs are caught when they are young. Traditional medicine—through the use of a holistic model of well-being that integrates physical, mental, emotional, and spiritual aspects—can also play an important role in the health of First Nations youth. Unfortunately, traditional medicine is almost always overlooked by the Western health care system (First Nations Health Society, 2010). Very little is known about the extent to which primary and preventive care services or traditional medicine are used among First Nations youth (Minore, Katt, & Hill, 2009).

A growing body of evidence indicates that First Nations adults do not utilize primary health care services at the same level as Canadians overall and that they face numerous barriers to accessing appropriate care. Diverty and Pérez (1998) found that Aboriginal people in the Northwest Territories had contact with a general practitioner at a rate almost half that of non-Aboriginal people, although rates of nurse consultations were higher. Newbold (1997), using data from the 1991 Aboriginal People’s Survey, found that First Nations people were significantly less likely to use physician services, compared to the general Canadian population. There are also a number of studies that have shown higher rates of hospitalizations among First Nations that could be preventable with better access to primary care services and improved disease management in the First Nations community (Pohar & Johnson, 2007; Shah, Gunraj, & Hux, 2003). However, improving primary care and other health care services for First Nations is a challenge due to the barriers to access many communities face. In RHS 2002/03 (First Nations Information Governance Committee [FNIGC], 2005), compared to the general

Canadian population, a significantly higher proportion of First Nations adults reported barriers to health care access due to problems with transportation, inadequate provision of local services, and a lack of culturally appropriate services. While it may be assumed that First Nations youth also underutilize primary care and are faced with many of the same barriers to access as adults, health care utilization in this population is not well understood.

The aim of this chapter is to advance our understanding of health care utilization among First Nations youth in an effort to inform more effective policy-making and program development, ultimately improving the health of First Nations. The following presents the results and discussion of Western primary health care service utilization and traditional healer consultation as reported by First Nations youth in RHS 2008/10, in addition to providing conclusions and recommendations.

METHODS

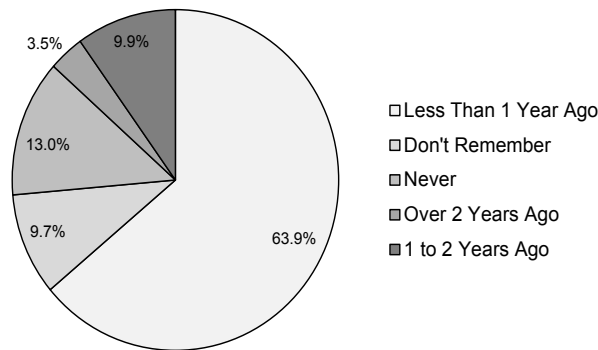
To better interpret the current results, comparisons were made to results from the 2007–08 CCHS for youth aged 12 to 17 (Statistics Canada, 2009), the RHS 2002/03, and various other published studies. In most cases, questions included in RHS 2008/10 and the CCHS were sufficiently similar to be able to make direct comparisons, unless otherwise noted. CCHS public use microdata files were obtained from Statistics Canada (2009) and RHS data were obtained from the previous RHS report (FNIGC, 2005).

RESULTS

Utilization of Primary Care Services

Figure 27.1 shows that 64% of First Nations youth visited a doctor or community health nurse in the 12 months prior to the survey, while 13% had never visited a doctor or community health nurse. By way of comparison, 65% of Canadian youth reported in the CCHS having consulted with a family doctor, pediatrician or general practitioner in the previous 12 months. Additionally, 15% of the general Canadian population reported having visited other medical doctors or specialists within the 12 months prior to the survey (Statistics Canada, 2009).

Figure 27.1. Time since Last Consultation with a Doctor or Community Health Nurse (n = 4,675)



Utilization of Primary Care Services, by Self-reported Health

Overall, First Nations youth reported somewhat lower levels of health compared to youth in the general Canadian population (Statistics Canada, 2009). The proportion of First Nations youth who reported excellent health (30.6%, 95% CI: 28.5, 32.8) was comparable to that of the general Canadian youth population (26%). Self-reported health has been found to be a good indicator of health generally and also of health-service use in some populations (Bosworth, Butterfield, Stechuchak, & Bastian, 2000; Miilunpalo, Vuori, Oja, Pasanen, & Urponen, 1997).

Utilization of Primary Care Services, by Gender

A gender gap was observed in the length of time since last consultation with a doctor or community health nurse (see Table 27.1). A higher proportion of female youth reported having consulted with a doctor or community health nurse in the 12 months prior to the survey (68.1%), compared to 59.8% of male youth. This gender difference is also observed among youth in the general Canadian population (68% of females, compared to 63% of males, Statistics Canada, 2009).

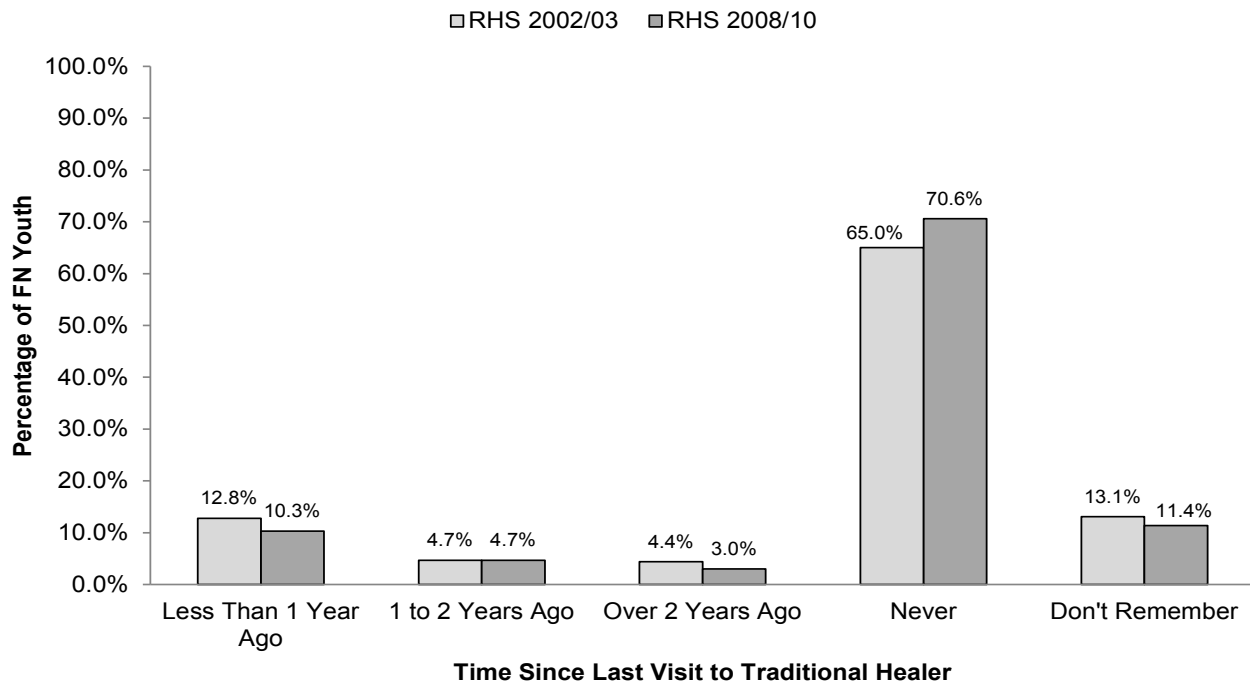
Table 27.1. Time since Last Consultation with a Doctor or Community Health Nurse, by Gender (n = 4,675)

Gender	<12 months (%)	1–2 years (%)	>2 years (%)	Never (%)	Don't remember (%)
Male	59.8	11.4	4.5	16.3	8.0
Female	68.1	8.3	2.5	9.5	11.6
Total	63.9	9.9	3.5	13.0	9.8

Utilization of Traditional Healers

Figure 27.2 compares findings from RHS 2002/03 and RHS 2008/10 regarding consultations with traditional healers. In RHS 2008/10, 10.3% (9.0, 11.7) of First Nations youth reported having consulted with a traditional healer in the year prior to the survey, similar to that observed in RHS 2002/03 (12.8%, 95% CI: 11.2, 14.7). However, the proportion of First Nations youth who reported ‘never’ having consulted with a traditional healer increased from 65.0% [95% CI: 62.0, 67.9] in RHS 2002/03 to 70.6% [95% CI: 68.0, 73.1]. Although traditional healing practices are an important part of First Nations’ cultural and spiritual beliefs and play an important role in First Nations’ health (First Nations Health Council, 2010), the results may suggest that the proportion of people engaging in these practices may be decreasing.

Figure 27.2. Time since Last Consultation with a Traditional Healer, RHS 2002/03 and RHS 2008/10 (n = 4,654)

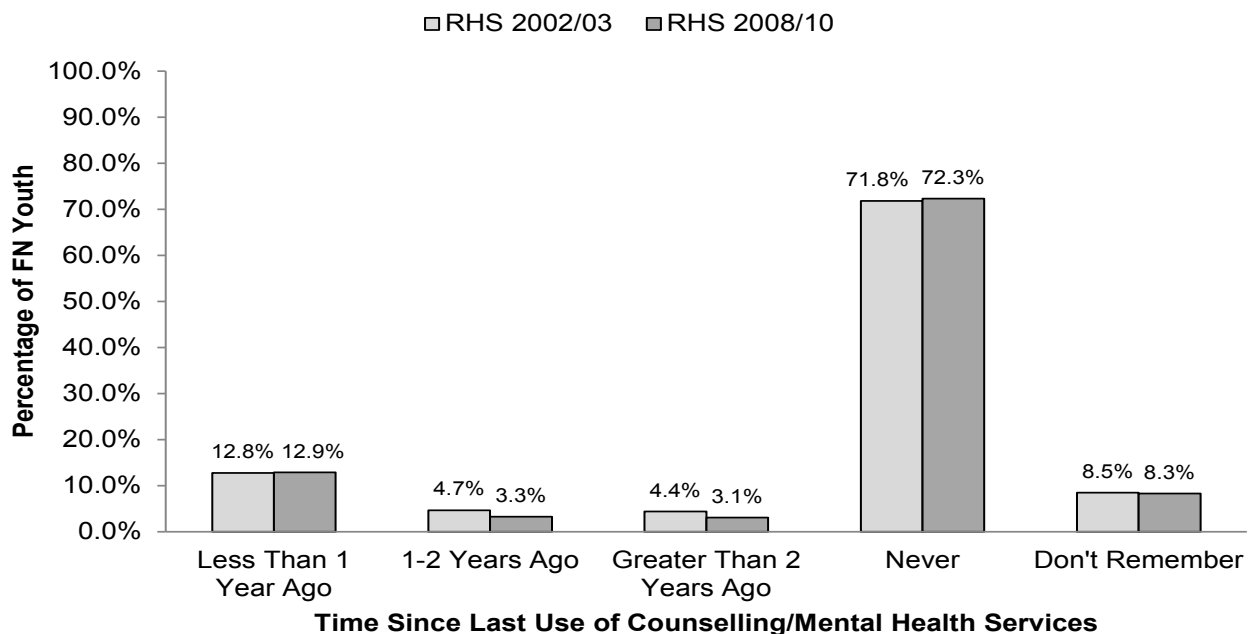


Utilization of Counseling and Mental Health Services

Only 12.9% of First Nations youth reported using counseling or mental health services within the year prior to the survey, while the majority (72.3%) reported

never having used these services (see Figure 27.3). When examined by gender, counseling and mental health service utilization rates were found to be very similar in both RHS 2002/03 and RHS 2008/10. Overall, there has been almost no change in utilization rates since RHS 2002/03

Figure 27.3. Time since Last Use of Counseling or Mental Health Services, RHS 2002/03 and RHS 2008/10 (n = 4,538)



When asked to rate their mental health, 30.1% of First Nations youth indicated their mental health is ‘excellent’, 34.7% indicated ‘very good’, 28.7% indicated ‘good’, and 6.5% indicated ‘fair’ or ‘poor’. By comparison, 4.9% of youth in the general Canadian population reported fair or poor mental health (Statistics Canada, 2009).

To assess the extent to which utilization of mental health services was associated with potential need, a comparison between utilization of counseling or mental health services and self-reported mental health status was made. Results revealed that a higher proportion of those who rated their mental health as being ‘fair’ to ‘poor’ indicated visiting a mental health professional in the past year (19.1%), compared to those with good (16.3%), very good (12.3%), or excellent (9.0%) self-reported mental health. The results reveal that, consistent with expectations, utilization of services increased as quality of self-reported mental health decreased. However, it is also important to note that 56.7% of those who reported fair or poor mental health had never utilized counseling or mental health services, indicating a potentially high level of unmet needs

Treatment for Diagnosed Health Conditions

The section discusses key health conditions and the extent to which First Nations youth were receiving medical treatment for them. Asthma, diabetes, and anemia focused on because they were either prevalent among Canadian youth overall or of particular concern among First Nations youth.

Asthma

In RHS 2008/10, 12.7% of First Nations youth reported having been diagnosed with asthma, and 57.5% of them were receiving treatment for their condition (see Table 27.2). Those findings are comparable to results from the 2001 Aboriginal People’s Survey for Aboriginal youth aged 10 to 15 living off-reserve (Crighton, Wilson, & Sénécal, 2010). Of the First Nations youth who reported having been diagnosed with asthma, 19.6% reported having had an asthma attack in the year prior to the survey. Of that 19.6%, the majority were receiving treatment (80.4%).

Diabetes

Fewer than 1% (0.8%, 95% CI: 0.6%, 1.2%) of First Nations youth reported a diabetes diagnosis (see Table 27.2). The prevalence of diabetes appears to be higher than that observed among youth in the general Canadian

population (0.35%; Statistics Canada, 2009). Only 65.9% of those who reported having diabetes said they were currently receiving treatment for diabetes. These findings are consistent with research findings among First Nations adults in Ontario (Shah, Anand, Zinman & Duong-Hua, 2003). Shah et al. (2003) identified high rates of diabetes-related mortality and hospitalizations, as well as reduced rates of specialist referral for diabetes diagnostic tests and related procedures, which is an indicator of inadequate management in the community.

Anemia

A small proportion (1.5%) of First Nations youth had been diagnosed with anemia (see Table 27.2). Of those, approximately two-thirds (70.9%) were receiving treatment.

Table 27.2. Health Conditions Diagnosed by a Health Care Professional and Receiving Treatment

Health condition	Diagnosed (%)	Receiving treatment (%)
Asthma (<i>n</i> = 4,627)	12.7	57.5
Attack in past year*	19.8	80.4
Diabetes (<i>n</i> = 4,616)	0.8	65.9
Anemia (<i>n</i> = 4,635)	1.5	70.9

*Individuals who reported an asthma diagnosis by a health care professional and who had an asthma attack in the 12 months prior to RHS 2008/10

Preventive Care

Table 27.3 demonstrates that approximately 18% of First Nations youth received complete physical examinations in the year prior to the survey. Approximately half (47.9%) of First Nations youth reported having had vision or eye exams in the previous 12 months, while fewer than one-third (30.2%) reported having had blood pressure tests. Comparatively, in the general Canadian youth population of the same age group, approximately 51% reported having had an eye examination and 67% reported having had a blood pressure test in the past year (Statistics Canada, 2009). Significantly more females than males reported having received blood pressure and vision tests. The RHS 2008/10 revealed that fewer than one-fifth (18.0%) of First Nations youth reported having had blood sugar tests in the year prior to the survey, with a higher proportion of females than males receiving the tests.

Table 27.3. Received Health Screening Tests within the 12 Months Prior to the Survey

Health screening Test	Male (%)	Female (%)	Overall (%)
Complete physical (n = 4,369)	18.2	17.9	18.1
Vision/eye exam (n = 4,585)	45.7	50.2	47.9
Blood pressure test (n = 4,543)	27.7	32.9	30.2
Blood sugar test (n = 4,490)	16.0	20.2	18.0
Cholesterol test (n = 4,117)	5.6	4.4	5.0

Table 27.4 demonstrates that when health screening is compared to the level of parents' education, rates of health screening increased as the level of parents' education increased. While this finding seems to suggest that better educated parents were more aware of the importance of preventive care, an alternative explanation may simply be that they lived in less remote areas with better access to health care services.

Table 27.4. Received Health Screening Tests in the 12 Months Prior to the Survey, by Level of Parents' Education

Health screening test	Highest level of schooling			
	Less than high school (%)	High school or equivalent (%)	Some post-secondary (%)	All (%)
Complete physical	13.9	17.1	24.1	18.1
Vision/eye exam	41.8	50.9	53.8	48.0
Blood pressure test	23.6	31.5	37.1	30.0
Blood sugar test	14.8	19.4	20.6	17.8
Cholesterol test	3.7	6.1	6.1	5.1

Human papilloma virus vaccination

Results from RHS 2008/10 indicate that at the time of the survey, 29.0% of First Nations female youth had been vaccinated for human papilloma virus (HPV). Studies have shown that HPV vaccine is highly effective in preventing disease from the HPV types that cause 70% of all cervical cancers and 90% of genital warts (National Advisory Committee on Immunization [NACI], 2007).

In 2007, NACI's recommendation that all females between 9 and 26 years of age be routinely vaccinated for HPV was adopted nationally. While the findings here suggest that this standard is not being met, RHS 2008/10 was conducted only shortly after the adoption of this recommendation. The next wave of the RHS will be able to provide a better indication of the success of the vaccination program among young First Nations females.

CONCLUSIONS

Findings from this study suggest that First Nations youth are not receiving adequate levels of primary prevention and screening. Canadian guidelines suggest physical examinations should occur every one or two years for children and youth. The exams should include, among other things, assessments of height and body mass index, blood pressure, nutrition, and visual acuity (Greig, Constantin, Carsley, Cummings, & Canadian Paediatric Society, 2010). It is further recommended that additional assessments be performed for high-risk populations for conditions such as diabetes. In the case of First Nations youth, where high rates of obesity and type 2 diabetes are increasingly a concern (Allan, Flett, & Dean, 2008; Gohdes et al., 2004; Hegele, Hanley, Zinman, Harris, & Anderson, 1999; Rosenbloom, Joe, Young, & Winter, 1999; Young et al., 2002), regular cholesterol and blood sugar testing is considered appropriate. An important starting point to address this may be to develop First Nations-specific screening and preventive standards to guide community-based activities. Findings further suggest that considerable efforts must be made to reduce barriers to access to primary and preventive care for First Nations youth. Such efforts should take a variety of forms, including improved access to telemedicine in remote communities and educational programs to encourage greater uptake of primary and preventive care.

The slight decline in the use of traditional healers is a concern, given the importance of traditional healing practices within First Nations culture and spirituality and their place in determining First Nations health and well-being (First Nations Health Council, 2010). Research to help understand why this decline is occurring is needed, as are programs to raise awareness and interest in traditional medicine among First Nations youth. Opportunities for integrating the Western health care model into traditional medicine also must be explored. Youth counseling and mental health services would be an appropriate

starting point for examining this type of integration.

While the data presented here are important from a national perspective, a regional perspective is required to better understand health care access and utilization among First Nations youth living on-reserve or in northern communities. As is the case for the general population in Canada, access to and utilization of primary care and preventive medicine varies geographically, typically with lower levels of utilization in more remote, rural, and northern areas. Results presented here are aggregated geographically; therefore, regional differences cannot be identified. A geographic-level analysis of RHS 2008/10, which will be carried out by the respective regions, will play an important part in understanding regional differences. Better health information systems must be developed through agreements between First Nations and the provinces, recognizing First Nations principles of ownership, control, access, and possession. There is a significant deficit of information about the health and health service utilization of First Nations people, making planning and provision of culturally appropriate services very difficult. While several provinces have developed a variety of information systems, most have not (Minore et al., 2009).

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Chapter 28

Community Wellness

EXECUTIVE SUMMARY

First Nations youth represent a driving force in First Nations communities, as over half of the First Nations population in Canada is under the age of 25, and this proportion is increasing. First Nations youth are active participants in determining and shaping the future of their communities. Their well-being and the well-being of the communities in which they live are essential to explore. Composite measures from the Community Well-Being (CWB) Index indicate a large disparity between First Nations communities and the rest of Canada. Culture, language, and traditional activities have all been identified as important tools for the prevention of high-risk behaviours among First Nations youth. Culture and pride in one's heritage are thus central to well-being. The findings of the First Nations Regional Health Survey (RHS) 2008/10 supported the importance of culture, as many First Nations youth living on-reserve or in northern communities (40.2%) identified traditional ceremonial activities as a community strength. An overwhelming 74.2% of First Nations youth reported that the biggest challenge to their communities was alcohol and drug abuse, followed by housing (46.2%), culture (42.6%) and employment/number of jobs (41.1%). The majority of First Nations youth identified parents and grandparents as their primary teachers of culture, followed by immediate family, schoolteachers and elders. From this data and relevant literature, it is evident that strategies aimed at improving community wellness for First Nations youth must be tied to First Nations identity, self-esteem, and cultural continuity and that they must emphasize family and social cohesion within First Nations communities. Findings for this chapter highlight an underlying theme of achieving community wellness by addressing historical trauma and the mental health needs of First Nations communities.

KEY FINDINGS

- The main challenge to community wellness reported by First Nations youth was drug and alcohol abuse (74.7%). Among those that recognized this as a challenge, over one-third (36.7%) reported that drug and substance abuse in the community is worsening.
- Almost half (42.6%) of all First Nations youth reported loss of culture as a community challenge. Among those that recognized this as a challenge, fewer than one-in-ten (6.8%) reported that good progress is being made in the area of culture loss.
- Over half of all First Nations youth (58.1%) identified family values as a community strength.
- Nearly half of all First Nations youth (40.2%) identified traditional ceremonial activities as a community strength.
- Only 29.5% of all First Nations youth reported use of First Nation language as a community strength.
- More than half (53.7%) of all First Nations youth reported learning culture from their grandparents.
- Among First Nations youth who identified gang activity as an issue, almost half (46.1%) reported that gang activity in communities was worsening, with another 35% reporting that there had been no improvement in this area.

When the shocks follow one another without intervals for recovery, pain and dysfunction are laid down layer upon layer and the original causes and effects become obscured.

—Castellano-Brant, 2008

INTRODUCTION

This chapter focuses on determinants of community wellness for First Nations youth living in First Nations communities. Determinants of community wellness are explored through the responses of First Nations youth to indicators of First Nations community wellness and community challenge. First Nations youth are a vital component of their communities, given that more than half of the First Nations population in Canada is under the age of 25 (Townsend & Wernick, 2008). As First Nations youth represent such a large and growing proportion of the First Nations population, it is essential that their needs and the needs of their communities in terms of health and well-being are met.

Culture as a Protective Factor

Chandler, Lalonde, Sokol, and Hallett (2003) assert that some commitment to one's own future prospects requires resilience fuelled by cultural sustainability. They state:

Without some sense of personal (not to mention cultural) continuity, it would appear, life is easily cheapened, and the possibility of suicide becomes a live option. Even under the best of developmental circumstances, finding a way of warranting one's necessary convictions about self- and cultural continuity is no simple matter, and much of childhood and adolescence appears to be taken up with drafting and re-drafting various perduring forms of self-understanding sufficient to withstand the expectable ravages of time. . . . young people who falter or fail in meeting such expectable developmental obligations often behave irresponsibly, and are known to demonstrate a lack of appropriate care and concern for their own future wellbeing.

Self-abuse and self-injuries, including suicide, have recently come to be counted among the common costs of such failures in identity development. However hazardous simply growing up may otherwise be, such risks are magnified when the cultural backdrop against which development automatically unfolds is complicated by socio-cultural adversities. Nowhere is this more apparent than in the identity struggles of young Aboriginal persons who are required not only to clear the standard hurdles of normal growth and development, but also are often forced to construct a sense of selfhood out

of the remnants of a way of life that has been largely threatened. In their five-year study of suicide among First Nations youth in British Columbia, Chandler and Lalonde (1998) identified six markers of cultural continuity: achieving a measure of self-government; securing Aboriginal title to traditional lands; achieving a measure of local control over health, education, and policing services, which constitute three markers; and creating community facilities for the preservation of culture. Lalonde et al. (2003) extended this work and identified two additional markers of cultural continuity: an achieved measure of local control over child welfare services, and female leadership. Other studies also cite language as a key protective factor (Norris, 1998). However, from 1986 to 2001, the percentage of Aboriginal children from birth to four years of age who spoke an Aboriginal language fluently declined from 10.7% to 7.9% (Norris, 2007). The implication of these statistics is significant given that “the younger the speakers, the healthier the language” (Norris, 2007)

Research has demonstrated that Aboriginal identity, language, and culture are protective factors for community wellness. The wellness of a community should then be measured from within a cultural knowledge framework. The Four Directions cultural framework provides a culturally based approach to the understanding of First Nations health and well-being. Within the Four Directions model, it is essential that the total health of the individual be promoted through the mind, body, spirit, and heart, while also contextualizing the individual within the environment of the family and community. Family and community, in turn, provide balance and support for stability, health, and well-being. The RHS Cultural Framework includes four directions—reason, relationships, action, and ways of seeing (First Nations Information Governance Committee, 2005)—and maintains a holistic world view that is inclusive of facts that are relevant to well-being and often overlooked by Western lenses.

Measuring community wellness within a cultural framework

The question then is how to measure community wellness within a First Nations framework that is holistic and encompasses the mind, body, spirit, and heart of community. Some attempts have been made to measure community wellness, although not often within a First Nations cultural framework. The Indian and Northern Affairs Canada (INAC) Community Well-Being Index is based on Western health indicators but was developed specifically with First Nations communities in mind.

The CWB Index incorporates elements of the Human Development Index and census data. The four dimensions of the CWB Index are education, labour force participation, income, and housing (McHardy & O’Sullivan, 2004). When the CWB Index was applied to all Canadian communities with 65 or more residents, including First Nations communities, the results suggested a significant disparity between First Nations communities and the rest of Canada. In fact, only one First Nations community in Canada ranked in the top 100 communities, while 92 of the bottom 100 communities were First Nations communities (McHardy & O’Sullivan, 2004). These findings are distressing, but they also allude to a potential challenge in adapting Western measures of community well-being to a First Nations cultural framework.

According to Kishk Anaquot Health Research:

Successful communities cultivate social climates where individual members thrive, develop a sense of self-efficacy and are able to actualize their potential spiritually, emotionally, physically and intellectually. Environments that support human potential honour their Elders and have employment, business, youth mentoring and early learning opportunities. A critical mass of individuals who are physically healthy, excel in cultural teachings or academic endeavours were also considered benchmarks of success . . . First Nation success is also obvious when collaboration and cohesion . . . A strong sense of community identity and pride was also commonly cited as a characteristic of successful community. Widespread understanding of cultural history and a sense of empowerment reflected such pride and identity. (2007)

Critical components of a successful community should therefore be measured not simply with mainstream health indicators but also through relationships, leadership, and identity. While there is little data on youth’s responses to these more culturally representative factors, several authors have examined the importance of community among First Nations peoples (Chandler & Lalonde, 1998; Chandler et al., 2003). The authors report that summary statistics, while technically correct, must be understood as “actuarial fictions” that regularly hide more than they reveal. Indiscriminately painting the whole of Canada’s First Nations population with the same broad brush not only obscures the real cultural diversity that marks the lives of Aboriginal peoples, but also mistakenly substitutes the banner headline of “Aboriginality” (Chandler & Lalonde, 1998; Chandler et al., 2003).

The Historical Context

The first order of self-determination is the task of revealing First Nations’ experience, one that has long been appropriated by official colonial accounts of history that have systematically written the First Nations out. The residential school era, ending in the 1970s, left generations of First Nations people without their language or cultural life skills and created a chasm between culture and education. Colonial practices outlawing or criminalizing culture and spiritual practices left wounds in First Nations communities, subsequently alienating people from their own heritage (Milloy, 1999). Exacerbating the colonial legacy is alienation and marginalization of indigenous people within their own countries, a practice that has led to damaging consequences for cultural traditions and identity, social cohesion, and self-esteem (Voyle & Simmons, 1999). There is no doubt that colonialism has had direct and indirect impacts on First Nations peoples’ collective health and well-being (Voyle & Simmons, 1999), and this must be considered when examining the current situation of First Nations communities.

METHODS

The RHS 2008/10 measures community wellness through the eyes of First Nations youth. Community wellness is explored in a holistic fashion in that First Nations youth were asked about the strengths and challenges in their communities in relation to cultural identity, language, leadership, and relationships. The data provide an overview of what First Nations youth view as barriers, followed by a community progress index. Resilience is measured through items exploring community strengths, as well as questions asking who helps First Nations youth understand their culture and how community wellness is tied to overcoming colonialism and sustaining cultural continuity. The cultural framework, from introduction to final analysis, is used to provide a First Nations view of community wellness and includes narratives that assess how to achieve wellness. The framework reveals both trends of resilience and current challenges.

The discussion that follows contextualizes the data and examines the critical indicators for community wellness within a cultural continuity framework. The discussion provides explanations for readers to understand the statistics within a cultural model and lends insights into why family, culture, and language are indicators of community wellness that are as important as employment, education, and housing. The holistic model embedded throughout the chapter is critical to an indigenous knowledge paradigm that incorporates history, the impacts of colonialism,

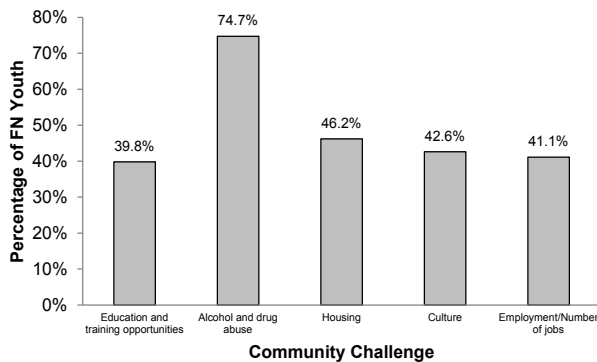
and why identity, emotional wellness, and spirituality are significant indicators in First Nations well-being.

RESULTS

Community Challenges

First Nations youth were asked about the main challenges they felt their communities were currently facing. They were able to select from a list of challenges that included lack of education and training opportunities, alcohol and drug abuse, housing, loss of culture, lack of employment, destruction of natural environment and resources, poor health, lack of funding, lack of control, and gang activity. The youth were also given the space to identify other challenges. Figure 28.1 illustrates the main community challenges reported by First Nations youth. Three-quarters (74.7%) of First Nations youth reported alcohol and drug use as one of the main challenges faced by their community. Housing (46.2%), loss of culture (42.6%), lack of employment (41.1%), and education and training (39.8%) were some of the challenges most often reported by First Nations youth.

Figure 28.1. Main Challenges Facing Communities, as Reported by First Nations Youth



Community Progress or Change

First Nations youth who identified community challenges were then asked whether they felt there had been an improvement in any of these areas within the 12 months prior to the survey (see Table 28.1). First Nations youth were able to identify the change on a scale that included “good progress or change”, “some progress or change”, “no progress/change” or “worsening.” Only a fraction (20.6%) of First Nations youth who observed community challenges reported that there was improvement with respect to drug abuse, while the majority (79.4%) viewed the drug abuse problem as achieving no progress or worsening in their communities. The pattern was similar with housing and employment, as the majority of First

Nations youth did not see an improvement in either employment (68.4%) or housing (63.4%). The most positive outlook of First Nations youth was improvement in their education and training opportunities with 40.7% and 40.0% reporting seeing progress, respectively.

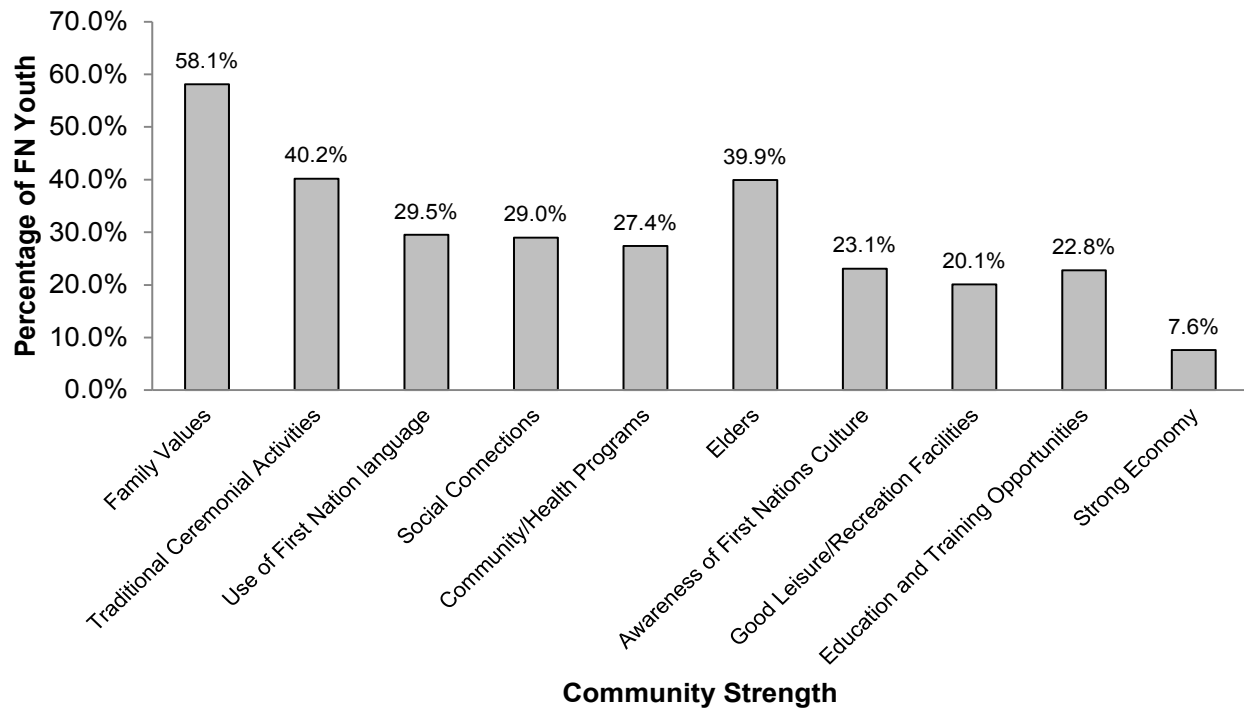
Table 28.1. Progress on Community Challenges, as Reported by First Nations Youth (among those who identified this as a challenge to the community)

	Good progress %	Some progress %	No Progress %	Situation worsening %
Education and training opportunities	5.1	35.6	46.4	12.9
Alcohol and drug abuse	3.9	16.7	42.7	36.7
Housing quality	5.2	31.4	40.6	22.8
Loss of culture	6.8	33.2	38.3	21.7
Lack of employment/jobs	2.5	29.0	48.0	20.4
Destruction of natural environment	4.4	19.4	44.6	31.6
Poor health	4.4	26.6	46.0	23.0

Community Strengths

When First Nations youth were asked about the main strengths of their community, 58.1% reported family values (see Figure 28.2). Traditional ceremonial activities and elders were also among the most frequently cited community strengths, at 40.2% and 39.9%, respectively. When asked about social connections and their community working cohesively, just below 30% of all First Nations youth reported affirmatively.

Figure 28.2. Community Strengths, as Identified by First Nations Youth

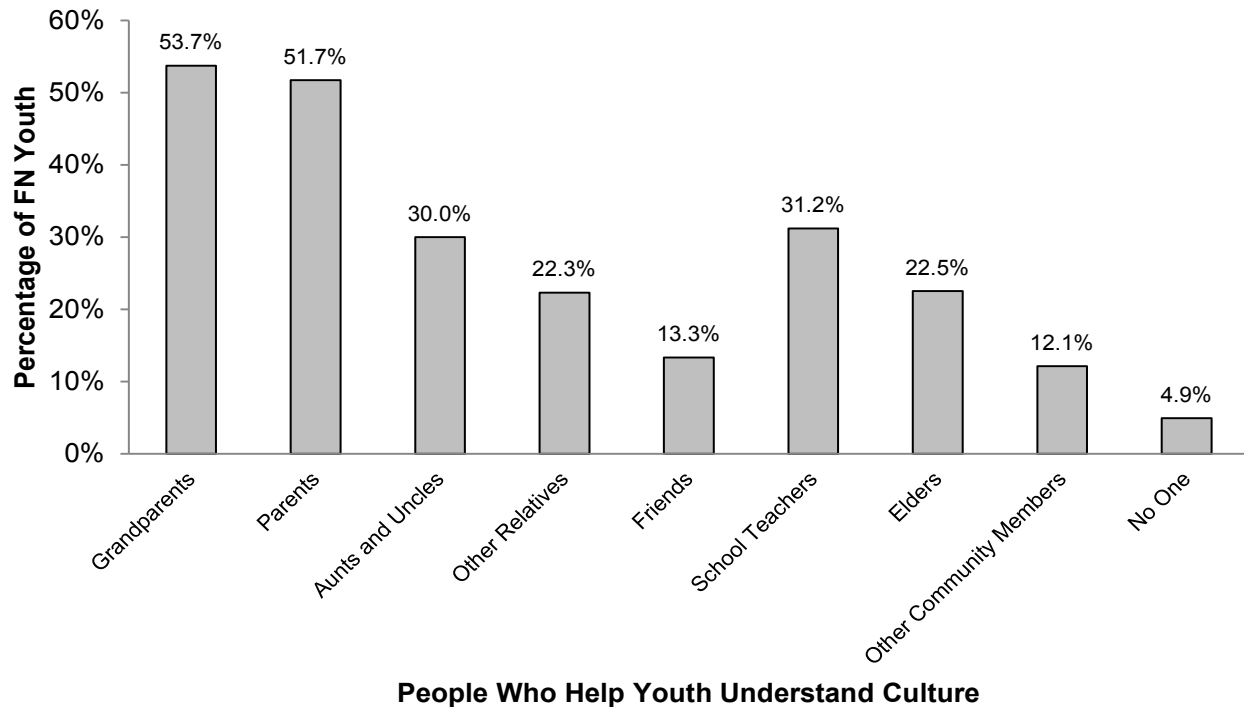


Only 14.0% of First Nations youth reported low rates of suicide, crime, and drug abuse to be community strengths. Additionally, the findings seemed to demonstrate a lack of leisure and recreation activities for First Nations communities; only 20.1% of First Nations youth reported good leisure/recreation facilities was a community strength. Even fewer First Nations youth (7.6%) reported a strong economy as a community strength.

Support for Culture

First Nations youth seem to feel strongly about the importance of traditional cultural events. Among female First Nations youth, 46.9% reported that traditional cultural events were “very important” and 38.9% reported that they were “somewhat important.” Approximately one-in-seven (14.3%) First Nations youth felt traditional cultural events were “not very important” or “not important at all”. Male First Nations youth did not differ much from their female counterparts, as 44.1% and 41.5% of male youth felt that traditional cultural events were “very important” or “somewhat important,” respectively. Participation in cultural events was high: 74.2% of First Nations youth reported that they “always/almost always” or “sometimes” took part in their local community’s cultural events.

When asked who helped them to understand culture, 53.7% of First Nations youth said grandparents and 51.7% said parents, followed by teachers (31.2%), aunts and uncles (30%), elders (22.5%), and community members (12.1%). See Figure 28.3.

Figure 28.3. People who Helped First Nations Youth Understand Their Culture

As language is a significant measure of culture, the findings of RHS 2008/10 on use of a First Nations language suggest that the cultural situation of First Nations communities has improved only minimally: only 21.5% of First Nations youth reported using their First Nations language as their daily language, while the vast majority (78.5%) reported that they did not. This finding is concerning, as research, though limited, has established a significant link between language and community well-being (McIvor, Napoleon, & Dickie, 2009).

DISCUSSION

The cultural framework utilized by the RHS includes action as one of the principles. Action, as a principle, maintains a focus on addressing previously identified barriers and nurturing First Nations as individuals. First Nations youth have clearly reported that they see little action taking place within their communities to improve community wellness. On measures of progress or change in all aspects explored, most First Nations youth did not report seeing any good progress or change in their community within the 12 months prior to the survey. In fact, many First Nations youth reported that the situation in their communities is worsening. These data demonstrate that First Nations youth are very much aware of the challenges facing their communities, but clearly feel that not enough is being done to address them.

Models and practices of helping and healing for First Nations people include storytelling, advice from elders, interconnectedness with family and community, hosting healing circles, and nurturing access to ceremonial practices (McIvor et al., 2009). These methods and practices for helping and healing serve as community strengths, and this is evident in findings (McIvor et al., 2009). A number of studies indicate that traditional activities are protective factors against certain ailments like alcoholism, depression, stress, and suicide (McIvor et al., 2009). The First Nations youth in the current research also recognize ceremonies and elders as strong community strengths; as a result, researchers and policy and program developers should draw on these findings to support community wellness programming, particularly those for First Nations youth. First Nations youth also identified the strength of social connections and family values for community wellness. The foundation of community is comprised of kinship systems and their relation to the wider community in terms of working together to address collective health needs (Duran & Duran, 1995).

The data demonstrate that First Nations youth feel strongly about the importance of culture. Many First Nations youth reported that loss of culture is a main challenge for their community. Additionally, the use of First Nations languages was identified as a community strength. Norris (1998) explains that the more one understands one's own

language and the teachings associated with that language, the more access one has to core traditional knowledge that can help to develop a stronger sense of identity. If this is true, then it can also be argued that the further one is separated from one's language, the more disconnected one may be from the core traditional knowledge needed to develop a stronger sense of identity. Research by the United Nations expert panel on language supports placing language as a key social determinant of health for First Nations communities, as language is more of an indicator of health and well-being than socio-economic status. In RHS 2008/10, almost 30% of First Nations youth identified use of a First Nations language as a community strength. This finding is consistent with literature suggesting that First Nations language is not only a community strength but also a protective factor for individual and community wellness. It is clear that First Nations language and culture are linked to community wellness; the challenge now is finding data that reflect how language and culture act as protective factors.

If First Nations children see themselves only through Eurocentric representations, they will not likely see encouraging representations of the self. Programs that utilize indigenous knowledge and cultural activities have shown promise but have not yet officially been designated best or promising practices. A number of First Nations substance abuse prevention models now incorporate traditional cultural activities in healing approaches. Spiritually oriented practices, such as purification lodges, smudging, talking circles, dream work, and traditional ceremonies have been shown to help First Nations youth facilitate healing (Anderson & Ledogar, 2008).

The role of cultural traditions is thought to be very strong. In fact, pride in one's heritage is considered central to well-being (Anderson & Ledogar, 2008; Norris, 2007). Anderson and Ledogar stated there is no way to identify the various forms of spirituality, but spirituality is also identified as very important in community wellness (Anderson & Ledogar, 2008; Norris, 2007). People who participate in traditional activity are less likely to feel powerless or out of control. Aboriginal people have always understood that spiritual teaching and the power of stories can help members of a community, particularly children and youth, to attribute meaning to historical trauma and to anticipate a more positive future (Anderson & Ledogar, 2008; Norris, 2007). These strategies must be recognized and employed in contemporary wellness strategies to improve success in First Nations communities and populations. First Nations youth need active avenues to recover from historical trauma, and traditional activities have been shown to support this. They are

facing the collective recovery of intergenerational trauma and require substantial support from the agencies that historically stripped their parents and grandparents of pride, self-esteem, and vision. The literature underlines the significance of traditions and culture as an indicator of overall well-being. Culture is but one component of a holistic analysis of community wellness and interconnects with socio-economic status, leadership, education, and other variables that measure wellness.

CONCLUSIONS

The root cause of the crisis in many First Nations communities is driven by collective impaired grief that results from massive cumulative trauma associated with colonization (Brave Heart, 1998). To support healing, this collective trauma should be acknowledged and, in response, tools from cultural teachings and ceremonies could be created. Recent research has suggested that the trauma experienced by First Nations peoples in history is not so historical. Research in the United States of America by Whiteback et al. (2002) suggests that the historical trauma is not over for many American Indian people. It continues to affect their perceptions on a daily basis and impinges on their psychological and physical health (Whitbeck, McMorris, Hoyt, Stubben, & LaFromboise, 2002). Assimilation policies that stripped Aboriginal people of their language and identity and encouraged assimilation were oppressive and had traumatizing impacts on generations of survivors. The loss of self-esteem occurred during an era of governmental policies of oppression such as residential schools, and poverty was a direct consequence of oppressing Aboriginal culture.

The findings of RHS 2008/10 demonstrate that First Nations youth living in First Nations communities feel strongly about the importance of culture, although many youth reported that loss of culture is also a main challenge for their community. Despite being an important challenge, the loss of culture, was also the item reported to have the most "good progress or change" in First Nations communities. Furthermore, the strengths revealed in the data show the commitment of First Nations youth to sustaining their culture and improving their communities' employment, education, and overall wellness. Their identification of culture, language, and family values as strengths of their communities demonstrates their understanding of how family wellness is essential for community wellness and success. Their responses also demonstrate that they have clear goals and aspirations consistent with their values and the principles embedded in the value of one's heritage.

The acknowledgement by First Nations youth of culture as a strength is promising as the literature indicates that culture is considered central to well-being (Norris, 2007). Based on the data and literature reviewed, it is clear that culture and language are important for addressing community challenges and improving community well-being. Best practices for First Nations community healing could utilize traditional customs and First Nations healing practices, along with other appropriate healing approaches.

Strategies that utilize and promote First Nations culture, language, and ceremony must be recognized and employed in contemporary wellness strategies to improve wellness in First Nations populations, in particular among youth. First Nations youth need active avenues to recover from historical trauma, and traditional activities have been shown to support this. Within a context of cultural continuity, the younger generation needs to be well positioned with respect to the primary indicators of community wellness—continuation of language, self-determination, and controlling their own education, policing, housing, and health services. The wellness of First Nations communities is measured by how well the youth—the future of the people—are and by their views of future prospects. First Nations youth have said substance abuse, suicide, poverty, and lack of jobs and training all impede their vision for achieving community wellness.

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Chapter 29

Personal Wellness and After-School Activities

EXECUTIVE SUMMARY

Youth in the First Nations Regional Health Survey (RHS) 2008/10 generally reported feeling balanced physically, mentally, emotionally, and spiritually, and the majority of them did not report persistent depressed mood, suicidal thoughts, or suicide attempts. However, likely due to greater exposure to acute and chronic stressors, percentages of depressed mood, suicide ideation, and suicide attempts were higher among First Nations youth living on-reserve or in northern communities than among the general Canadian population. Despite evidence of distress, generally high levels of self-esteem, mastery, and social support were also reported, all of which were associated with a range of positive outcomes. Considering that adolescence is a time where prevention and intervention efforts may be most effective, undertaking the development of comprehensive strategies aimed at improving wellness among First Nations youth is critical. The current data suggest that participation in cultural and general extracurricular activities were associated with positive outcomes for First Nations youth. However, other important determinants of wellness must be further explored, and, more importantly, underlying contextual and social factors also must be addressed.

KEY FINDINGS

- The majority of First Nations youth reported feeling balanced physically (75.0%), emotionally (65.3%), mentally (65.6%), and spiritually (60.8%) at least most of the time.
- Approximately one-third (33.8%) of female and just under one-fifth (17.2%) of male First Nations youth reported that there was a time when they felt sad, blue, or depressed for two weeks or more in a row in the previous 12 months.
- The large majority of First Nations youth have not considered suicide (83.5%) nor attempted suicide in their lifetime (94.1%). Rates of suicide ideation are much higher than those observed in the general population.
- A minority of First Nations youth reported that they were currently being bullied (11.7%).
 - A higher proportion of First Nations youth who were currently being bullied reported experiencing depressed mood (44.2% vs. 22.7%) and feeling lonely (quite a bit to a lot) (14.6% vs. 6.5%), compared to First Nations youth who were not currently being bullied.
- Self-esteem, self-mastery, and social support were generally high among First Nations youth.
- Outside of school ours, participation in sports teams was the most common activity among First Nations youth, followed by working a part-time job.
- First Nations youth who participated in cultural or extracurricular activities on a regular basis demonstrated increased levels of personal resource variables, such as self-esteem, social support, and mastery, and reported feeling balanced more often than First Nations youth who did not participate in such activities.

INTRODUCTION

Adolescence is generally regarded as an important formative period of rapid development in which changes occur in body, mind, heart, and spirit. Marked physical changes occur that are paralleled by psychosocial changes, including increased autonomy from parents, more salient relations with peers, changes and stabilization of personality traits, and formation of personal and collective identities (Costa & McCrae, 1994; Meeus, Iedema, Helsen, & Vollebergh, 1999; Vollebergh, Iedema, & Raaijmakers, 2001). Adolescence is also a time of profound neural growth. Certain abilities associated with higher order brain regions, such as learning, socialization, and self-regulatory processes, are still developing (Casey, Getz, & Galvan, 2008; Steinberg, 2008). In addition to the typical challenges faced by most youth, adolescence among First Nations youth is accompanied by additional stressors and risk factors, such as discrimination (Whitbeck, Hoyt, McMorris, Chen, & Stubben, 2001), feelings of identity confusion and discontinuity (Chandler & Lalonde, 1998), economic deprivation, social segregation (Kirmayer et al., 2007), and vulnerability associated with trauma endured by previous generations (Bombay, Matheson, & Anisman, 2009).

Although major gains in neurobiological and cognitive functions take place in adolescence, it is also a period of vulnerability marked by the increased prevalence of psychological disorders, such as depression (Spear, 2000; Vollebergh et al., 2001). The RHS 2002/03 reported that 44.3% of older First Nations female youth and 22.1% of older First Nations male youth—those aged 15 to 17 years—reported feeling sad, blue, or depressed for at least two successive weeks during the 12 months prior to the survey (First Nations Information Governance Committee [FNIGC], 2005). These are key symptoms of a major depressive episode based on the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994). Adolescent depression is particularly disconcerting because of high rates of relapse associated with the early onset of mood disorders (Hammen, Brennan, Keenan-Miller, & Herr, 2008) and due to its relationship with various negative outcomes, including suicidality (MacPhee & Andrews, 2006). Paralleling the relatively high levels of depressive symptoms, rates of completed suicides among First Nations youth have been estimated to be five to six times greater than those of adolescents in the general Canadian population (Health Canada, 2005). However, community-based research has made it clear that rates of distress and suicide are not uniform across First Nations communities, which provides opportunities to identify individual, collective, and community-level

factors that differentiate those with poor and positive health and social outcomes (Chandler & Lalonde, 1998).

Adolescence is also a period in which individuals frequently encounter numerous stressors (Bergman & Scott, 2001), including conflict with parents, mood disruptions, and circumstances or events stemming from increased risky behaviours (Steinberg, 2008). Additionally, First Nations youth face relatively high rates of trauma, such as child maltreatment, exposure to violence, and injuries, as well as adversity associated with low economic status (Blackstock, Trocmé, & Bennett, 2004; FNIGC, 2005; Health Canada, 2003; Pavkov, Travis, Fox, King, & Cross, 2010), which have been linked to poor physical and psychological outcomes (FNIGC, 2005; Walls, Chapple, & Johnson, 2007; Zahradnik et al., 2010). The legacy of collective traumas endured by previous generations, including Indian Residential School (IRS), may contribute to added vulnerability among First Nations youth whose families were affected by such events or circumstances (Bombay et al., in press; FNIGC, 2005).

Bullying among youth has recently become viewed as a public health issue due its seemingly high prevalence and associated negative outcomes (Craig & Pepler, 2003). Despite this, the relative prevalence and impacts of bullying in First Nations communities have not been investigated. Bullying has also been linked to loneliness (Due et al., 2005), which tends to peak during early adolescence followed by a gradual decrease in late adolescence (van Roekel, Scholte, Verhagen, Goossens, & Engels, 2010). Loneliness can occur without bullying and has also been associated with various negative physical and mental health outcomes (Heinrich & Gullone, 2006).

Although adolescence can be difficult for some, most experience positive levels of subjective well-being and perceive little difficulty as they make the transition into adulthood (Huebner, Drane, & Valois, 2000). In this regard, the majority of First Nations youth who participated in RHS 2002/03 reported that they were in balance physically, emotionally, mentally, and spiritually “most” or “all of the time” (FNIGC, 2005). The likelihood of youth developing problems increases rapidly as the number of risk factors increases in comparison with the number of protective factors (Dunst, Trivette, & Deal, 1994). Thus, in addition to identification of variables associated with increased adolescent risk or vulnerability, factors that may protect First Nations youth also must be explored. For example, self-esteem is thought to be among the most important traits associated with resilience in youth. The stability of self-esteem generally tends to increase from adolescence to early adulthood, making

it important to establish a positive self-concept during this period (Trzesniewski, Donnellan, & Robins, 2003). It has been suggested that minority youth face unique challenges in developing a positive sense of self due to ethnicity-related stressors, but it is uncertain whether this is the case among First Nations youth. Concepts related to one's perceived ability to overcome adversity and to have control over one's life circumstances, including mastery, have also been shown to be protective among American Indian youth and First Nations adults (Daniel, Cargo, Lifshay, & Green, 2004; Rieckmann, Wadsworth, & Deyhle, 2004) and may likewise act in a protective capacity among First Nations youth.

Social support is an important determinant of health and is thought to be crucial for helping youth deal with the challenges of adolescence (Cohen & Wills, 1985). Indeed, social support has been linked to positive outcomes among American Indian youth and Aboriginal youth in Canada (LaFromboise, Hoyt, Oliver, & Whitbeck, 2006; Richmond, Ross, & Egeland, 2007). Different types of support are proposed to act as protective factors through different mechanisms, which include tangible support, such as direct assistance or material aid; affective support, such as providing intimacy, nurturance, belonging; emotional or informational support, such as having a sense of being able to confide in and rely on another person; and positive social interactions, such as having someone to spend time with (Sherbourne & Stewart, 1991). Seeking social support has also been conceptualized as a protective coping mechanism that can buffer the impacts of acute and chronic stressors (Kawachi & Berkman, 2001). Conversely, a lack of social ties and feelings of loneliness have been associated with diminished well-being (Heinrich & Gullone, 2006).

Related to the aforementioned risk and protective factors, a growing body of research has demonstrated that youth participation in a variety of activities, such as school clubs, academic activities, and sports, is associated with increased self-esteem and self-mastery, as well as greater or better quality of social supports (Dodge & Lambert, 2009; Fredricks & Eccles, 2005; Ramey et al., 2010). Perhaps because of the benefits associated with youth engagement, participation in such extracurricular activities has also been associated with reduced distress, depression, and suicide risk, as well as increased psychological resilience (Fredricks & Eccles, 2005; Pavkov et al., 2010; Ramey et al., 2010).

Adolescence is an important period of psychological development during which behavioural patterns can become entrenched and can set the course for

adulthood behaviours and psychological well-being. As such, it might also be a critical stage of life during which prevention and intervention efforts may be most effective. This underscores the importance of identifying key determinants of wellness among youth that can guide the creation of such strategies. Although many of the risk and protective factors for wellness have been identified in other adolescent populations, it is important to assess their impacts on First Nations youth specifically, particularly because the relative contributions of these factors to wellness may differ among different cultural groups.

Although important, identifying the most effective ways to foster resilience in youth is not straightforward, as wellness involves complex interactions of factors operating at societal, community, family, and individual levels, which have an impact on each other over time. Moreover, the notion of well-being in adolescence is a complex construct that can be evaluated in a variety of ways that may not always be compatible or consistent with each other (Bergman & Scott, 2001). Therefore, this chapter examines various indices of well-being among First Nations youth and explores internal and external factors that may play a role in fostering well-being among adolescents in First Nations communities.

METHODS

Measures

Balance

Survey participants reported how often they felt balanced in their physical, emotional, mental, and spiritual lives on a scale ranging from 1 (“almost none of the time” to 4 (“all of the time”).

Suicide attempts and suicidal ideation

Survey participants were asked whether they had ever thought about committing suicide, and whether they had ever attempted suicide in their lifetime. Those who responded “yes” to either of these questions were then asked if these suicidal thoughts or attempts took place within the past year, during adulthood, during adolescence (from 12 to 17 years of age) or during childhood (under the age of 12).

Mastery

Levels of mastery were measured using the Self-Mastery Scale (Pearlin & Schooler, 1978). The scale comprises seven statements for which survey participants rated their agreement on a scale ranging from 0 (“strongly disagree”) to 4 (“strongly agree”). Examples of statements are

“I can do just about anything I really set my mind to” and “I have control over the things that happen to me.” Scores were summed, including items that were reverse-scored, for a minimum of 0 and a maximum of 28, with higher values indicating higher levels of mastery.

Social support

Availability of social support was measured using items from the MOS Social Support Survey (Sherbourne & Stewart, 1991). The original version of the MOS contains 18-items and used a 5-point response scale. The modified version of the MOS included in the RHS 2008/10 includes only 8-items and used a 4-point response scale (response range: 1 = “almost none of the time” to 4 = “all of the time”). An overall social support score was calculated by taking the average of the responses to the eight items. Higher scores for the overall support indicated greater availability of support.

Depressed mood

Survey participants were asked whether there was a time, during the previous 12 months, when they felt sad, blue, or depressed for two weeks or more in a row (response options: yes or no).

Perceived stress

Survey participants reported the degree to which they currently feel stressed on a five-point scale ranging from 1 (“not at all”) to 5 (“a lot”).

Loneliness

Survey participants reported the degree to which they currently feel lonely on a five-point scale ranging from 1 (“not at all”) to 5 (“a lot”).

Bullying

Survey participants were asked whether they were currently being bullied (response options: yes or no).

Indian Residential School (IRS)

Survey participants were asked whether their mother or father or any of their grandparents had attended IRS. First Nations youth with at least one parent who had attended IRS were classified as children of residential school attendees, even if they also had a grandparent who attended, and those with at least one grandparent who had attended were classified as grandchildren of attendees. Some survey participants did not answer at least one of the questions regarding their parents’ or grandparents’ attendance at IRS; hence, comparisons between IRS groups such as children of attendees, grandchildren of

attendees, and no parent or grandparent at IRS included only those who were able to answer all of the related questions. Those with no parents or grandparents who attended IRS—that is, non-IRS adults—were grouped accordingly. Additionally, unless survey participants reported that they were children or grandchildren of IRS attendees, those who did not answer at least one of the questions regarding their parents’ or grandparents’ attendance at IRS were classified as “unsure of IRS history,” resulting in four mutually exclusive categories.

Self-esteem

Self-esteem was measured using four of the original eight items from the General Self Scale of the Self-Description Questionnaire (Marsh, Smith, & Barnes, 1983). Survey participants reported their agreement with the items on a scale ranging from 0 (“strongly disagree”) to 4 (“strongly agree”). Responses were summed with scores ranging from 0 to 16, and higher scores indicated higher self-esteem.

Loved

Survey participants were asked to report the degree to which they currently feel loved on a five-point scale ranging from 1 (“not at all”) to 5 (“a lot”).

Use of emotional or mental health supports

Survey participants were asked whether they utilized (“seen or talked on the telephone with”) any of seven listed potential sources of emotional or mental health supports in the past 12 months. These included parents, other family members, friends, traditional healer, family doctor, counselor, and social worker.

Sources of support for specific problems

Survey participants were presented with a list of potential problems and asked whom among the following they would go to first for help: parent or guardian; other family member; friends my age; adult friend; principal, teacher, or school counselor; doctor or nurse; traditional healer; no one. Due to low response rates for “adult friend” and “principal, teacher, or school counselor,” for the analyses these were grouped into one category labeled “other adult.” The problems listed included family problems, relationship problems (boyfriend or girlfriend), problems with friends, financial problems, problems with drugs or alcohol, feeling angry or out of control, feeling depressed, sexual or physical assault, sexually transmitted infections, birth control, and pregnancy. Survey participants were also grouped into those who reported that they turned to no one for at least one problem, and those who reported that they would turn to someone for each problem.

Extracurricular activities

Survey participants were asked how often they participated in the following activities outside of school hours: sports teams or lessons; art or music groups or lessons; traditional singing, drumming, or dance groups or lessons; and a job, such as babysitting, working at a store, or tutoring. Response options included “never,” “less than once per week,” “one to three times per week,” and “four times or more per week.” First Nations youth were also grouped into those who never participated in any activities, those who occasionally participated in at least one activity (less than once per week), and those who participated in an activity at least once per week.

Community cultural events

Survey participants reported how often they participated in their local community’s cultural events on a scale ranging from 1 (“never”) to 5 (“almost always”).

Alcohol consumption

Survey participants were asked whether they had had a drink of beer, wine, liquor or any other alcoholic beverage during the 12 months prior to the survey. Those who responded “yes” were asked about how often they had had five or more alcoholic drinks on one occasion. Response options included “never,” “less than once a month,” “once per month,” “two to three times per month,” “once per week,” “more than once per week,” “every day.”

Parental education

Survey participants were asked to report their mother’s and father’s highest level of education. Those who reported that both parents did not complete high school were compared to youth who had at least one parent who had a high school education.

Educational aspirations

Survey participants reported the highest level of education they would like to achieve, and they were grouped into the following categories: “not sure or don’t know,” “high school,” “college or trade school,” “undergraduate, graduate, or professional degree,” “other.”

RESULTS

Indices of Wellness

Balance

As the majority of First Nations youth reported feeling balanced in RHS 2002/03 (FNIGC, 2005), it is encouraging that there were few changes over

time in this regard. In RHS 2008/10, the majority of First Nations youth reported that, “most” to “all of the time” they felt balanced physically (75.0%), emotionally (65.3%), mentally (65.6%), and spiritually (60.8%), 95% CIs [± 2.8], [± 2.2], [± 2.4], and [± 2.3], respectively. The only gender difference observed was the higher level of perceived physical balance among First Nations males than females (79.3% vs. 70.4%, 95% CIs [± 2.4] and [± 2.6], respectively).

Likely reflecting the numerous transitions associated with adolescence, the proportion of First Nations youth feeling balanced emotionally, mentally, and spiritually was lower compared to First Nations adults. These findings are consistent with those in the general Canadian population, indicating that emotional stability increases throughout adolescence into early adulthood (Klimstra, Hale, Raaijmakers, & Meeus, 2009) and that perceptions of spiritual balance also tend to increase with age (Barry, Nelson, Davarya, & Urry, 2010).

Depressive symptoms

Approximately one quarter (26.1%, 95% CI [± 2.0]) of First Nation youth reported that there was a time when they felt sad, blue, or depressed for two weeks or more in a row in the 12 months prior to the RHS 2008/10. A higher proportion of females (33.8%, 95% CI [± 3.0]) reported symptoms of depression compared to males (17.2%, 95% CI [± 2.4]).

Although the overall proportion of First Nations youth with depressed mood (25.4%, 95% CI [± 1.8]) did not change from RHS 2002/03 (27.2%), some noteworthy demographic variations have occurred. First, among older First Nations youth—those aged 15 to 17 years—the prevalence of depressive symptoms decreased for both males (16.7%) and females (36.5%, 95% CIs [± 2.9] and [± 4.0]). In contrast, among younger First Nations youth—those aged 12 to 14 years—the proportion with depressed mood rose slightly (17.8% among males and 31.1% among females, 95% CIs [± 2.6] and [± 4.6], respectively).

For the most part, a lower proportion of youth who felt balanced (physically, mentally, emotionally, spiritually) most to all of the time reported feeling symptoms of depression, compared to youth who felt balanced ‘none’ to ‘some of the time’ (all $ps < .05$).

It must be noted that although depressed mood is an essential feature of a major depressive episode, additional criteria must be met for a diagnosis of major depression, rendering it difficult to make comparisons with rates of depression in the general population.

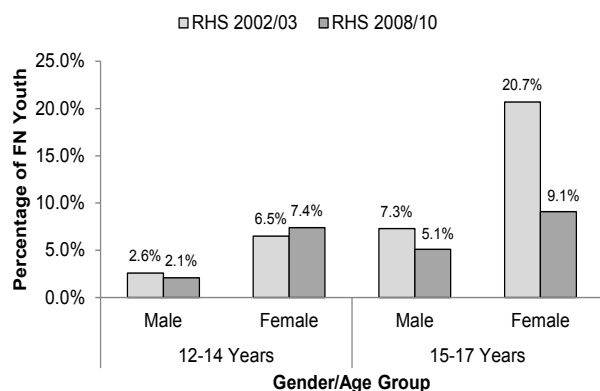
Suicide

The large majority of First Nations youth have not considered suicide (83.5%, 95% CI [\pm 1.4]) nor attempted suicide in their lifetime (94.1%, 95% CI [\pm 1.0]) (see Figures 29.1 and 29.2).

Figure 29.1. Proportion of First Nations Youth in RHS 2002/03 and RHS 2008/10 who Reported Having Thoughts of Suicide at Some Point in their Lifetime, by Gender and Age



Figure 29.2. Proportion of First Nations Youth in RHS 2002/03 and RHS 2008/10 who Attempted Suicide at Some Point in their Lifetime, by Gender and Age



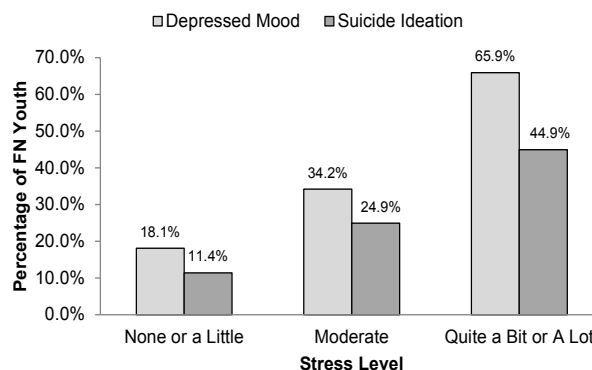
Rates of suicide ideation are much higher than those observed in the general population. This disparity was especially marked with respect to suicidal ideation; among youth aged 15 to 17 years in the general Canadian population, 7.1% (95% CI [\pm 10.4]) indicated that they had considered suicide in their lifetime, whereas 20.5% (95% CI [\pm 2.4]) of First Nations youth of the same age reported such ideations. Furthermore, the rate of completed suicides among Aboriginal adolescents in Canada was approximately four to five times higher than that among the general Canadian population (Kirmayer et al., 2007).

Risk Factors

Perceived stress

In addition to being at a higher risk for experiencing traumatic events (Bergman & Scott, 2001), adolescents face additional stressors related to bullying, violence in the home or community, and experiences related to other risk situations (Shaw, 2000). As described earlier, adverse events during childhood and adolescence may influence central nervous system and neuroendocrine system functioning, which are related to the regulation of stress. These physiological changes have been associated with lasting effects such as increased vulnerability to later stressor-provoked anxiety and depression, post-traumatic stress disorder, and elevated risk of suicide (Anisman, Zaharia, Meaney, & Merali, 1998; Heim et al., 2002; Kendler, Kuhn, & Prescott, 2004). As shown in Figure 29.3, levels of depressed mood increased in concert with perceptions of stress.

Figure 29.3. Proportion of First Nations Youth who Reported Depressed Mood and Suicidal Ideation in the 12 Months prior to RHS 2008/10, by Perceived Level of Stress



Loneliness

Most First Nations youth reported feeling ‘little’ to ‘no’ loneliness (87.0%, 95% CIs [\pm 1.6]); very few reported feeling moderately lonely (5.4%, 95% CIs [\pm 1.0]) or ‘quite a bit’ to ‘a lot’ of loneliness (7.6% 95% CIs [\pm 1.0]).

Loneliness likely contributes to symptoms of depression: 74.5% (95% CI [\pm 5.5]) of First Nations youth who felt lonely ‘quite a bit’ to ‘a lot’ reported symptoms of depression, 53.3% (95% CI [\pm 9.8]) of those who feel moderately lonely reported depression, and 19.5% (95% CI [\pm 1.9]) of those who felt ‘a little’ to ‘not at all’ lonely reported depression.

Bullying

Little is known about the prevalence and impact of bullying among First Nations youth. In RHS 2008/10, a minority of First Nations youth reported that they were currently being bullied (11.7%, 95% CI [± 1.6]). First Nations youth aged 12 to 14 years encountered bullying more often than First Nations youth aged 15 to 17 years (16.5% vs. 7.0%, 95% CIs [± 2.5] and [± 1.5], respectively). In contrast to the gender differences seen in the general population (Craig & Pepler, 2003), First Nations males and females did not differ in their rates of victimization. It appears that the prevalence of bullying may be lower among First Nations youth living in First Nations communities compared to those bullying among youth in the general population, as approximately 34% of boys and 27% of girls aged 11 to 15 years reported being bullied at least once in the previous six weeks in a study among Canadian adolescents (Craig & Yossi, 2004). In contrast, research in the United States indicated that violent victimization in mainstream high schools was higher among American Indians than among other ethnic groups (Pavkov et al., 2010), but this was likely influenced by the fact that these youth were attending mainstream schools vs. schools located on reserve or in Northern communities. The proportions of First Nations youth attending school on- and off-reserve are not known in the current study, but potential differences in rates of bullying between youth attending school on- and off-reserve might be an important factor that ought to be considered.

Although the prevalence may be relatively lower, the negative impacts of bullying on First Nations youth are consistent with those seen in the general Canadian population. A higher proportion of First Nations youth who were currently being bullied reported experiencing depressed mood (44.2% vs. 22.7%, 95% CIs [± 6.3] and [± 4.6] and [± 1.2], respectively), compared to First Nations youth who were not currently being bullied.

Indian Residential School

Many youth reporting having either grandparents or parents who had attended residential schools: 43.3% (95% CIs [± 2.5]) had at least one grandparent who attended residential school (but not parents), 11.8% (95% CIs [± 1.7]) with at least one parent who attended residential school (but not grandparents), 23.1% (95% CIs [± 2.3]) with at least one grandparent and one parent who attended residential school, and 21.8% (95% CIs [± 2.3]) with neither parent nor grandparent who attended.

The proportion of youth who reported symptoms of depression differed depending on parent/grandparent residential school status: 20.4% (95% CIs [± 3.5]) of youth with neither parent who attended residential school reported depression, 25.1% (95% CIs [± 3.3]) of youth with at least one grandparents (but not parents) who attended reported depression, 31.4% (95% CIs [± 4.7]) of youth with at least one parent (but no grandparents) who attended reported depression, and 30.8% (95% CIs [± 4.7]) of youth with both parents who attended reported depression.

Resource Variables

Self-esteem and mastery

Self-esteem is a strong marker for mental health and well-being among adolescents and can act as a psychological protective factor against the harmful effects of stress. Overall levels of self-esteem among First Nations youth (M = 12.7, 95% CI [± 0.1]) were only slightly lower than levels reported among youth aged 12 to 17 years in the general Canadian population (M = 13.1, 95% CI [± 0.1]) (Weaver & Habibov, 2010). Table 29.1, shows the degree to which self-esteem varied by sex.

Table 29.1. Proportion of First Nations Youth who Agree or Disagree with Statements Related to Self-esteem.

	Strongly Agree % [95% CI]	Agree % [95% CI]	Neither agree nor disagree % [95% CI]	Disagree or strongly disagree % [95% CI]
In general, I like the way I am.				
Males	47.1 [± 2.8]	44.0 [± 2.7]	5.3 [± 1.4]	3.6 [± 1.3]
Females	40.7 [± 2.9]	43.5 [± 2.8]	11.0 [± 1.7]	4.8 [± 1.4]
Overall, I have a lot to be proud of.				
Males	45.6 [± 3.0]	42.8 [± 2.8]	8.4 [± 1.5]	3.2 [± 1.7] ^E
Females	39.2 [± 2.8]	45.7 [± 2.6]	11.3 [± 2.7]	3.8 [± 1.0]
A lot of things about me are good.				
Males	40.4 [± 3.0]	46.3 [± 2.9]	10.1 [± 1.6]	3.3 [± 1.3]
Females	34.8 [± 3.0]	46.2 [± 2.8]	13.2 [± 2.0]	5.7 [± 1.7]
When I do something, I do it well.				
Males	33.8 [± 3.1]	51.3 [± 3.3]	11.9 [± 2.0]	3.0 [± 1.0]
Females	26.9 [± 2.5]	50.3 [± 3.0]	17.7 [± 2.3]	5.1 [± 1.4]

^E High sampling variability. Use figures with caution.

A sense of mastery has also been found to be a resilience factor for youth. Consistent with trends in the general Canadian population, levels of mastery were lower among First Nations female youth than among First Nations male youth ($M = 18.5$ vs. $M = 19.4$, 95% CIs $[\pm 0.2]$ and $[\pm 0.2]$, respectively). In addition, younger youth (12 to 14 years) reported lower mastery than older youth (15 to 17 years) ($M = 18.6$ vs. $M = 19.3$, 95% CIs $[\pm 0.2]$ and $[\pm 0.2]$, respectively).

Both self-esteem and mastery were related to various aspects of well-being among First Nations youth. For example, First Nations youth who were very or somewhat satisfied with their weight had higher levels of self-esteem ($M = 13.3$, 95% CI $[\pm 0.1]$) than those who were neither satisfied nor dissatisfied ($M = 12.2$, 95% CI $[\pm 0.3]$) and somewhat or very dissatisfied with their weight ($M = 11.3$, 95% CI $[\pm 0.4]$).

Mastery has been shown to influence educational aspirations in American Indian youth and in the general population (Whitesell, Mitchell, & Spicer, 2009). Levels of mastery were higher among First Nations youth who reported that they would like to get an undergraduate, graduate, or professional degree ($M = 19.5$, 95% CI $[\pm 0.3]$) and among those who wanted to attend college or trade school ($M = 19.0$, 95% CI $[\pm 0.3]$) than among First Nations youth who did not plan to continue with their education after high school ($M = 18.3$, 95% CI $[\pm 0.3]$) and those who reported that they did not know or were unsure or who did not answer ($M = 18.6$, 95% CI $[\pm 0.4]$).

While self-esteem and mastery have been known to be effective buffers against stressful experiences, stressors and particularly chronic strains have also been shown to influence levels of these resource variables by eroding feelings of optimism and mastery (Lincoln, 2007). First Nations youth who experienced depressed mood in the 12 months prior to RHS 2008/10 had lower levels of self-esteem ($M = 11.7$ vs. $M = 13.1$, 95% CIs $[\pm 0.3]$ and $[\pm 0.2]$) and mastery ($M = 17.4$ vs. $M = 19.6$, 95% CIs $[\pm 0.3]$ and $[\pm 0.2]$). In addition, levels of mastery were lower among First Nations youth being bullied than among those not being bullied ($M = 17.2$ vs. $M = 19.2$, 95% CIs $[\pm 0.7]$ and $[\pm 0.2]$, respectively).

Social support resources

Feeling loved and connected to others is an important determinant of wellness among all people. Although the majority of First Nations youth felt they were loved “a lot” or “quite a bit” (81.5%, 95% CI $[\pm 1.5]$), this left approximately one out of five

First Nations youth (18.5%, 95% CI $[\pm 1.6]$) who felt only moderately, a little, or not at all loved.

A higher proportion of First Nations youth who reported feeling *moderately to not at all loved* reported symptoms of depression and lower self-esteem, compared to youth who felt more loved (37.8% vs. 22.0%, 95% CIs $[\pm 4.6]$ and $[\pm 2.3]$ for depression, $M = 11.1$ vs. $M = 13.2$, 95% CIs $[\pm 0.3]$ and $[\pm 0.1]$, for self-esteem).

Across all items of support, the majority of First Nations youth reported receiving social support most or almost all of the time.

First Nations youth reported that they discussed their emotional or mental health most often with friends (60.5%, 95% CI $[\pm 1.9]$), with a slightly higher proportion of those aged 15 to 17 years than of those aged 12 to 14 years turning to friends (63.8% vs. 57.1%, 95% CIs $[\pm 2.8]$ and $[\pm 2.7]$). Parents and other immediate family members (49.1%) were the next most utilized emotional health supports, followed by other family members (47.1%), counselors (13.4%), and family doctors (8.9%), with the fewest number of First Nations youth turning to social workers (5.9%) and traditional healers (4.8%), 95% CIs $[\pm 2.3]$, $[\pm 2.2]$, $[\pm 1.6]$, $[\pm 1.7]$, $[\pm 0.9]$, and $[\pm 1.1]$, respectively.

Figures 29.9, 29.10 and 29.11 demonstrate who First Nations youth chose to approach to seek support for their problems. With the exception of relationship (boyfriend/girlfriend) problems, wherein most turned to friends for support, First Nations youth most often approached parents for support first. For problems with friends and family, friends and other family members were also commonly used as the first source of support. After parents, friends were the next most commonly utilized support for emotional issues, such as anger and depression; substance abuse; and experiences with assault. For issues related to sexual health, First Nations youth also reported consulting with doctors or nurses, especially for issues related to sexually transmitted infections and birth control. As observed in RHS 2002/03, the number of First Nations youth who reported that they would not turn to anyone for support is disconcerting, which tended to be around 10% of First Nations youth for the majority of problems.

Figure 29.9 Proportion of First Nations Youth who would Seek Support from Parents or Others for Various Problems

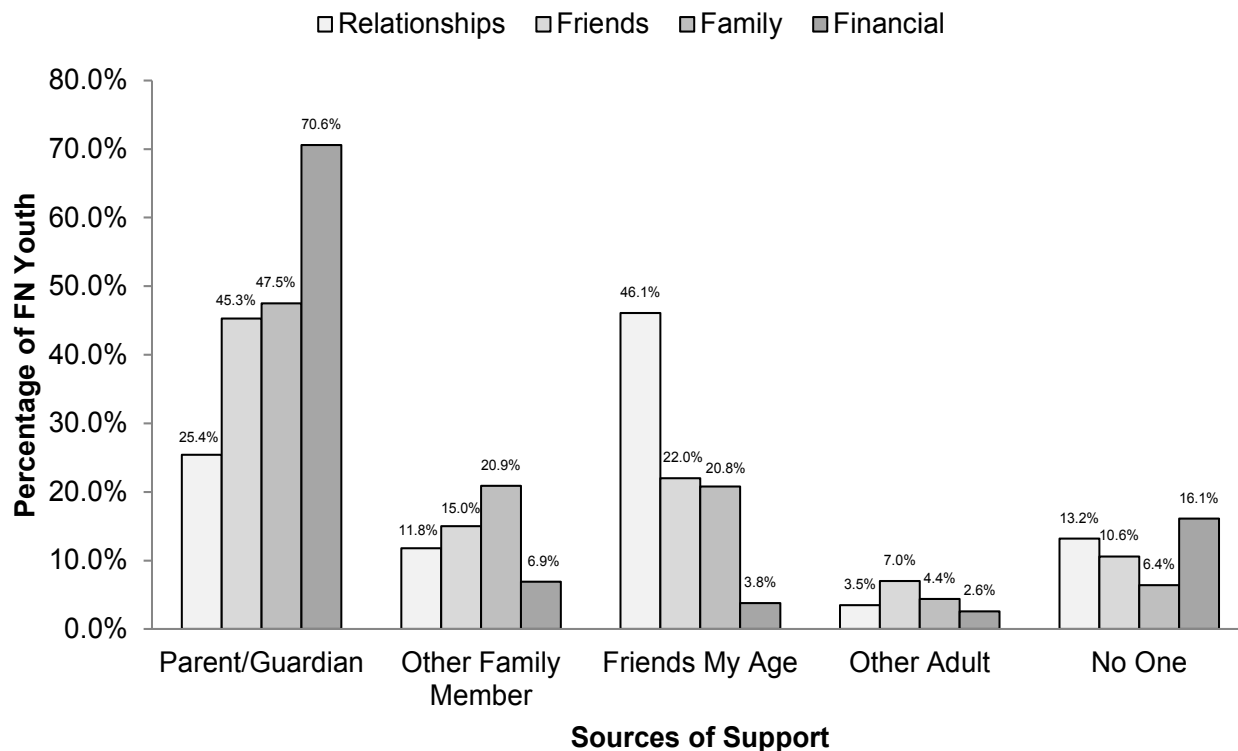


Figure 29.10 Proportion of First Nations Youth who would Seek Support from Parents or Others for Various Problems

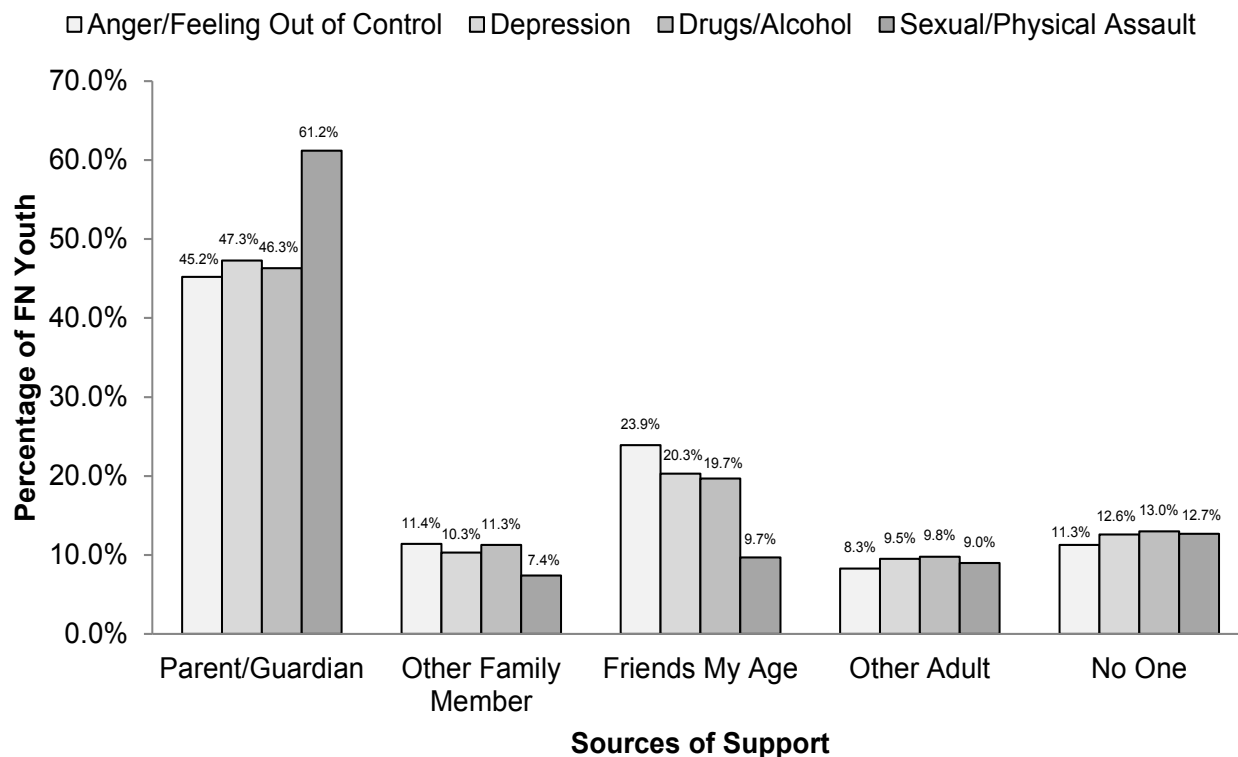
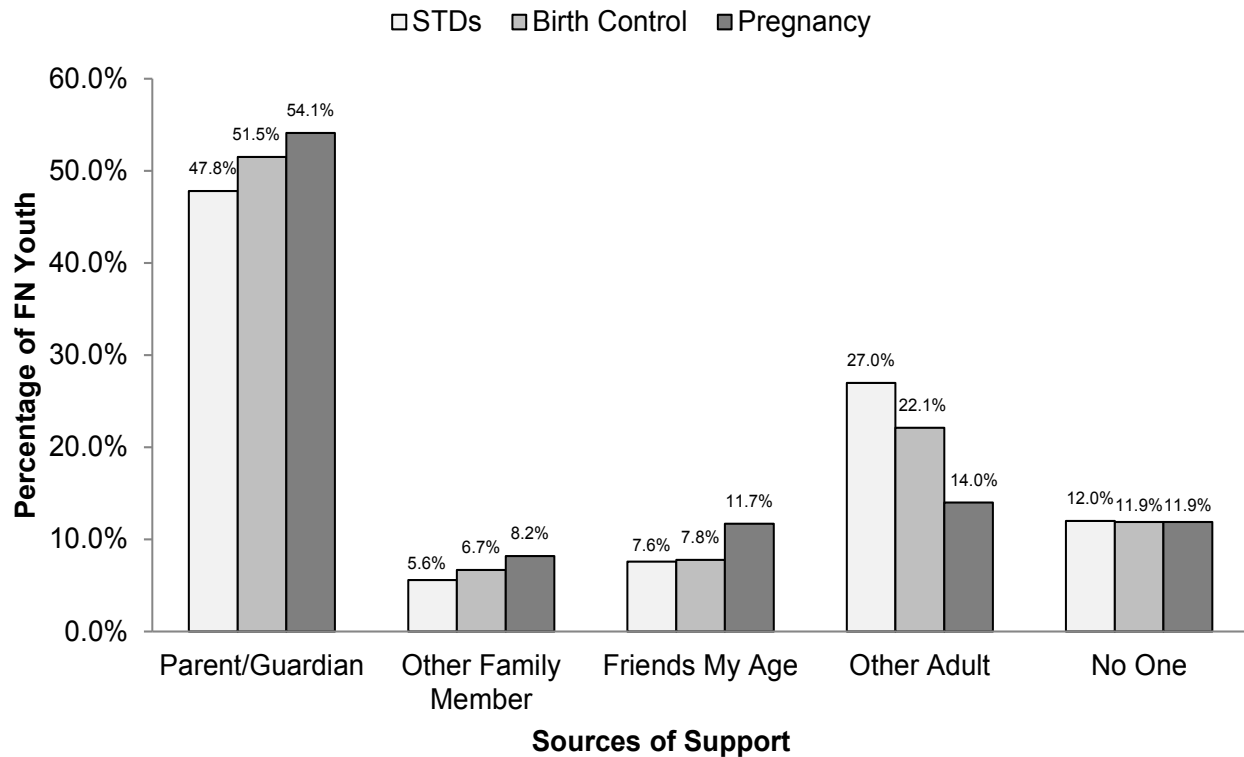


Figure 29.11 Proportion of First Nations Youth who Would Seek Support from Parents or Others for Various Problems



Extracurricular and cultural activities

Participation in sports teams or activities was the most common activity among First Nations youth. A slightly higher proportion of female youth than male youth reported never taking part in sports teams or lessons outside of school hours (40.0% vs. 30.2%, 95% CIs [±3.0] and [±2.7], respectively), with half of First Nations male youth participating in these sports at least once per week compared to one-third of First Nations female youth (50.6% vs. 33.4%, 95% CI [±3.0] and [±2.9]).

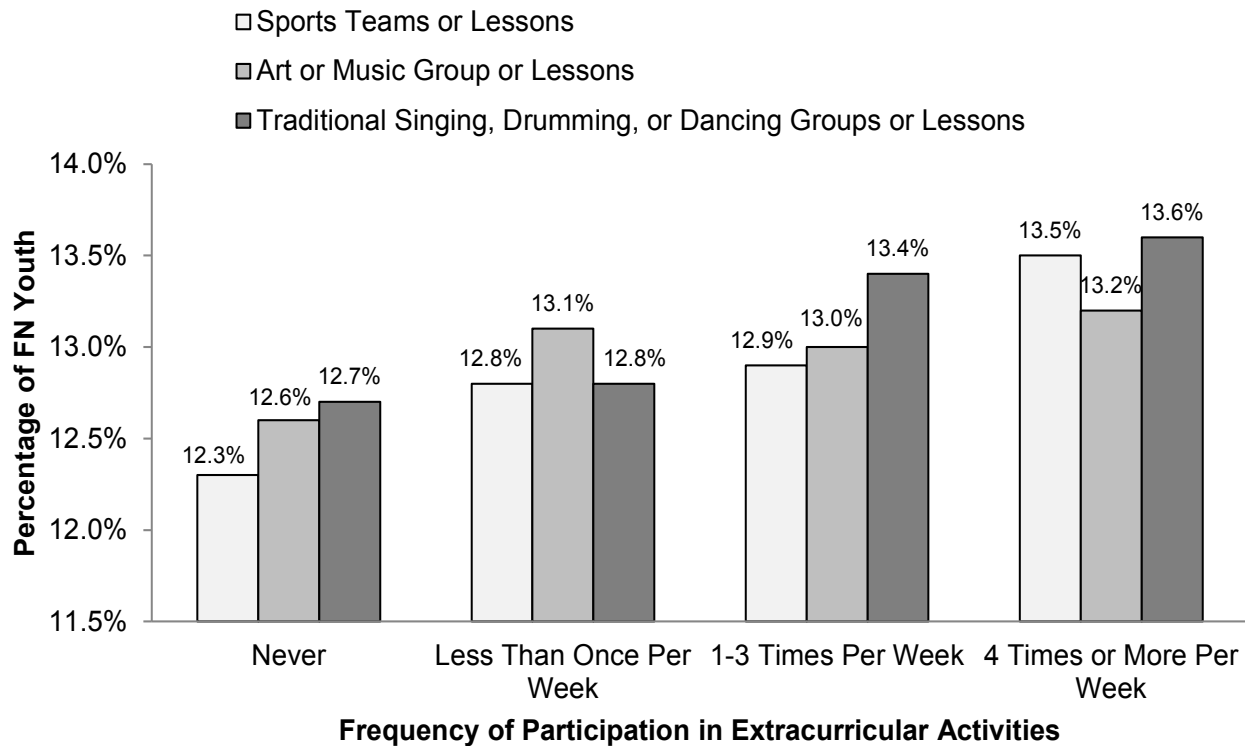
Having a part-time job outside of school hours was the second most common activity, but in this case, a greater proportion of First Nations male youth than female youth reported never working at a job (59.7% vs. 33.3%, 95% CIs [±3.1] and [±2.9]). Just over one-third of First Nations female youth reported that they worked at least once per week, compared to just under one-fifth of First Nations male youth (35.6% vs. 18.5%, 95% CIs [±2.1] and [±2.2]).

With the exception of having a part-time job, participation in any extracurricular activity was associated with heightened self-esteem (see Figure 29.12). Furthermore, compared to First Nations youth who never or only occasionally participated in extracurricular activities,

First Nations youth who took part in any activity at least once per week reported greater social support ($M = 3.4$, vs. $M = 3.2$, 95% CIs [±0.1] and [±0.1]) and mastery ($M = 19.3$ vs. $M = 18.5$, 95% CIs [±0.2] and [±0.3]) and were more likely to feel balanced most or all of the time physically (80.6% vs. 66.3%, 95% CIs [±2.0] and [±4.6]). These First Nations youth were also more likely to feel balanced spiritually (64.0% vs. 56.2%, 95% CIs [±2.5] and [±5.1]), emotionally (68.5% vs. 60.4%, 95% CIs [±2.8] and [±4.9]), and mentally (68.8% vs. 62.4%, 95% CIs [±2.8] and [±4.9]) than were First Nations youth who participated in no activities.

Finally, First Nations youth who reported almost always participating in their community’s cultural events had higher levels of support ($M = 3.4$, 95% CI [±0.1]) and self-esteem ($M = 13.3$, 95% CI [±0.2]) than did First Nations youth who never participated ($M = 3.2$ and $M=12.3$, respectively, 95% CIs [±0.1] and [±0.4]).

Figure 29.12. Mean Levels of Self-esteem among First Nations Youth, by Participation in Extracurricular Activities



Note. Sports teams or lessons: for never, $n = 1,663$; for less than once per week, $n = 932$; for one to three times per week, $n = 1,417$; for four times per week, $n = 579$. Art or music groups or lessons: for never, $n = 3,483$; for less than once per week, $n = 545$; for one to three times per week, $n = 349$; for four times per week, $n = 135$. Traditional singing, drumming, or dancing groups or lessons: for never, $n = 3,377$; for less than once per week, $n = 710$; for one to three times per week, $n = 280$; for four times per week, $n = 106$.

DISCUSSION

The majority of First Nations youth felt balanced in all aspects of wellness and did not report persistent depressed mood, suicidal thoughts, or suicide attempts. Considering the numerous challenges associated with adolescence and the increased exposure to various risk factors among First Nations youth, these reports of positive well-being speaks to their resilience. Unfortunately, compared to youth in the general Canadian population, rates of certain indices of distress are still disproportionately high. Although levels of perceived stress were low for most First Nations youth, and only a minority reported being bullied, greater exposure to other traumatic events and chronic stressors that were not considered in the current survey might contribute to the health disparities observed (Karmali et al., 2005; Lemstra et al., 2008). The relative prevalence and contributions of various stressors and traumas to poor health outcomes, as well as the associated risk factors, must be better understood for the development of interventions aimed at reducing the burden of trauma among First Nations individuals (Karmali et al., 2005).

The continued impacts of IRS evident among First Nations youth in this survey are congruent with reports that thoughts of historical loss, including losses related to IRS, were common among First Nations youth in First Nations communities and American Indian youth on-reserve, which were, in turn, associated with depressive symptoms (Whitbeck, 2009). Although there are likely multiple factors that might contribute to this, increased perception of discrimination has been identified as one factor contributing to intergenerational impacts of IRS among First Nations adults (Bombay et al., in press), which may also have an impact on First Nations youth whose parents or grandparents attended IRS. Although limited research has assessed the impacts of discrimination on First Nations youth, negative consequences related to discrimination have been documented among First Nations adults and American Indian youth (Bombay et al., 2010; Whitbeck et al., 2001). Further research is needed to identify other individuals or subgroups that may be more or less likely to perceive discrimination, and to explore factors that may buffer against the negative impacts of discrimination. For example, certain aspects of cultural identity and participation in traditional

activities have been shown to buffer against perceived discrimination among First Nations and American Indian adults (Bombay et al., 2010; Whitbeck, McMorris, Hoyt, Stubben, & Lafromboise, 2002), and have also been shown to have direct effects on well-being (Rieckmann et al., 2004). These protective effects are consistent with the higher levels of self-esteem and social support observed among those who participate in community cultural events. However, a study among Navajo youth found that greater identification with their culture was associated with increased depressive symptoms (Thrane, Whitbeck, Hoyt, & Shelley, 2004). These contradictory findings are likely due to the use of different conceptual and operational definitions of cultural identity (Cameron, 2004; McCoy & Major, 2003). The link between different aspects of identity and well-being, particularly in relation to discrimination, ought to be examined more thoroughly.

Interesting questions were also raised upon examination of changes in levels of distress from RHS 2002/03. Specifically, the misleading appearance of stability in the prevalence of depressed mood and suicide attempts when considering all First Nations youth disappeared upon separate analysis of younger youth aged 12 to 14 years and older youth aged 15 to 17 years. This reflected the fact that rates of depression and suicide attempts increased among younger adolescents yet decreased among older youth. Further monitoring is needed to determine whether this reflects a trend of earlier emergence of symptoms or increasing levels of distress among First Nations youth, or simply a greater willingness to express psychological distress due to decreased stigma associated with reporting symptoms (Fichter, Xepapadakis, Quadflieg, Georgopoulou, & Fthenakis, 2004). The findings of the present investigation do not speak directly about the factors that might account for age-related differences regarding suicide attempts and depressive symptoms. Given that community-level factors are known to be important in influencing distress levels among First Nations youth (Chandler & Lalonde, 1998), it is possible that the observed behavioural trends reflected changing circumstances specific to First Nations youth living in First Nations communities. Alternatively, larger societal changes that have been proposed to account for evidence of rising distress levels and/or earlier emergence of symptomatology among youth in North America (Twenge et al., 2010; World Health Organization, 2000) and internationally may likewise be having an impact on First Nations adolescents (e.g., England [Collishaw, Maughan, Natarajan, & Pickles, 2010], Scotland [Sweeting, Young, & West, 2009], Netherlands [Tick, van der Ende, & Verhulst, 2007],

Finland [Sourander et al., 2004], and Sweden [Kosidou et al., 2010]). For example, altered social support or family-related issues stemming from increases in lone-parent or reconstituted households, increasing rates of obesity in conjunction with a greater focus on appearance and materialism, and changes in lifestyles of youth, such as increased substance use, are among some of the proposed explanations (Sweeting, West, Young, & Der, 2010).

It is somewhat curious that the changes of suicidal ideation in both age groups did not parallel changes in depressed mood or suicide attempts. Although the increased prevalence of depressed mood is likely implicated in the rise of suicidal thoughts among younger First Nations youth, the greater increase in suicidal ideation suggests that depressed mood does not fully account for this observation. Even more paradoxical, based on the decreases of depressed mood and suicide attempts, older First Nations youth in RHS 2008/10 seemed to be faring better than had those in RHS 2002/03, yet an increase in suicidal ideation was also detected in this age group. These findings, in conjunction with the large proportion of First Nations youth without depressed mood who reported suicidal thoughts, suggest that factors other than depressed mood are contributing to the apparent rise in certain manifestations of distress. In fact, it has been suggested that suicidal ideation may better serve as a marker of psychological distress rather than one based on depressed mood or intent to die (Gmitrowicz, Szymczak, Kotlicka-Antczak, & Rabe-Jablonska, 2003). In this regard, increases of suicidal ideation might reflect rumination tied to specific events or circumstances, or could be associated with potential increases in other disorders not measured in the current survey. Studies conducted internationally have also suggested that externalizing disorders among youth are increasing, including conduct disorders and substance abuse (Collishaw, Maughan, Goodman, & Pickles, 2004). In fact, higher rates of conduct disorders and substance use disorders and increased comorbidity rates were observed among a large sample of First Nations and American Indian youth (Whitbeck, Yu, Johnson, Hoyt, & Walls, 2008), all of which have been associated with suicidality (Pelkonen & Marttunen, 2003). Additionally, early onset of these disorders was also observed compared to what is typically observed in the general population (Whitbeck et al., 2008).

It is also possible that specific characteristics of depression may be particularly relevant when considering First Nations youth. For example, feelings of hopelessness were found to be associated with drinking to cope and

excessive drinking among First Nations youth (Stewart et al., 2010) and may be more directly related to suicidality than depressed mood per se (Thompson, Mazza, Herting, Randell, & Eggert, 2005). In this regard, hopeless individuals may perceive fewer reasons for living, despite having the same objective severity of psychological disorders and similar exposure to adverse life events.

In contrast to the relatively high levels of distress, self-esteem was generally high among most First Nations youth. It was suggested that the high self-esteem observed among First Nations youth living in First Nations communities was due to the fact that they were largely surrounded by racially similar peers, as racial density has been related to levels of self-esteem in other ethnic groups (Twenge & Crocker, 2002; Whitesell et al., 2009). In this regard, comparisons between First Nations youth who live or attend school in First Nations communities and those who live or attend school outside of First Nations communities may help to elucidate the factors that contribute to self-esteem in First Nations adolescents. The importance of variables related to self-concept was evident in the current survey, as both self-esteem and mastery were associated with various positive outcomes. Self-esteem has also been associated with a sense of mastery and the use of positive coping strategies among American Indian youth living on-reserve (Whitesell et al., 2009). As previously mentioned, cultural identity may also be protective, particularly having pride in one's group membership (Bombay et al., 2010).

Several additional variables, including coping strategies and appraisals of stress, likely play a role in the wellness of First Nations youth, but little research has explored these factors in this population. It did appear, however, that positive outcomes were associated with social support and support seeking in the current survey. This is consistent with suggestions that social support and related concepts may be particularly important among Aboriginal populations, considering the communal nature of most cultures (Richmond et al., 2007).

The prevalence and impacts of unsupportive social interactions, such as minimizing another person's problems or distress or blaming the person for their problems, should also be explored. Unsupport has been related to various health outcomes over and beyond the impacts of social support (Ingram, Betz, Mindes, Schmitt, & Smith, 2001). Considering that First Nations youth in the current survey were most likely to turn to their parents when confronted with a problem, unsupport from parents may be particularly detrimental. Additionally, certain groups of First Nations

youth, including those intergenerationally affected by IRS, reported low levels of support more often. These and other subgroups of First Nation youth may also be more likely to be exposed to higher levels of unsupport.

It has been suggested that high levels of hopelessness and boredom among First Nations youth contribute to distress and depression present in First Nations communities (Kirmayer et al., 2007; Stewart et al., 2010). Hopelessness and boredom have been shown to decrease among non-Aboriginal adolescents who participated in various extracurricular activities (Fredericks & Eccles, 2006; Larson, 2000; Taliaferro, Rienzo, Miller, Pigg, & Dodd, 2010). Based on the current data, involvement in extracurricular activities and community cultural events also seemed to be associated with increased self-esteem, mastery, social support, and perceived balance. Participation in traditional and cultural activities might also contribute to positive cultural identities. However, considering the numerous positive outcomes observed with these activities, First Nations youth engagement seems to be a promising strategy for improving wellness.

CONCLUSIONS

The present findings provide evidence of continued distress among First Nations youth living on-reserve or in northern communities and point to certain factors that might contribute to their resilience. The results also raise many questions that require further investigation. In particular, longitudinal analyses should be carried out to monitor potential changes in well-being and to elucidate the temporal ordering of indices of distress, as well as factors that may be protective or put First Nations youth at risk. Other important variables that have been shown to be influential in adolescent wellness also must be explored in First Nations youth, such as cognitive appraisals and coping strategies. Continued research could potentially facilitate the identification of priorities and guide the development of efforts aimed at improving well-being among First Nations youth in this critical period of development. It is already clear, however, that in addition to targeting individual vulnerabilities and protective factors, underlying contextual and social factors must be addressed. The urgency of effective health promotion strategies for First Nations youth is especially vital owing to the large representation of youth who comprise today's First Nations population, a trend that is expected to continue (Michalowski, Loh, Verma, Germain, & Grenier, 2005).

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Appendix A

Acknowledgements

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Appendix B

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The First Nations Information Governance Centre wishes to acknowledge the following individuals who contributed to the development of the 37 chapter report through their knowledge and expertise.

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Andrea Johnston, B.A., Lori Meckelborg, Dr. Linda Fischer, Jacqui Lavalley, Jeff D'Hondt, Dr. Jennifer Thake (FNIGC)	Housing and Living Conditions	Adult	4
Fjola Hart Wasekeesikaw, RN MN	Health Care Access	Adult	5
Christine Cameron, B.A.	Physical Activity and Diet	Adult	6
Elisa Levi, MPH, Dr. Kelly Skinner (PhD Candidate) and assistance from Dr. Mark Nord	Nutrition and Food Security	Adult	7
Dr. Cheryl Currie, Dr. Daniel McKennitt & Dr. Jennifer Thake (FNIGC)	Smoking, Substance Misuse and Gambling	Adult	8
Dr. Jennifer Thake (FNIGC) Angeline Letendre, Nicole Eshkagogan	Sexual Health	Adult	9
Dr. Jennifer Thake (FNIGC)	Chronic Health Conditions	Adult	10
Anne LeBlanc	Diabetes	Adult	11
Dr. Eric Crighton Dr. Chantelle Richmond, Dr. Kathi Wilson, Dr. Mark Rosenberg	Health Status & Quality of Life	Adult	12
Dr. Herenia Lawrence	Oral Health	Adult	13
Brian Schnarch, B.A., and Kai-Lei Samchuck	Injury and Disability	Adult	14
Nicole Eshkakogan, B.A., M.A, Dr. Lynden Crowshoe, Dr. Jennifer Thake (FNIGC)	Preventative Care	Adult	15
Dr. Michel Tousignant, Nibisha Sioui (PhD Candidate), Dr. Jennifer Thake (FNIGC)	Community Wellness	Adult	16

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Amy Bombay (PhD Candidate), Dr. Kim Matheson, Dr. Hymie Anisman, Alex Yurkiewich, M.Sc. (FNIGC), Dr. Jennifer Thake (FNIGC)	Personal Wellness & Safety	Adult	17
Dr. Jennifer Thake (FNIGC) Dr. Marcia Anderson	Traditional Culture	Adult	18
Elizabeth Fast (PhD Candidate), Dr. Vanda Sinha, Dr. Nico Trocmé	Household Environment	Youth	19
Dr. Malcolm King, Maxwell King, Dr. Alexandra Smith, M.D, Alex Yurkiewich, M.Sc. (FNIGC)	Education and Language	Youth	20
Christine Cameron, B.A.	Physical Activity and Nutrition	Youth	21
Dr. Daniel McKennit, Dr. Cheryl Currie, Dr. Jennifer Thake (FNIGC)	Substance Use and Misuse	Youth	22
Dr. Dawn Martin-Hill, Amber Skye	Sexual Health	Youth	23
Dr. Jennifer Thake (FNIGC)	Health Conditions and Health Status	Youth	24
Dr. Herenia Lawrence	Oral Health	Youth	25
Alex Yurkiewich, M.Sc. (FNIGC)	Injury	Youth	26
Dr. Eric Crighton, Dr. Chantelle Richmond, Dr. Kathi Wilson, Dr. Mark Rosenberg	Health Care Utilization and Preventative Care	Youth	27
Dr. Dawn Martin-Hill	Community Wellness	Youth	28
Amy Bombay (PhD Candidate), Dr. Kim Matheson, Dr. Hymie Anisman	Personal Wellness and After School Activities	Youth	29
Andrea Johnston, B.A. Dr. Jennifer Thake (FNIGC)	Household Environment	Child	30
Dr. Julie Peters, Dr. Jerry White	Education and Language	Child	31
Christine Cameron, B.A.	Physical Activity and Nutrition	Child	32
Dr. Jennifer Thake (FNIGC)	Health Conditions and Health Status	Child	33
Dr. Herenia Lawrence	Dental Care Utilization, Baby Bottle Tooth Decay and Treatment Needs	Child	34
Alex Yurkiewich, M.Sc. (FNIGC)	Injury	Child	35
Dr. Janet Smylie, Dr. Patricia O'Campo, Dr. Kelly McShane, Dr. Nihaya Daoud, Caitlin Davey	Prenatal Health	Child	36
Dr. Jennifer Thake (FNIGC)	Emotional & Behavioural Problems	Child	37

Appendix C

Participating Communities

The following First Nations communities participated in the First Nations Regional Health Survey (RHS) 2008/10:

ALBERTA

Alexander First Nation
Atikameg-Whitefish Lake First Nation
Bigstone Cree Nation
Blood Tribe - Kainai
Dena Tha' First Nation
Driftpile - Cree Nation
Duncan's First Nation
Enoch Cree Nation
Ermineskin - Cree Nation
Kapawe'no First Nation
Louis Bull Tribe
Paul First Nation
Piikani Nation
Samson Cree Nation
Sucker Creek First Nation
Tsuu T'ina Nation

BRITISH COLUMBIA

Adams Lake
Campbell River First Nation
Canim Lake
Cape Mudge Band
Chawathil First Nation
Chehalis Indian Band
Chemainus First Nation
Cowichan Tribes
Fort Nelson First Nation
Gitanyow Band Council
Gitsegukla Band Council
Gitwangak Band Council
Glen Vowell Band
Hagwilget Village Council
Heiltsuk Nation
Hupacasath First Nation
Katzie First Nation
Kispiox First Nation
Kwadacha Band
Lake Babine Nation

Metlakatla Governing Council
Moricetown
Mount Currie Band Council
Nadleh Whut'en Band
Nanoose First Nation
Okanagan Indian Band
Sechelt Indian Band
Sliammon First Nation
Soowahlie Indian Band
Spallumcheen Indian Band
Takla Lake First Nation
Tla-o-qui-aht First Nations
Tsartlip First Nation
Tseshaht First Nation
Ucluelet First Nation
Williams Lake Indian Band

MANITOBA

Barren Lands First Nation
Berens River First Nation
Black River First Nation
Bloodvein First Nation
Brokenhead Ojibway Nation
Ebb and Flow First Nation
Fisher River Cree Nation
Garden Hill First Nation
Keeseekoowenin Ojibway Nation
Kinonjeoshtegon First Nation
Long Plain First Nation
Mathias Colomb First Nation
Misipawistik Cree Nation
Nisichawayasihk Cree Nation
Northlands Denesuline First Nation
Norway House Cree Nation
Opaskwayak Cree Nation
O-Pipon-Na-Piwin Cree Nation
Peguis First Nation
Pinaymootang First Nation
Pine Creek Anishinabe Nation
Roseau River Anishinabe First Nation

Sagkeeng First Nation
Sandy Bay Ojibway First Nation
Sayisi Dene First Nation
Skownan First Nation
Tataskweyak Cree Nation
War Lake First Nation
Waywayseecappo First Nation
Wuskwi Sipiik First Nation

NEW BRUNSWICK

Eel Ground First Nation
Elsipogtog (Big Cove) First Nation
Esgenoopetitj (Burnt Church) First Nation
Kingsclear First Nation
Madawaska Maliseet First Nation
Saint Mary's First Nation
Woodstock First Nation

NEWFOUNDLAND

Miawpukek

NORTHWEST TERRITORIES

Aklavik Indian Band
Behchoko First Nation
Deh Gah Gotie Dene Council
Deninu K'ue First Nation
Fort Good Hope
Gwichya Gwich'in Council
Jean Marie River First Nation
K'atlodeeche First Nation
Liidlii Kue First Nation
Lutsel K'e Dene Band
Nahanni Butte
Tetlit Gwich'in Council
Tulita Dene
Wekwee'ti Council
Wha Ti First Nation
Yellowknives Dene First Nation

NOVA SCOTIA

Acadia
Annapolis Valley
Bear River
Chapel Island First Nation
Eskasoni
Glooscap First Nation
Membertou
Millbrook

Paq'tnkek First Nation
Pictou Landing
Shubenacadie
Wagmatcook
Waycobah First Nation

ONTARIO

Aundeck-Omni-Kaning
Batchewana First Nation
Chippewas of Kettle and Stony Point First Nation
Chippewas of the Thames First Nation
Eabametoong First Nation
Eagle Lake
Fort William
Lac La Croix
Mohawks of Akwesasne
Mohawks of the Bay of Quinte
Moose Deer Point
Moravian of the Thames
Oneida Nation of the Thames
Rainy River First Nations
Sagamok Anishnawbek
Six Nations of the Grand River
Temagami First Nation
Thessalon
Wabigoon Lake Ojibway Nation
Wahta Mohawk
Walpole Island
Wasauksing First Nation
Whitefish River
Wikwewikong

PRINCE EDWARD ISLAND

Lennox Island

QUEBEC

Atikamekw d'Opiteciwan
Betsiamites
Conseil de la Première Nation Abitibiwinni
Conseil des Atikamekw de Wemotaci
Eagle Village First Nation-Kipawa
Kitigan Zibi Anishinabeg
La Nation Innu Matimekush-Lac John
Les Atikamekw de Manawan
Listuguj Mi'gmaq Government
Micmacs of Gesgapegiag
Mohawks of Kanasatake
Montagnais de Natashquan

Montagnais de Pakua Shipi
Montagnais de Unamen Shipu
Montagnais du Lac St-Jean
Naskapi of Quebec
Nation Anishnabe du Lac Simon
Nation Huronne Wendat
Odanak
Timiskaming First Nation
Innu Takuaikan Uashat Mak Mani-Utenam
Innu Essipit

SASKATCHEWAN

Big River First Nation
Birch Narrows Dene Nation
Canoe Lake Cree First Nation
Clearwater River Dene Nation
Cowessess First Nation
Day Star First Nation
Fishing Lake First Nation
Flying Dust First Nation
George Gordon First Nation
Hatchet Lake Denesuline Nation
Island Lake First Nation
James Smith Cree Nation
Kahkewistahaw First Nation
Keeseekoose First Nation
Key First Nation
Kinistin First Nation
Lac La Ronge Indian Band
Little Pine First Nation
Mistawasis First Nation
Mosquito Grizzly Bear's First Nation
Muscowpetung First Nation
Muskeg Cree Nation
Muskoday First Nation
Muskowekwan First Nation
One Arrow First Nation
Onion Lake First Nation
Poundmaker First Nation
Red Earth Cree First Nation
Red Pheasant First Nation
Saulteaux First Nation
Sturgeon Lake First Nation
Sweetgrass First Nation
Thunderchild First Nation
White Bear First Nation
Yellow Quill

YUKON

Champagne and Aishihik First Nations
Carcross/Tagish First Nation
First Nation of Na-cho Nyak Dün
Kluane First Nation
Kwanlin Dun First Nation
Liard First Nation
Little Salmon/Carmacks First Nation
Ross River Dena Council
Selkirk First Nation
Ta'an Kwäch'än Council
Teslin Tlingit Council
Tr'ondëk Hwëch'in
Vuntut Gwitchin First Nation
White River First Nation

**FIRST NATIONS REGIONAL HEALTH
SURVEY (RHS) 2008/10**



Our Voice, Our Survey, Our Future



Prepared by
The First Nations Information Governance Centre



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Le Centre de gouvernance de l'information des Premières Nations

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