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

NATIONAL REPORT OF

The First Nations Regional Health Survey

PHASE 3: VOLUME I





About the report

This electronic publication is available online at the First Nations Information Governance Centre's website www.ccl-cca.ca/RHS3report.

All of the data published in this report is available for download at FNIGC Data Online, FNIGC's free-to-use data tool: www.fnigc.ca/dataonline

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The First Nations Information Governance Centre (FNIGC) is an incorporated non-profit operating with a special mandate from the Assembly of First Nations' Chiefs in Assembly (Resolution #48, December 2009). As the premier source of information about First Nations people living on reserve and in Northern communities, FNIGC is committed to producing data that can contribute to the health and well-being of First Nations people living in our 634 communities across the country.

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About the artist



The cover of this report features Morning Star, a 1993 mural by Dene Suline artist Alex Janvier which adorns the dome of the Haida Gwaii Salon at the Canadian Museum of History in Ottawa, Ontario, Canada. The magnificent artwork covers 418 square metres (4,500 square feet) and can be seen from seven stories below inside the museum. Morning Star illustrates the

history of the land we live in from the artist's Dene Suline perspective, and is an expression of the hope for mutual respect.

Born of Dene Suline and Saulteaux descent in Le Goff Reserve, Cold Lake First Nations, Alberta, Janvier was raised in the Chipewyan tradition, speaking the Dene language until attending the Blue Quill Residential Indian School when he was eight-years-old. As a member of the "Indian Group of Seven," Janvier is one of the significant pioneering Indigenous artists in Canada, and over the course of his prolific career has added much to the cultural fabric of the nation. A Member of the Order of Canada, Alberta Order of Excellence and Royal Canadian Academy of the Arts, his contribution to art in Canada is immeasurable.

For more information on the Alex Janvier: www.alexjanvier.com

For more information on Morning Star: www.historymuseum.ca/morningstar



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**RHS 3 PARTICIPATING COMMUNITIES
(NATIONAL SAMPLE)**



FOREWORD

On behalf of the First Nations Information Governance Centre (FNIGC) and its Board of Directors, I am pleased to present to you the *National Report of the First Nations Regional Health Survey Phase 3: Volume One*.

This report is the culmination of five years of hard work by thousands of passionate, dedicated people working in a variety of capacities, including survey coordination, management, and development led by the staff of FNIGC's national offices, and survey deployment, coordination and data gathering led by our Regional Partners. Most importantly, we acknowledge the time and effort of more than 20,000 First Nations community members who took the shared their information with us by completing the survey questionnaire.

In the end, their decision to fill out our (often-lengthy) questionnaire helped to make this phase of the survey a resounding success. In fact it was the most successful to-date, with nearly 24,000 surveys completed in more than 250 First Nations communities—a record in the 20-year history of this unique First Nations initiative.

When it was first established back in 1997, the **First Nation Regional Health Survey** (FNRHS, or RHS as came to be known) was a survey like no other: a national health survey created, conducted, and carried out by First Nations people for First Nations people. Borne out of the need to fill an existing data gap about First Nations reserve and northern communities, the RHS was a truly grass-roots effort.

Pulled together by a collective of First Nations advocates and academics who had to fight for every dollar of funding from the institutions of the day, the first few years of the RHS were a struggle for recognition and respect.

Twenty years later, the RHS has earned its place as *the* reliable source of information about life in First Nations communities, with its data being used to support policy and programming at community, regional, and federal levels. And it is still the only First Nations survey of its kind, with its social, cultural, and political impact now widely acknowledged.

What you hold in your hands is the first of two volumes (a second will arrive in spring 2018) of the third phase of the RHS. Being the third version of the survey, this report allowed for another exciting first: it marks the first time in the history of the RHS that we can look at selected data trends over time.

I would like to take this time to recognize the hard work of FNIGC's national staff, the Regional Partner organizations, Regional Coordinators, data analysts, administrators, Fieldworkers, First Nations leadership, community staff, and the various committees and consultants who participated and contributed to the RHS Phase 3 process.

FNIGC would also like to acknowledge and thank the First Nations and Inuit Health Branch (FNIHB) of Health Canada (which funded the RHS), the (former) Indigenous and Northern Affairs Canada (INAC), and the Public Health Agency of Canada. We are also pleased to count the new Department of Indigenous Services Canada—which is home to FNIHB—and Crown-Indigenous Relations and Northern Affairs Canada as committed partners.

Dr. Jonathan Dewar, Executive Director, FNIGC



NATIONAL REPORT OF THE FIRST NATIONS REGIONAL HEALTH SURVEY PHASE 3: VOLUME ONE

CHAPTER ONE

INTRODUCTION

About the First Nations Information Governance Centre

The First Nations Information Governance Centre (FNIGC) is a non-profit First Nations organization, federally incorporated under the Canada Incorporations Act in April 2010 and operating on a mandate from the Assembly of First Nations' (AFN) Special Chiefs in Assembly (Resolution #48/2009). It is governed by a Board of Directors drawn from 10 regions across Canada (and which represent 11 provinces and two territories).

FNIGC has a mandate to oversee data collection on First Nations reserves and in northern communities, research, knowledge dissemination and the promotion and advancement of the First Nations principles of OCAP® on behalf of all First Nations. FNIGC reports to the Assembly of the First Nations (AFN) on an annual basis. FNIGC is responsible for the implementation of its survey processes in collaboration with its regional member organizations following established protocols, policies and procedures and a holistic cultural framework.

FNIGC Vision

FNIGC envisions that every First Nation will achieve data sovereignty in alignment with their distinct worldview.

FNIGC Mission

We partner to strengthen First Nations' data sovereignty and the development of governance and information management systems at the community level. We adhere to free, prior and informed consent, respect nation-to-nation relationships, and recognize the distinct customs of nations in order/in an effort to achieve transformative change.

About the First Nations Regional Health Survey Phase 3

Founded in 1997, Phase 3 of the First Nations Regional Health Survey (FNRHS, or RHS) was funded by the First Nations and Inuit Health Branch (FNIHB) of Health Canada.

As the primary agency administering the RHS, FNIGC oversees the coordination of all survey activities at the national level. In this role FNIGC is responsible for maintaining partnerships with various federal and First Nations organizations, preparing RHS-related publications and research materials, and serving as data stewards for the national RHS Phase 3 database.

While FNIGC is responsible for reporting on national-level statistics, it partners with regional First Nations organizations to coordinate activities at the regional level. These 10 Regional Partners serve as data stewards for the regional-level RHS Phase 3 databases.



FNIGC's Regional Partners for the RHS Phase 3 are:

- The Union of Nova Scotia Mi'kmaq (which represents Nova Scotia, Prince Edward Island and Newfoundland)
- The Union of New Brunswick Indians
- The First Nations of Quebec and Labrador Health and Social Services Commission
- The Chiefs of Ontario (Quebec)
- The First Nations Health and Social Secretariat of Manitoba (established by the Assembly of Manitoba Chiefs)
- The Federation of Sovereign Indigenous Nations (Saskatchewan)
- The Alberta First Nations Information Governance Centre (Alberta)
- The First Nations Health Authority (British Columbia)
- The Dene Nation (Northwest Territories)
- The Council of Yukon First Nations (Yukon)

The RHS is the only national First Nations health survey in Canada. It has produced important innovations in data sharing, research ethics, computer-assisted interviewing, sampling, field methods, training and culturally appropriate questionnaire content. Most significantly, the RHS process has invested in individual and organizational First Nations capacity at the community, regional and national levels. The RHS is a unique collaborative initiative of First Nations regional organizations across Canada.

Moreover, the RHS is the first national survey implemented explicitly in keeping with the First Nations principles of OCAP®. As the only national health survey under complete First Nations control, the RHS has given new meaning to First Nations self-determination in research and has provided the

research community with a demonstration on how the principles of OCAP® can be successfully executed.

Before the RHS, First Nations populations living on reserve and in northern communities had been excluded from national health surveys resulting in an information gap for many key socio-economic indicators to improve the lives of First Nations. The challenges First Nations face are multi-dimensional and require a collective response to promote well-being and to understand and reduce health disparities. The RHS is one such response that is filling this information void by generating regional and national evidence to improve the health care system and the determinants of health for First Nations.

Background

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 in reserve and in northern First Nations communities.

The first RHS took place in 1997 and involved First Nations and Inuit from across Canada. The survey was implemented to address First Nations and Inuit health and well-being while acknowledging the need for First Nations and Inuit to control their own health information. This version of the RHS is commonly referred to as either RHS 1997 or the RHS pilot survey.

The RHS Phase 1 (the first truly national version of the survey) was implemented in 2002-2003 with the addition of two new regions: Yukon and Northwest Territories. At the same time the Inuit withdrew from the RHS process. Data collection for RHS Phase 1



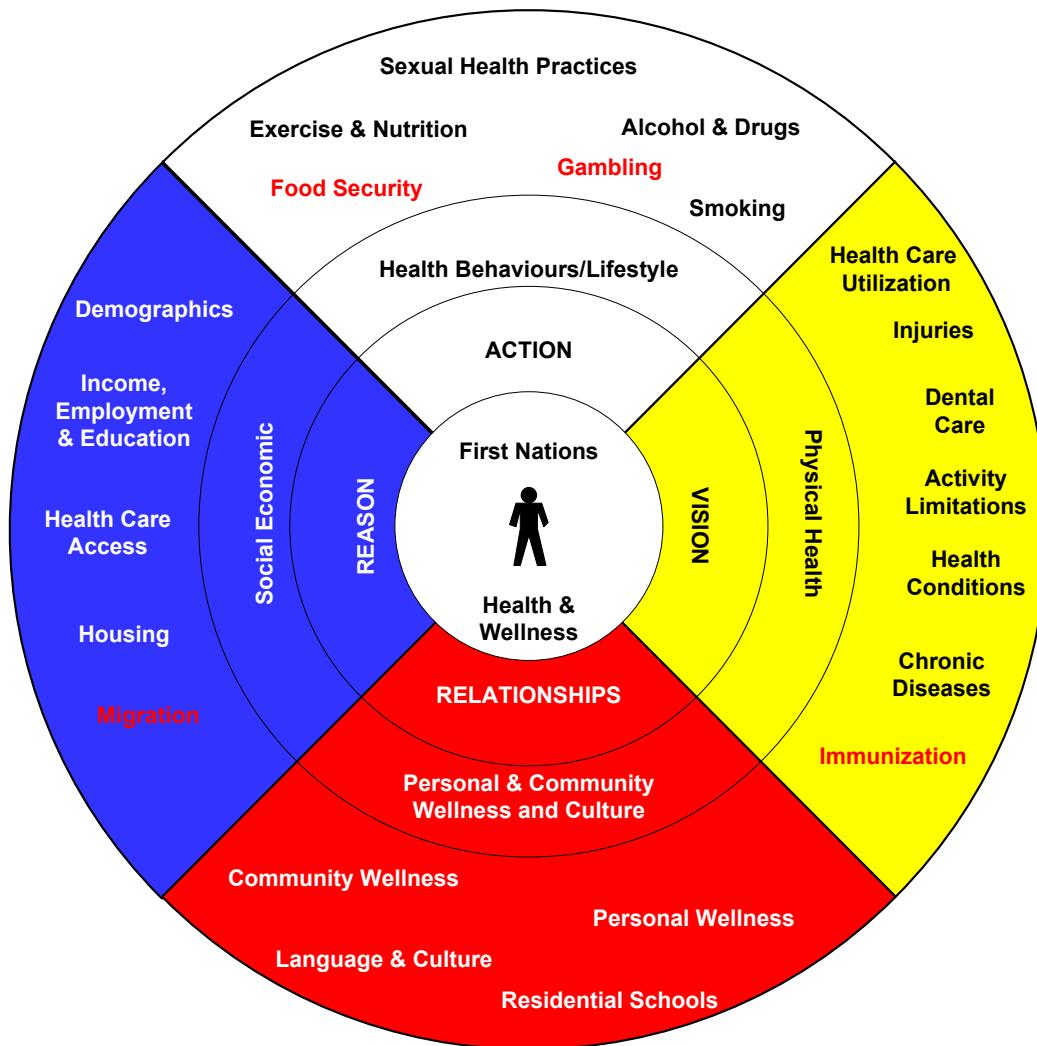
began in the fall of 2002 and was completed in mid-2003. In total, 80.1% of the target sample was achieved and 22,602 surveys were collected from 238 First Nations communities.

The RHS Phase 2 was initiated in 2008 and completed in the fall of 2010. The sampling approach for this phase was improved to ensure adequate regional estimates. In RHS Phase 2, 72.5% of the target was achieved and more than 21,000 surveys were collected in 216 First Nations communities.

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.

RHS Cultural Framework

To frame the survey theoretically, during RHS Phase 1 FNIGC commissioned the development of a cultural framework. The following is the RHS Cultural Framework that informs the research process and organizes the interpretation of the data.





Within this framework, the meaning of First Nations health and well-being is defined as “the total health of the total person within the total environment.” The concept of *total health* includes all aspects and components of health and well-being, which are interconnected and within an inclusive, inter-related and interactive web of life and living.

The concept of *total person* involves all dimensions of personhood—body, mind, heart and spirit. These dimensions, when defined in such a way that can be practically measured in research as social determinants and outcomes, include physical health, mental health, emotional health, spiritual health; healthy behaviour and lifestyle, healthy mental function, cultural continuity with the past and towards future opportunity; healthy connection to culture and healthy spirituality as a First Nations person; and healthy home life, community life and extended family connections.

Total environment involves a healthy connection and relationship with the living environment, which includes the land and the natural, cultural, structural/material, political, historical, behavioural, community, family and everyday living environment.

The goal of the RHS Cultural Framework is to assist in achieving a culturally informed interpretation process that can be presented to communities in a way that is usable and that reinforces and reflects their ways of seeing, relating, knowing and being. The Cultural Framework will assist in providing a more accurate interpretation of the information shared by First Nations children, youth and adults.

RHS interpretative framework

Jim Dumont, a traditional teacher, prepared a research document to assist in developing a cultural interpretative framework for FNIGC. 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. 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 First Nations people.

First Nations wellness encompasses Indigenous knowledge, culture, language, world view 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.

The model is important for explaining why certain questions are asked in the RHS, which asks questions about language and culture in the context of “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, world view and spirituality.

The RHS Cultural Framework will assist in bringing balance to previous research by drawing out the positive changes related to First Nations wellness. It is important for the information presented to be useful to the First Nations reading the report in



order to facilitate positive change in behaviour. 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.

For more information about the framework, see the following publications: [*First Nations Regional Longitudinal Health Survey \(RHS\) 2002/03: Results for Adults, Youth and Children Living in First Nations Communities*](#); www.fnigc.ca

Survey development

As part of the RHS Phase 3 development process, the questionnaire content of the previous phases of the RHS underwent extensive review and revisions. Comparability, non-response and write-in answers were carefully assessed, and new themes were added to the core components based on extensive feedback. For example, the children's survey now includes questions about bullying and maternal behaviours.

Input and feedback were received from regional advisory committees, Regional Coordinators, regional data analysts and key stakeholders including the Assembly of First Nations and the First Nations and Inuit Health Branch of Health Canada (FHIHB).

Throughout the survey development process several factors were taken into consideration when decisions were made regarding content:

- utility of data to be gathered through proposed items
- impact on cross-sectional comparability with RHS Phase 1 and Phase 2
- alignment with the RHS Cultural Framework
- impact on time to complete (respondent fatigue)
- regional priority

The RHS Phase 3 contained a set of questions that addressed issues common to all First Nations people across Canada. In many regions, additional questions were developed to address issues specific to First Nations people living within their respective region.

The RHS Phase 3 was made up of three specific surveys: the child survey, the youth survey and the adult survey:

- The child survey collected information on children between the ages of 0- and 11-years-old. (Child surveys were completed by the primary caregiver, usually a parent).
- The youth surveys were completed by First Nations youth between the ages of 12 and 17.
- The adult surveys were completed by those aged 18 years or older.

Prior to deployment, the RHS Phase 3 underwent an ethical review process. An external Research Ethics Committee was assembled to ensure an independent review of the RHS Phase 3 survey and process and its scientific and ethical acceptability.

The Research Ethics Review Committee agreed by consensus that the study was ethically sound and recommendations were made. The committee met again to ensure recommended changes were made and gave their final approval on August 18, 2014.

Survey content

Table 1.1 shows the indicators included in the RHS Phases 1, 2 and 3 over time, organized by child, youth and adult surveys.



Table 1.1: RHS Indicators, Phases 1, 2 & 3

INDICATORS	CHILD	YOUTH	ADULT
After school/Extra-curricular activities	1, 2, 3	1, 2, 3	
Attitudes towards school		1, 2, 3	
Balance (physical, mental, emotional, spiritual)		1, 2, 3	1, 2, 3
Basic Services (phone, water, smoke detector, internet)			1, 2, 3
Birth weight	1, 2, 3		
Body mass index	1, 2, 3	1, 2, 3	1, 2, 3
Bottle/Breastfeeding	1, 2, 3		
Bullying/Personal safety	3	2, 3	2, 3
Caregiving			2, 3
Child care	1, 2, 3,		
Community wellness		2, 3	1, 2, 3
Demographics	1, 2, 3	1, 2, 3	1, 2, 3
Dental Health/Care/BBTD	1, 2, 3	1, 2, 3	1, 2, 3
Depression/K-10 Kessler		1, 2, 3	1, 2, 3
Diabetes	1,2	1, 2, 3	1, 2, 3
Disability	1,2		1, 2, 3
Dropout			1, 2, 3
Education	1, 2, 3	1, 2, 3	1, 2, 3
ECD attendance (including Head Start)	1, 2, 3	3	
Employment/Unemployment status			1, 2, 3
Exposure to second-hand smoke (home and car)	1, 2, 3	1, 2, 3	1, 2, 3
Food and nutrition/Traditional foods	1, 2, 3	1, 2, 3	1, 2, 3
Food Security			1, 2, 3
Future aspirations/Orientation (school or career)		1, 2	
Gambling			2, 3
General health (self-rated health)	1, 2, 3	1, 2, 3	1, 2, 3
Health and chronic conditions	1, 2, 3	1, 2, 3	1, 2, 3
Health services access and utilization/NIHB	1, 2, 3	1, 2, 3	1, 2, 3
Home care			1, 2, 3
Household characteristics and composition (crowding index)	1, 2, 3	1, 2, 3	1, 2, 3
Housing conditions			1, 2, 3
Health utilities index (HUI)			2



Immunization	2, 3		
Income and income sources			1, 2, 3
Job industry			2
Injury	1, 2, 3	1, 2, 3	1, 2, 3
Job location			2, 3
Language	1, 2, 3	1, 2, 3	1, 2, 3
Literacy	1, 2, 3		
Mastery		1, 2, 3	1, 2, 3
Maternal behaviours/Prenatal health/Prenatal exposure	1, 2, 3		
Medication use	2, 3		
Migration			2, 3
Parental characteristics (education, employment, etc.)	1, 2, 3	1, 2, 3	
Physical activity	1, 2, 3	1, 2, 3	1, 2, 3
Pregnancy or Fertility		1, 2, 3	1, 2, 3
Preventative health practices		1, 2, 3	1, 2, 3
Racism			1, 2, 3
Residential School	1, 2, 3	1, 2, 3	1, 2, 3
School attendance/Absenteeism	1, 2, 3	1, 2, 3	
School performance	1, 2, 3	1, 2, 3	
Screen time/Sedentary behaviour	1, 2, 3	1, 2, 3	2, 3
Self-esteem		1, 2, 3	
Sexual health		1, 2, 3	1, 2, 3
Sleep	3		
Smoking, alcohol and drug use	1	1, 2, 3	1, 2, 3
Social supports		1, 2, 3	1, 2, 3
Spirituality and religion			1, 2, 3
Suicidal ideation and attempts		1, 2, 3	1, 2, 3
Technology at home/Access to technology			1, 2, 3
Traditional culture and teachings	1, 2, 3	1, 2, 3	1, 2, 3
Traditional medicine	1, 2, 3	1, 2, 3	1, 2, 3
Usual hours of work			1, 2, 3
Water quality			1, 2, 3
Well-being (mental, emotional and spiritual)	1, 2, 3	1, 2, 3	1, 2, 3



About the RHS Phase 3 National Report

The *National Report of the First Nations Regional Health Survey Phase 3: Volume One* is intended to provide an overview of the national-level results from the survey, across children, youth and adult First Nations populations.

Contributing writers for the report were selected using a proposal-based competition which was adjudicated by an internal review committee at FNIGC. The writers included First Nations and non-First Nations academics, consultants and researchers from nongovernmental organizations and universities. Each writer was provided detailed writing guidelines to ensure consistency among the chapters with respect to content and style.

Writers were given access to RHS Phase 3 data through FNIGC's First Nations Data Centre or through remote data requests, which were conducted by statistical analysts within FNIGC.

RHS Phase 3 report writers interpreted these outputs in the process of developing the Results section and creating relevant tables and figures. Individual writers were responsible for providing and verifying sources of information included in the chapter besides that provided by FNIGC (i.e., information on data collection, question wording, statistical output).

For each chapter a seven-step review process was established:

1. First draft submitted to FNIGC
2. First internal technical review by FNIGC's internal review committee and external cultural review by external review committee
3. Second draft submitted to FNIGC

4. Second internal technical review and update by internal review committee
5. Internal copy-edit
6. External copy-edit
7. Final draft

The RHS Phase 3 collected vast amounts of information regarding the health, social determinants and well-being of First Nations. Due to the breadth and scope of the information, it has been summarized and is being published in two volumes, each totalling 12 chapters across key themes. The first volume was published in March 2018; the second volume will follow in spring 2018. Where possible, results from children, youth and adult surveys are presented together under a common theme.

While the National Report of the First Nations Regional Health Survey Phase 3: Volume One covers many themes and topics relevant to First Nations communities in Canada, it is not intended to address all of the data gathered by RHS Phase 3.

Along with the previous phases of the RHS (conducted between 2002 and 2016) RHS Phase 3 will provide a wealth of critical data pertinent to the health and well-being of First Nations living on reserve and in northern communities in Canada and will expand our knowledge of their strengths, resiliency and living conditions.

That being said, this national report is not intended to be the last word on these important issues. As a First Nations-run organization, FNIGC is committed to produce further reports and supplemental material from the rich source of data that the RHS surveys represent.



Methodology

RHS Phase 3 survey instruments and methods

The RHS Phase 3 is a cross-sectional survey of First Nations children, youth and adults living on First Nations reserves and in northern communities across Canada and is designed to represent them in all provinces and territories (except Nunavut). Three surveys were developed to include corresponding health, well-being and social determinants for the following:

- Children (0–11 years)
- Youth (12–17 years)
- Adult (18–54; 55 and older)

First Nations community members received training from FNIGC's Regional Partner organizations to work as fieldworkers (or, alternately, data gatherers) whose job it was to administer the surveys in their community and surrounding areas.

Surveys were typically conducted in the home using computer-assisted personal interviewing (CAPI), which in this case involved laptop computers equipped with Entryware a customized survey software.

Data collection was conducted between March 2015 and December 2016. The average data collection period for each of the three surveys was 14.3 months.

Sampling strategy

The sampling frame was based on INAC Indian Registry counts from 2014 of those living on reserve or on Crown land. According to these counts, there were 630 communities and nearly 467,800 people living on reserve and in Northern communities. The sample design used complex sampling that incorporated a two-stage sampling strategy.

The first stage involved the selection of communities to participate in the survey. First Nations communities were stratified by region, sub-region and community size. Regions consisted of ten provinces and two territories. Sub-regions were defined by each region that reflected their own research purposes.

The size of communities was based on community population: small (less than 300 people), medium (300 to 1,500 people) or large (greater than 1,500 people). Large communities were automatically included in the sample, while medium and small communities were randomly selected with equal probability within their respective strata. Communities with a population of less than 75 were not included in the surveys, and these consisted of less than 1% of the total population.

The second stage pertained to the selection of individuals within each community in the national sample. Community members were identified using band membership lists. Data were gathered to represent ten categories of the community population (five age groups by gender). The sampling rate within each community was determined as a function of the overall sub-region probability (within regions) and the probability of community selection (within a sub-region).

In total, 23,764 individuals within 253 communities were surveyed in RHS Phase 3, with 78.1% response rate. After data cleaning and removing incomplete surveys from datasets, 23,167 individuals from 253 communities were included for analysis for a final response rate of 76.1%. In the final datasets, 6,062 children (0 to 11 years of age), 4,968 youth (12 to 17 years of age) and 12,137 adults (18 years or older) represent 94,234 children, 47,918 youth and 282,129 adults in the population, respectively. The national sample ratio was 5.5%, similar to the RHS Phase 1 and RHS Phase 2 sample ratios (5.9% and 5.3%, respectively).



Weighting and analysis

Individual responses were weighted using INAC Indian Registry counts to reflect, with greater accuracy, the representation of the population.

Estimated percentages and 95% confidence intervals (CI) were calculated using SPSS version 20. These CIs reflected the precision of estimated percentages and were produced using the complex samples statements. If the CIs around any two estimates did not overlap, the difference between groups or categories was considered statistically significant.

Low cell counts (5 or fewer individuals) or high coefficients of variation (greater than 33.3%) were

suppressed to protect confidentiality and reliability of analysis (denoted by an “F” within tables). Estimates with moderate to high coefficients of variation (between 16.7% and 33.3%) were supplemented with an “E” in the results to indicate cautious interpretation.

Not all of the survey respondents answered all questions, and the degree of this “item non-response” varied from question to question. In this report, those who reported “don’t know” or who refused to answer are excluded from the estimates calculated for that specific question.



CHAPTER TWO: SOCIOECONOMIC CONDITIONS

EXECUTIVE SUMMARY

Social and economic factors are especially important when considering the health of First Nations people in Canada. This chapter of the RHS Phase 3 national report seeks to put the health of First Nations people in the context of their surroundings and environment, and also provides some basic demographic information

First Nations people living in First Nations communities are a younger group compared to the general population. Less than half live in rural communities and more than one third live in urban settings, with slightly less than one in six in remote and special access communities.

Educational attainment of First Nations adults has increased at the high school and graduate levels since the RHS Phase 2 (2008-2010), although there is still a gap in educational attainment between First Nations adults and the general population at the high school and post-secondary levels. Unemployment for First Nations adults is high; however, labour force participation is also high, which may point to a lack of opportunities in First Nations communities.

More First Nations adults lived in crowded households compared to the general population, and for First Nations children the percentage is

even higher. More than 1 in 4 First Nations adults do not consider their main water source to be safe for drinking year-round. Measures of household disrepair show a stark difference between urban, rural and remote or special access communities, with the latter having a higher prevalence of being in need of major repairs and having mould or mildew.

Against the backdrop of these factors, more than half of First Nations adults (58.0%) reported spending time living outside their communities, mostly for educational and employment-related reasons. The most common reason for returning to a community was for family related reasons.

When examining the social and economic determinants of health it becomes evident that First Nations people as a whole do not experience the same standards in terms of education, employment and housing as the general, non-Indigenous population in Canada. The Truth and Reconciliation Commission of Canada's Calls to Action contain seven recommendations related specifically to education, which if enacted could go a ways towards narrowing these gaps. Future research should evaluate the degree to which these have been implemented and the impact they have had on their desired outcomes.



KEY FINDINGS

- Nearly half (45.5%) of First Nations adults living in First Nations communities live in rural settings, more than one-third (38.8%) live in urban areas, and 15.6% live in remote or special access communities.
- More than half (51.6%) of First Nations people are under the age of 30.
- Nearly two-thirds (66.3%) of First Nations adults have a high school diploma or certificate (or higher).
- The labour force participation rate among First Nations adults was 69.7%.
- The average household size for First Nations children was 5.7 persons.
- Half of First Nations children (50.1%) and more than one-third of First Nations youth (39.3%) live in households with both of their biological parents.
- Two-thirds (66.9%) of First Nations adults live in households with internet access, a significant increase compared to the rates reported in the RHS Phase 1 (29.3%) in 2002-2003 and RHS Phase 2 (51.8%) in 2008-2010.
- More than 1 in 3 (37.9%) First Nations adults living in remote or special access communities live in homes that are in need of major repairs.
- Nearly three-quarters (72.5%) of First Nations adults consider their main water source safe for drinking year-round, an increase compared to RHS Phase 2.
- Nearly 3 in 5 (58.0%) First Nations adults had lived outside of their community at some point, with 45.3% saying they moved for education reasons and 44.8% for employment. Of those who returned to their community, the majority (67.7%) said they returned for family reasons.



INTRODUCTION

The health of First Nations people in Canada is best understood in the context of the social and economic determinants of health, which include: employment, education, housing, income, food, stable eco-system, sustainable resources, social justice and equity. These factors interact with other determinants of health in complex ways that impact an individual's health outcomes (see, for example, Public Health Agency of Canada, 2008; World Health Organization, n.d.; Stronks et al., 1997). For First Nations people, determinants of health may also include participation in traditional activities, cultural connections, exposure to the Indian Residential School (IRS) system, and other factors that reflect the unique history and experience of First Nations communities (Appiah-Kubi, 2015).

The legacy of colonialism should be seen as the basis on which other First Nations determinants of health are constructed (Wilk, Maltby & Cooke, 2017). This gave rise to factors such as the IRS system and institutionalized racism which have meant that First Nations do not experience the same level of social determinants of health as do the general population. The purpose of this chapter is to outline some demographic trends among First Nations children, youth and adults and to explore the social determinants of health that have such a large impact on health outcomes for these populations.

This chapter is framed by four broad questions:

1. What is the demographic makeup of those living in First Nations communities across Canada?
2. What is the economic situation of those living in First Nations communities? (i.e., income, employment and education levels.)
3. What is the housing situation of those living in First Nations communities? (i.e., Do they rent, own, or live in band housing? What is the condition of their housing?)

4. How many First Nations people living in First Nations communities have lived outside of their community? (i.e., Why did they leave? And why did they return?)

METHODS

The RHS Phase 3 questionnaire contains survey questions that deal with: demographics, education, income, employment, housing and migration (each of which were included in the adult, youth and child section of the survey). Community size was grouped as follows: large, 1,500+ residents; medium, 300–1,499 residents; small, 75–299 residents. Communities with fewer than 75 residents were excluded from the sample frame.

Community remoteness was based on the geographic zones (1–4) from Indian and Northern Affairs Canada's Band Classification Manual (Indian and Northern Affairs Canada, 2000). Urban communities (Zone 1) are within 50 km of the nearest service centre with year-round road access; rural communities (Zone 2) are between 50 km and 350 km from the nearest service centre with year-round road access; remote communities (Zone 3) are more than 350 km from the nearest service centre with year-round road access; and special access communities (Zone 4) are defined as having no year-round road access to a service centre.

Questions about basic demographic information such as age and gender, were asked on all sections of the survey, as were questions regarding basic household information, such as the number of household members and number of rooms in a home. Adults were also asked about their marital status.

In the child and youth surveys, First Nations parents/caregivers were asked about whom the child or youth lives with in their household most of the time (living arrangements).



In the adult survey, First Nations adults were asked a wide variety of additional questions related to education, income, employment, housing and migration.

The education-related indicators of the RHS Phase 3 examined:

- Whether an individual completed a high school diploma (including completion through an upgrading or high school equivalency program such as General Education Development or Adult Basic Education. (In Québec this includes only the secondary school diploma and equivalencies, such as the General Development Test, Attestation of Equivalence of Secondary V Studies or General Educational Development Testing Service).
- The highest level of formal education attained: under high school (those who have not completed a high school diploma), high school only (those who completed a high school diploma but indicated no further schooling), post-secondary diploma or training (those who completed a high school diploma and indicated either incomplete post-secondary education or a post-secondary diploma or certificate), university and higher (those who completed a high school diploma and indicated completion of an undergraduate or graduate university degree or professional degree).

The income and employment indicators examined in the survey included:

- Current employment status based on two questions: Are you currently working at a job or business for pay (wages, salary, self-employed)?; and Are you currently looking for work?
- Location of main job (in or outside of community)

- Number of hours worked per week (if working)
- Personal income (range)
- Household income (range)
- Ability to cover household expenses

Questions related to housing indicators included:

- Housing situation (band/community housing, owning, renting, etc.)
- Whether the home has safety devices (smoke detector, carbon monoxide detector, fire extinguisher), communication services (telephone, computer, internet), appliances (refrigerator, stove) and services (electricity, hot/cold running water, flush toilet, sewage, garbage collection)
- Does the home require significant, minor, or no repairs?
- Has there been mould or mildew in the home in the past 12 months?
- What is the main water supply for the household, and is it safe for drinking year-round? Does the household use other sources of drinking water?

Finally, adults were asked if they had ever lived outside of their First Nations community. If so, they were asked if and why they left and why they returned.

When available, data from the RHS Phase 3 is complemented by—and compared with—data from the RHS Phase 1 (2002-2003) and RHS Phase 2 (2008-2010) in order to look at changes over time. In addition, data from Statistics Canada's *Census*, population estimates, labour market information and the *National Households and the Environment Survey* are presented for comparison with the general population, when possible.



RESULTS

Demographics

The RHS Phase 3 (2015-2016) results show that First Nations adults living in First Nations communities are relatively young, in comparison to the general population. The average overall age in Canada in 2016 was 41.0 years (Statistics Canada, 2017a), with 1 in 3 (35.4%) being under 30-years-old. In contrast, the average age of First Nations children, youth, and adults living on reserve and in Northern communities combined was 30.8 years (95% CI [30.5, 31.2]); with

more than half (51.6%, 95% CI [50.5, 52.6]) being under 30-years-old.

Compared to the population pyramid created using the RHS Phase 3 (see *Figure 2.1*), the population pyramid for Canada (see *Figure 2.2*) looks almost inverted, with a much lower percentage of its population in the younger age categories (Statistics Canada, 2017d). The age distribution for males and females in *Figure 2.1* do not differ in a statistically significant way.

Figure 2.1: Population pyramid for First Nations children, youth and adults living in First Nations communities

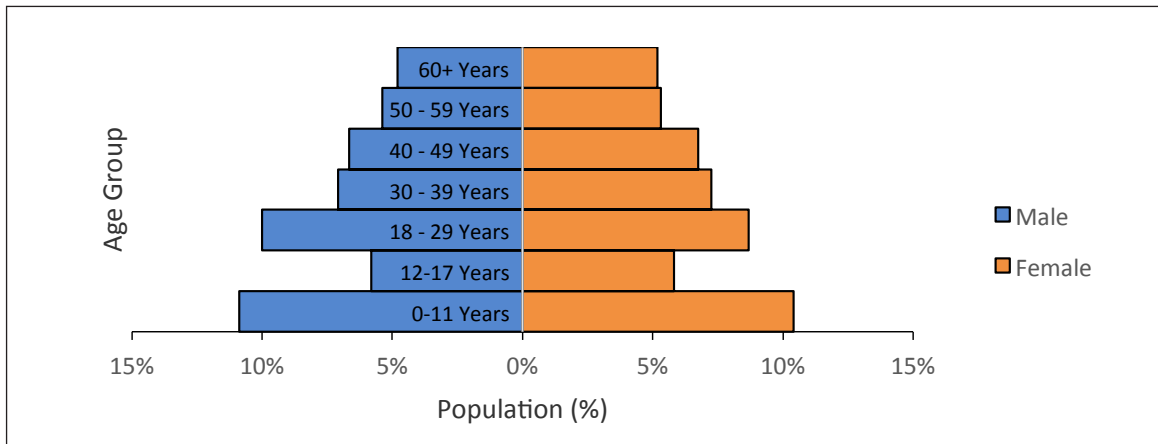


Figure 2.2: Population pyramid for the general population in Canada, 2017

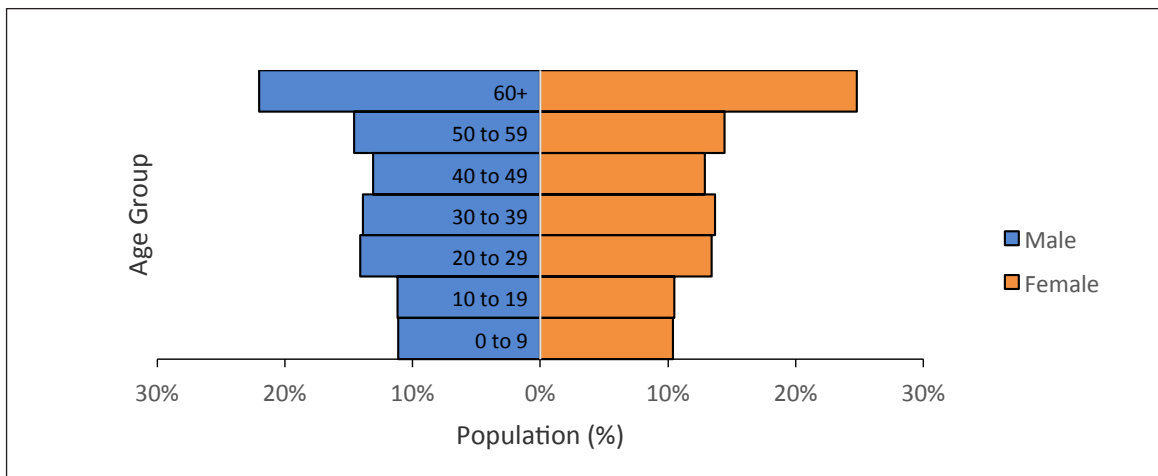
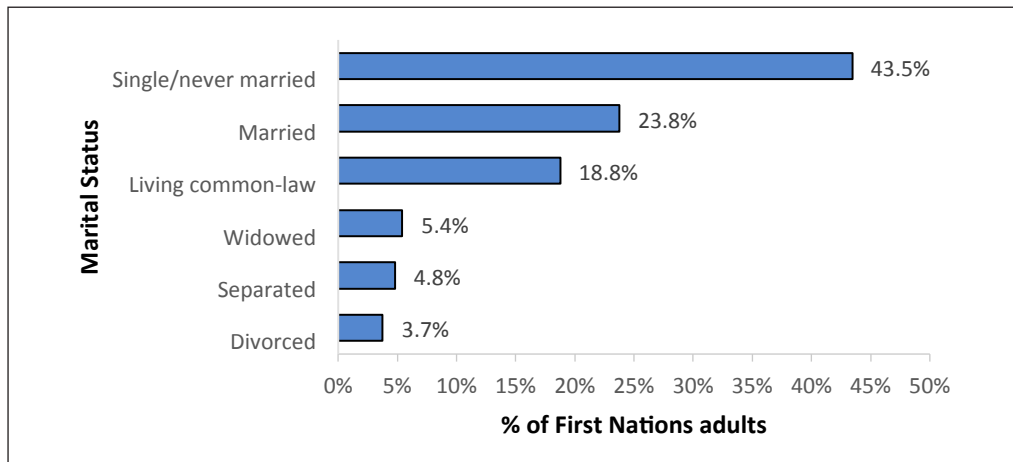


Figure 2.3 shows the marital status of First Nations adults living in First Nations communities. The largest proportion of adults were single/never married (43.5%, 95% CI [41.4, 45.5]), with 23.8% (95% CI [22.2, 25.5]) married and 18.8% (95% CI [17.7, 19.9]) living common-law. The proportion of First Nations adults

reporting their status as single/never married was highest among young adults aged 18 to 29 (73.0%, 95% CI [70.1, 75.7]), while those 60 and older were most likely to report being married (41.3%, 95% CI [38.3, 44.3]).

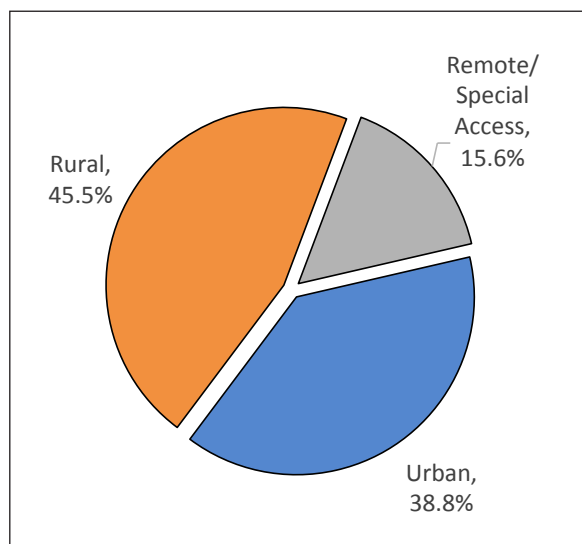
Figure 2.3: Marital status of First Nations adults



First Nations adults live in many different types of First Nations communities. Figure 2.4 shows the distribution of community location and by degree of remoteness. The majority of First Nations adults live

in rural (45.5%, 95% CI [40.6, 50.5]) and urban (38.8%, 95% CI [34.4, 43.5]) communities, with significantly fewer living in remote/special access communities (15.6%, 95% CI [13.2, 18.4]).

Figure 2.4: Community remoteness among First Nations adults





Education

Approximately two-thirds (66.3%) of First Nations adults attained an education level of high school or higher. Despite a low percentage who completed a university degree (or higher), the percentage with a post-secondary diploma or training was noteworthy (43.5%). First Nations adults do, however, have

levels of formal education lower than the general population. Numbers presented for Canada overall (see *Table 2.2*) do not line up perfectly with the categories from the RHS Phase 3 survey, but these are presented with the intention of illustrating the differences generally.

Table 2.1: Educational attainment among First Nations adults, by gender and age, with national comparison

Educational attainment	Gender		Age		
	Male	Female	18 - 29 Years	30 - 59 Years	60+ Years
Under high school	36.8% [34.2, 39.5]	30.7% [28.5, 32.9]	39.4% [36.1, 42.9]	29.9% [27.4, 32.5]	38.4% [35.5, 41.4]
High school only	15.4% [13.9, 16.9]	14.8% [13.5, 16.3]	25.8% [23.5, 28.1]	11.3% [10.1, 12.7]	10.5% [9.0, 12.3]
Post-secondary diploma or training	42.4% [39.9, 45.0]	44.7% [42.5, 46.8]	31.5% [28.8, 34.2]	49.3% [46.9, 51.7]	43.1% [39.8, 46.4]
University or higher	5.4% [4.7, 6.2]	9.8% [8.6, 11.2]	3.3% ^E [2.2, 4.9]	9.5% [8.4, 10.8]	8.0% [6.9, 9.3]

Note: ^E High sampling variability, interpret with caution.

Table 2.2: Educational attainment for the general population aged 25 to 64, Canada, 2016

Educational level	%
Bachelor's degree or higher	28.5%
University below bachelor's	3.1%
College diploma	22.4%
Apprenticeship or other trades certificate	10.8%
High school diploma	23.7%
No certificate, diploma or degree	11.5%

Source: Statistics Canada, 2017b

Table 2.3 presents a comparison of RHS Phase 2 and Phase 3 results. For comparison's sake, the categories presented below have been modified to line up with those reported in the RHS Phase 2 report.

First Nations adults had higher levels of educational attainment in 2015-2016, compared to 2008-2010 a lower proportion had attainments of less than high school, while a significantly higher proportion reported high school or graduate-level attainment. Levels of post-secondary attainment remained stable (see *Table 2.3*).

Table 2.3: Educational attainment of First Nations Adults, RHS Phase 3 (2015-2016) compared to RHS Phase 2 (2008-2010)

Educational attainment	RHS Phase 2 (2008-2010)	RHS Phase 3 (2015-2016)
Less than high school	39.9% [38.2, 41.7]	34.8 [32.7, 36.9]
High school graduates	9.8% [9.0, 10.7]	14.8% [13.8, 15.9]
Post-secondary	44.9% [43.0%, 46.8%]	45.6% [43.7, 47.6]
Graduates	1.3% [1.1, 1.6]	3.2% [2.7, 3.7]
Other*	4.1% [3.5, 4.7]	1.6% [1.3, 2.0]

*Individuals who did not complete high school but had some relevant training or upgrading

Females living in First Nations communities consistently report higher percentages of high school completion compared to males (see *Figure 2.5*). Those adults aged 60-years-old and older that completed

high school, represent less than half of the population for both genders: 44.3% of women (95% CI [39.9, 48.8]) and 33.9% of men (95% CI [30.0, 38.1]). (See *Figure 2.5*)

Income and employment

According to RHS Phase 3 data, First Nations adults are active participants in the labour force, with more than two-thirds (69.7%) reporting that they are participating in the labour force. (The labour force participation rate is defined as the percentage of adults either employed or actively seeking employment). This rate was comparable (and in fact, slightly higher) that the labour force participation rate in the general Canadian population (see *Table 2.4*).

Unemployment (or the percentage of the total labour force currently out of work) among First Nations adults was 31.6%. The overall employment rate (percentage of all adults currently working) for First Nations adults was 47.1%; a rate that was relatively unchanged compared to the RHS Phase 1 (48.8%) and RHS Phase 2 (47.2%).

Figure 2.5: High school completion among First Nations adults, by age and gender

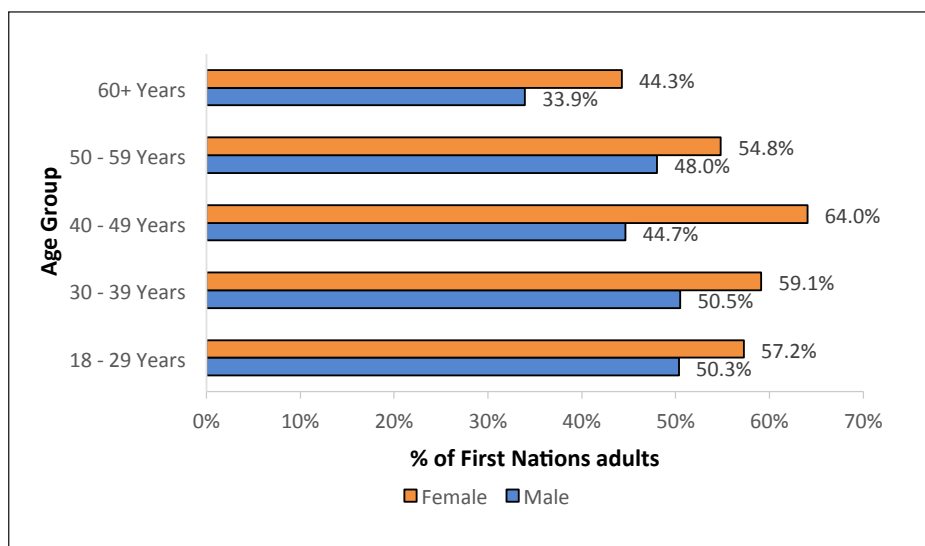




Table 2.4: Labour force statistics for First Nations adults, by gender and age, compared to the general population in Canada

	Gender		Age			Total RHS Phase 3 [95% CI]	Canada Overall (2016)
	Male [95% CI]	Female [95% CI]	18-29 Years [95% CI]	30-59 Years [95% CI]	60+ Years [95% CI]		
Labour force participation rate	73.6% [71.4, 75.6]	65.8% [64.2, 67.4]	75.3% [72.8, 77.7]	77.1% [75.1, 78.9]	32.1% [29.6, 34.6]	69.7% [68.2, 71.2]	65.7%
Employment rate	45.0% [42.6, 47.4]	49.2% [47.1, 51.2]	38.2% [35.2, 41.2]	56.3% [54.1, 58.5]	27.4% [24.9, 29.9]	47.1% [45.3, 48.8]	61.1%
Unemployment rate	38.0% [35.0, 41.1]	24.2% [22.1, 26.5]	47.8% [43.5, 52.1]	26.4% [24.3, 28.6]	14.2% [11.7, 17.2]	31.6% [29.5, 33.7]	7.0%

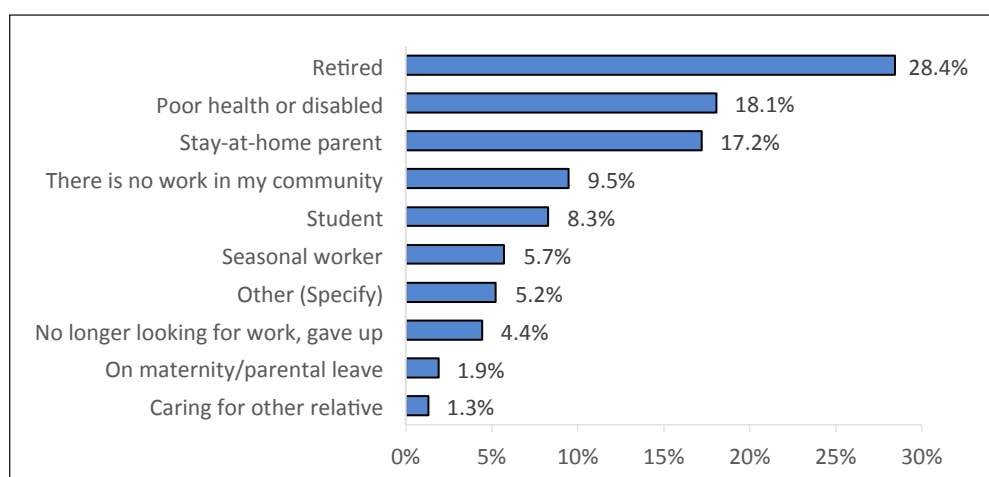
Note: Data for Canada taken from Statistics Canada (2017c).

First Nations adults living in First Nations communities exhibit higher rates of labour force participation than the general population, but they experience lower employment rates and higher rates of unemployment. The labour force participation rate for First Nations adults 60 and older (32.1%, 95% CI [29.6, 34.6]) is slightly higher than for the general population (25.4% in 2016 [Statistics Canada, n.d.b]). Factors such as

income, health and local opportunities can impact whether individuals choose to work later in life.

Out of those currently working, 66.1% (95% CI [63.9, 68.2]) attained a high school diploma compared to 38.8% (95% CI [36.4, 41.2]) of those who were not currently working. The average number of hours worked per week for those currently working was 36.4 hours (95% CI [35.8, 37.0]).

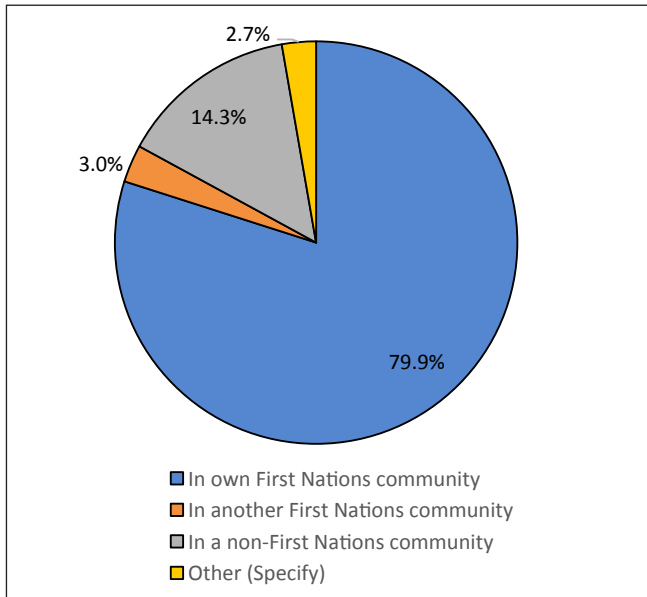
Figure 2.6: Situation among First Nations adults not in the labour force



For First Nations adults who were not currently in the labour force, the most commonly cited reason was that they were retired (28.4%, 95% CI [26.1, 30.9]). Poor health or disability (18.1%, 95% CI [16.0, 20.3]) and stay-at-home parenting (17.2%, 95% CI [15.0, 19.6])

were the second and third most commonly mentioned situations, respectively, although not statistically significant in difference from one another (see Figure 2.6).

Figure 2.7: Location of work for First Nations adults working for pay



The majority of First Nations adults (79.9%) who are working do so in their own First Nations community (95% CI [77.9, 81.8]), while 14.3% (95% CI [12.6, 16.2]) work in a non-First Nations community.

Table 2.5 shows the personal and household income distributions of First Nations adults for RHS Phases 1, 2 and 3. For personal income, there is a trend moving away from the lower income brackets (less than \$20,000), with higher concentrations in the higher brackets (\$30,000 and up). The trend in household income is somewhat less clear. Despite the positive changes in personal income, there are more households in the lowest bracket; however, there are also more people living in households in the highest bracket (\$80,000 and up).

Table 2.5: Personal and household income levels reported by First Nations adults, RHS Phase 1 (2002-2003), RHS Phase 2 (2008-2010) and RHS Phase 3 (2015-2016)

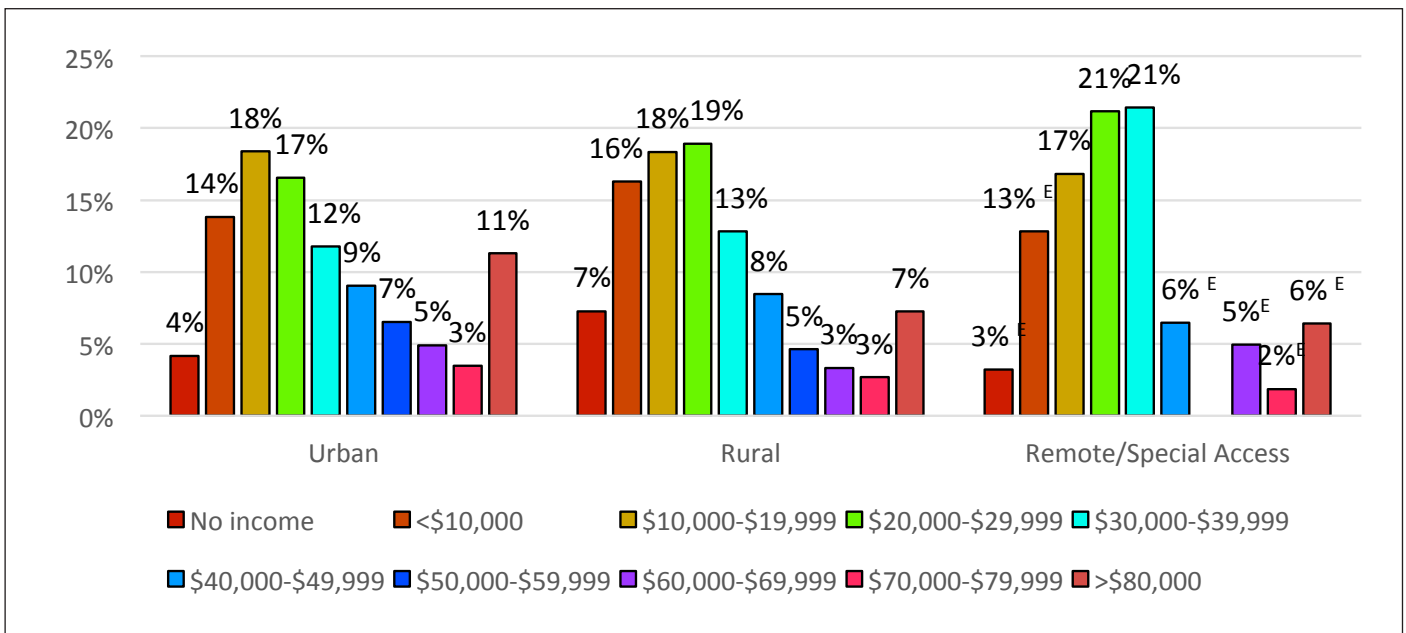
Income level	Personal income			Household income		
	RHS Phase 1	RHS Phase 2	RHS Phase 3	RHS Phase 1	RHS Phase 2	RHS Phase 3
<\$10,000 (or no income)	33.2%	32.6%	27.5%	11.7%	16.8%	20.3%
\$10,000-\$14,999	16.4%	14.0%	10.9%	10.7%	10.1%	9.0%
\$15,000-\$19,999	10.2%	11.0%	8.9%	8.3%	10.1%	9.1%
\$20,000-\$29,999	19.7%	20.2%	20.9%	19.5%	20.0%	18.4%
\$30,000-\$49,999	15.5%	15.9%	20.2%	25.6%	20.9%	22.1%
\$50,000-\$79,999	4.4%	5.5%	9.0%	18.2%	15.7%	12.4%
\$80,000 plus	0.6%	0.9%	2.7%	6.0%	6.4%	8.6%



Figure 2.8 shows the household income distributions of First Nations adults by community type. Although household incomes in remote and special access First Nations communities are slightly higher than those in urban and rural communities, there is a high variation in these results, so they should be interpreted with caution.

Remote and special access communities do have a higher share of household incomes in the \$30,000–\$39,999 range (21.4, 95% CI [16.0, 28.1]) compared with urban (11.8%, 95% CI [9.6, 14.4]) and rural (12.8%, 95% CI [11.1, 14.8]) households (see *Figure 2.8*) The most common category for urban households is \$10,000 to \$19,999, for rural households \$20,000 to \$29,999 and for remote/special access households \$30,000 to \$39,999.

Figure 2.8: Household income distributions for First Nations adults, by remoteness

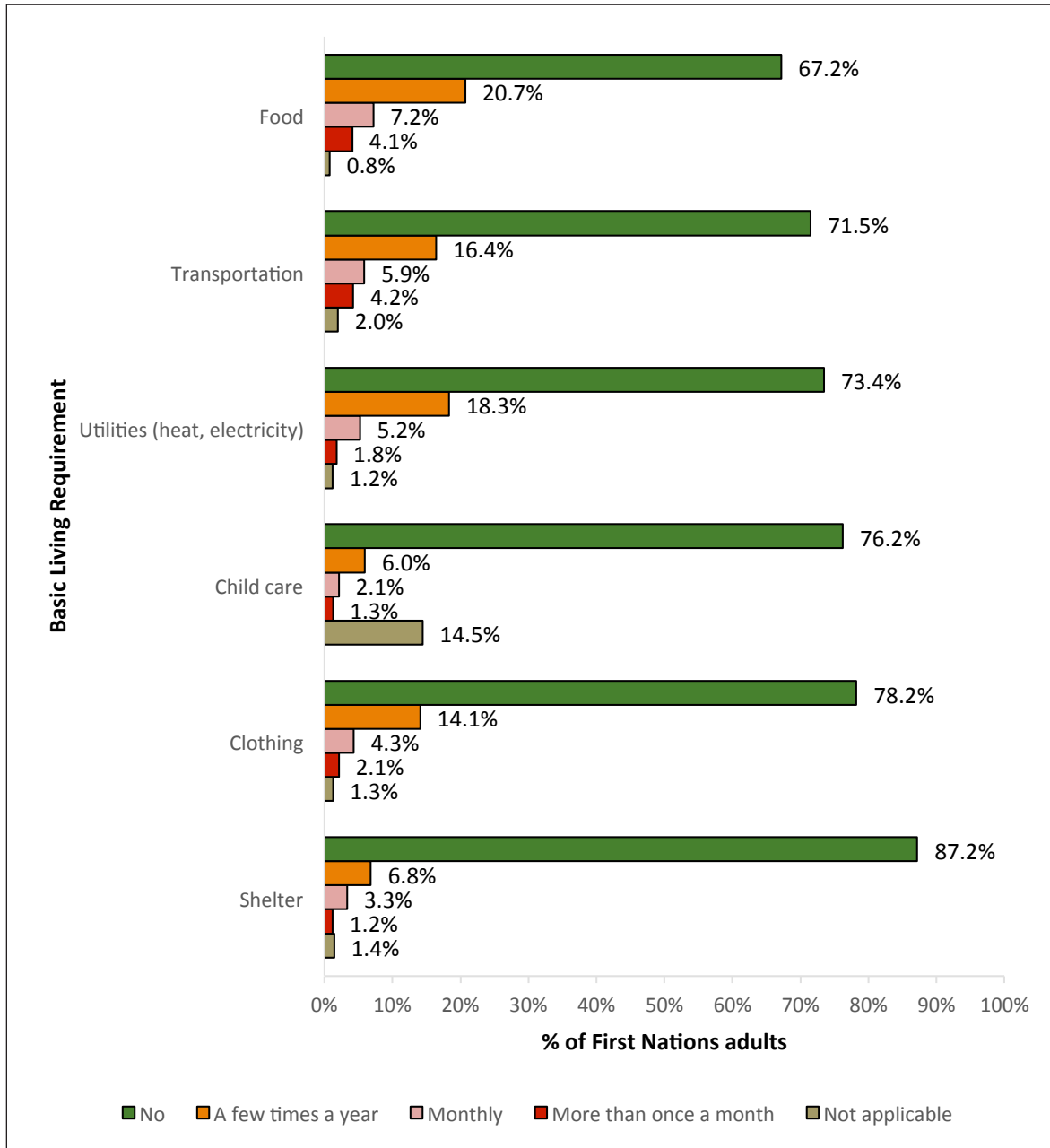


Note: ^E High sample variability, interpret with caution.

In terms of basic living requirements, First Nations adults reported most commonly struggled with food-related expenses, with only 67.2% (95% CI [65.0, 69.3]) reporting that they never struggle to meet this basic living requirement (see *Figure 2.9*) Transportation and utilities (heat and electricity) were the next two basic

living requirements that First Nations adults were most likely to struggle to meet with (71.5%, 95% CI [69.8, 73.2]), and 73.4% (95% CI [71.9, 75.0]) reporting that they did not struggle to meet these basic living requirements). Note that if the answer to the question was not applicable, it was not needed (i.e., child care).

Figure 2.9: Percentage of First Nations adults struggling to meet basic living requirements





Housing

The mean household size for First Nations adults was 4.2 persons (95% CI [4.1, 4.3]), which remains unchanged since the RHS Phase 2 (2008-2010). The current mean household size for First Nations youth was 5.8 (95% CI [5.6, 6.0]) and 5.7 (95% CI [5.5, 5.8]) for First Nations children.

It is important to note that the preceding figures and other results presented in this section are averages at the individual level and not the household level. As such, these should not be compared with results from household-level surveys.

According to RHS Phase 3 results, nearly one-quarter (24.1%, 95% CI [22.4, 25.8]) of First Nations adults are living in households considered crowded (more than one person per room); slightly higher than the

23.4% reported in the RHS Phase 2 (although not statistically different), and significantly higher than the 17.2% (95% CI [16.4, 18.0]) from RHS Phase 1 (see *Table 2.6*).

Adults were more likely to live in crowded households if they lived in rural First Nations communities (28.1%, 95% CI [25.9, 30.4]) and remote or special access communities (31.8%, 95% CI [26.1, 38.1]) when compared with those living in First Nations communities classified as urban (16.2%, 95% CI [13.6, 19.2]). Results from the RHS Phase 3 child survey show that a higher percentage of children (39.9%, 95% CI [37.5, 42.3]) live in crowded households. The children results show less variance by community location, with the only statistically significant difference being between those in urban (30.2%, 95% CI [25.2, 35.8]) and rural communities (46.2%, 95% CI [42.7, 49.6]).

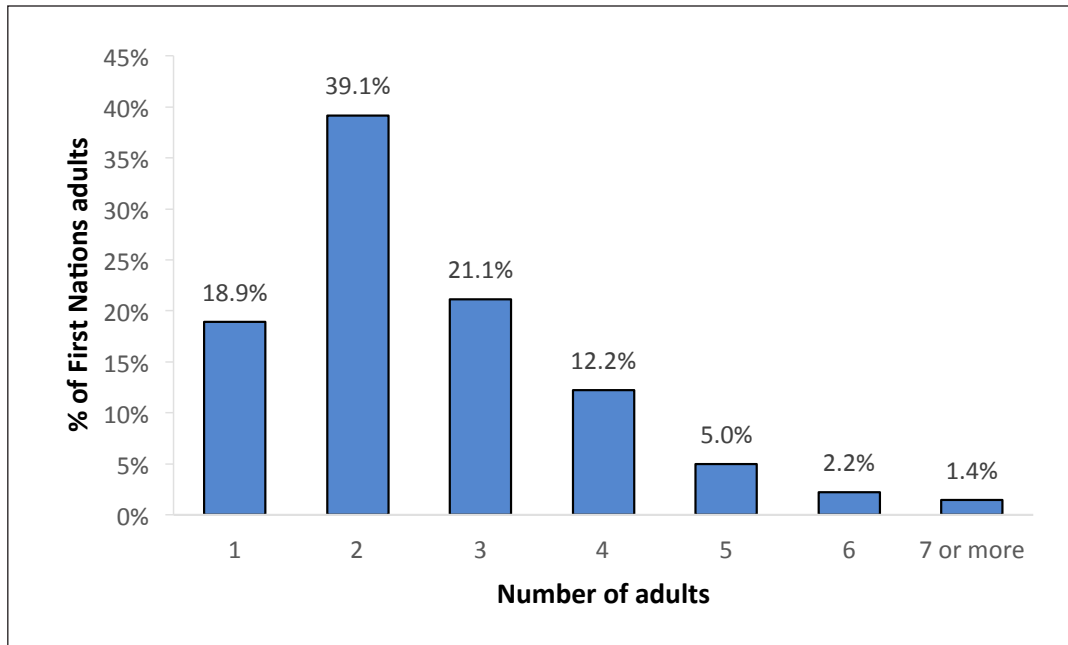
Table 2.6: Percentage of First Nations adults and children living in crowded households, by remoteness

		RHS Phase 3 (2015-2016)	
		Child	Adult
Remoteness	Overall	39.9% [37.5, 42.3]	24.1% [22.4, 25.8]
	Urban	30.2% [25.2, 35.8]	16.2% [13.6, 19.2]
	Rural	46.2% [42.7, 49.6]	28.1% [25.9, 30.4]
	Remote/ Special access	40.7% [33.7, 48.0]	31.8% [26.1, 38.1]



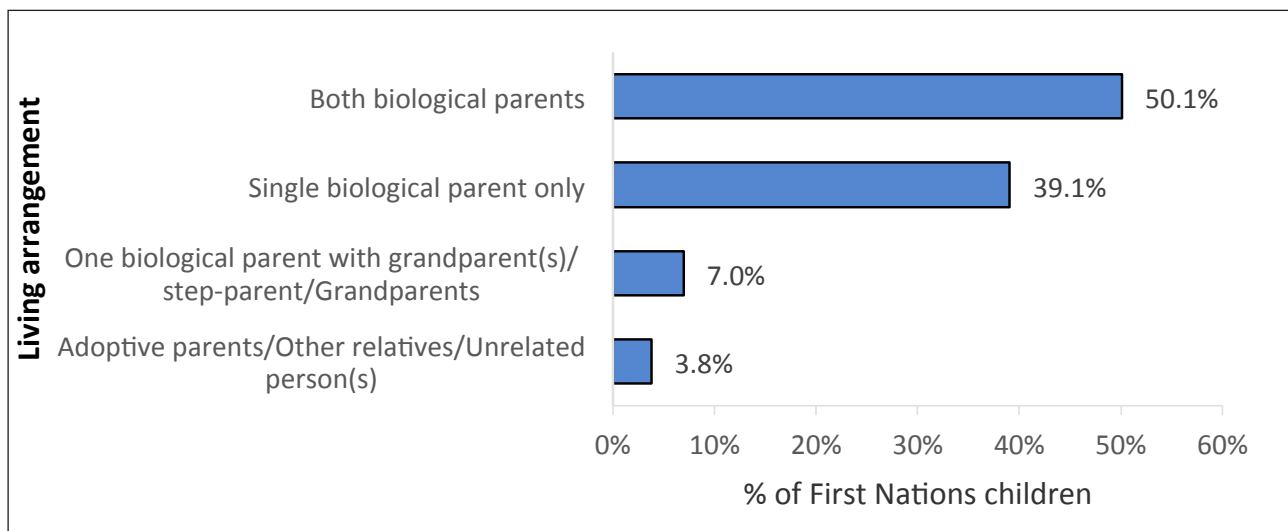
The most common living arrangement for First Nations adults was a two-adult household (39.1%, 95% CI [37.2, 41.1]) (see Figure 2.10).

Figure 2.10: Number of First Nations adults living in households



The most common living arrangement for First Nations children was living with both biological parents (50.1%, 95% CI [47.3, 52.9]), followed by living with a single biological parent (39.1%, 95% CI [36.7, 41.5]) (see Figure 2.11).

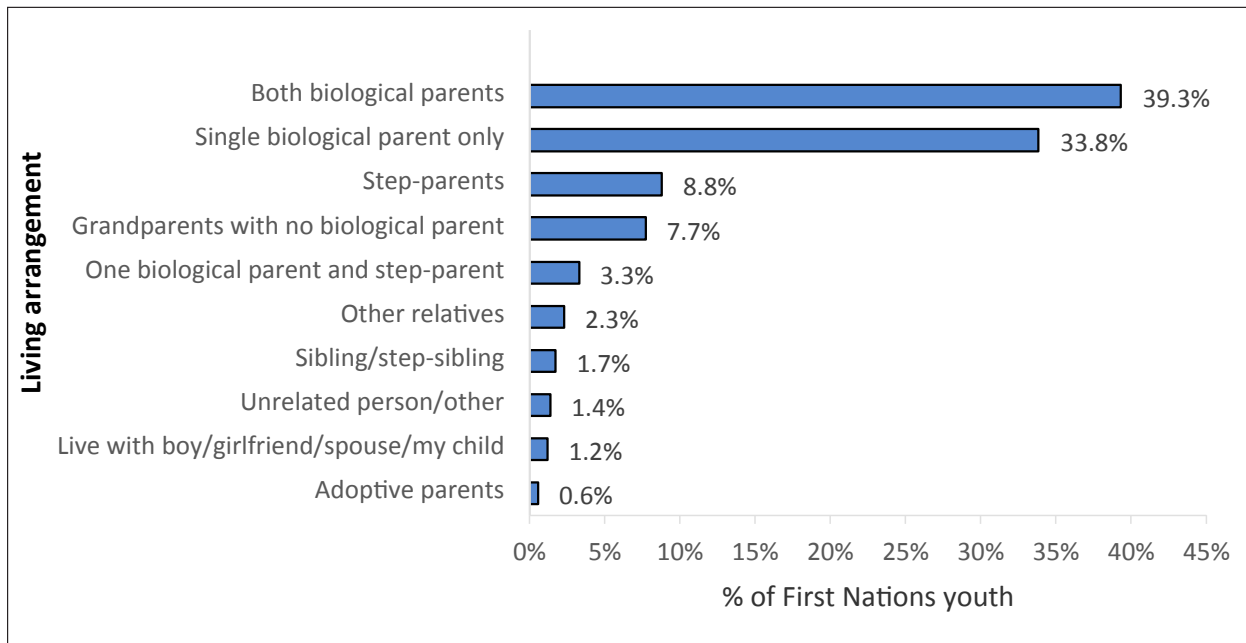
Figure 2.11: Who First Nations children live with most of the time





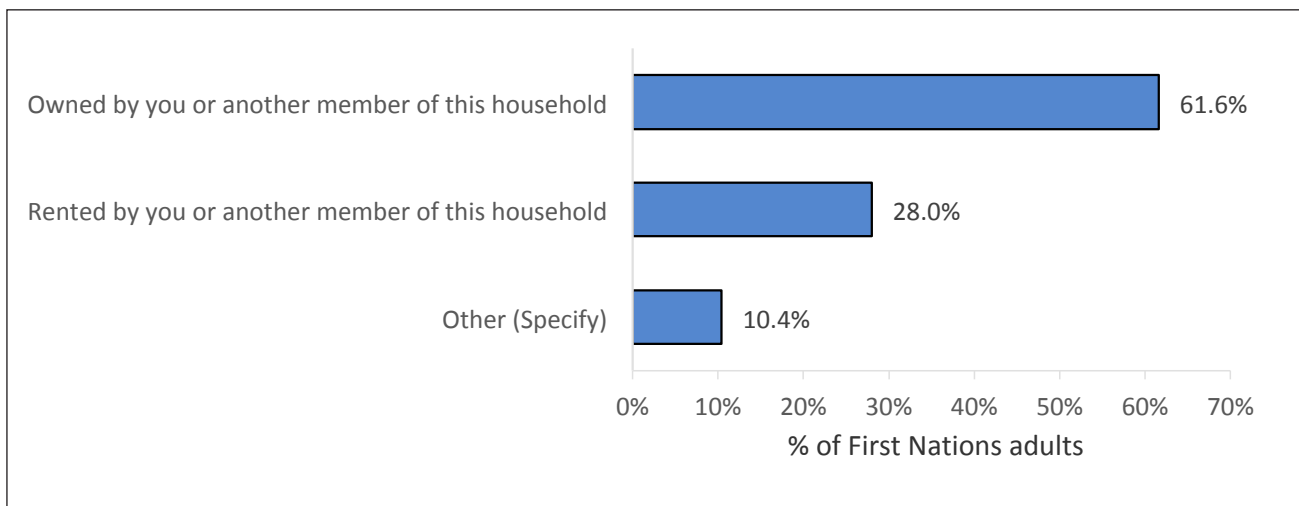
Among First Nations youth, the most common living arrangements were similar to that of First Nations children. The most common situations were living with both biological parents (39.3%, 95% CI [36.7, 41.9]) and living with a single biological parent (33.8%, 95% CI [30.9, 36.9]) (see *Figure 2.12*).

Figure 2.12: Who First Nations youth live with most of the time



Among First Nations adults, nearly two-thirds (61.6%, 95% CI [59.3, 63.8]) live in a residence owned by themselves or someone else in the household. More than one-quarter (28.0%, 95% CI [25.9, 30.2]) of adults live in band- or community owned housing (see *Figure 2.13*).

Figure 2.13: Primary residence of First Nations adults





The overwhelming majority of First Nations adults (97%, or higher) lived in households with electricity, a stove, fridge, a flush toilet, and hot

and cold running water. However, only 40.3% lived in households equipped with a carbon monoxide detector (see *Table 2.7*).

Table 2.7: Prevalence of home amenities and safety features for First Nations adults

Household amenity	% Yes	95% CI
Electricity	98.8%	[98.3, 99.2]
A stove for cooking and/or heating	98.6%	[98.0, 99.0]
A refrigerator	98.4%	[97.8, 98.8]
Cold running water	97.9%	[97.3, 98.3]
A flush toilet	97.7%	[97.1, 98.2]
Hot running water	97.4%	[96.7, 98.0]
Either a septic tank or sewage service (any kind)	94.1%	[93.3, 94.9]
Garbage collection service	87.0%	[84.0, 89.5]
A working smoke detector	83.5%	[81.7, 85.1]
A fire extinguisher	50.0%	[47.4, 52.6]
A carbon monoxide detector	40.3%	[38.3, 42.3]

The number of adults living in households with an internet connection continued to increase since 2002-2003, although the number living in households with a computer did not

change significantly between RHS Phase 2 and Phase 3 (see *Table 2.8*). The number living in households with telephones declined between the two phases.

Table 2.8: Prevalence of communications devices in homes of First Nations adults, with national comparison

Communications devices	RHS Phase 1 (2002-2003) [95% CI]	RHS Phase 2 (2008-2010) [95% CI]	RHS Phase 3 (2015-2016) [95% CI]	Canada (2009)*
A computer	40.8% [38.1, 43.5]	60.2% [58.2, 62.2]	61.3% [59.8, 62.9]	81.7%
An internet connection	29.3% [27.0, 31.6]	51.8% [49.6, 54.0]	66.9% [64.9, 68.9]	77.8%
A telephone with service	81.7% [79.0, 84.4]	82.5% [80.9, 84.1]	72.6% [71.1, 74.2]	89.3%

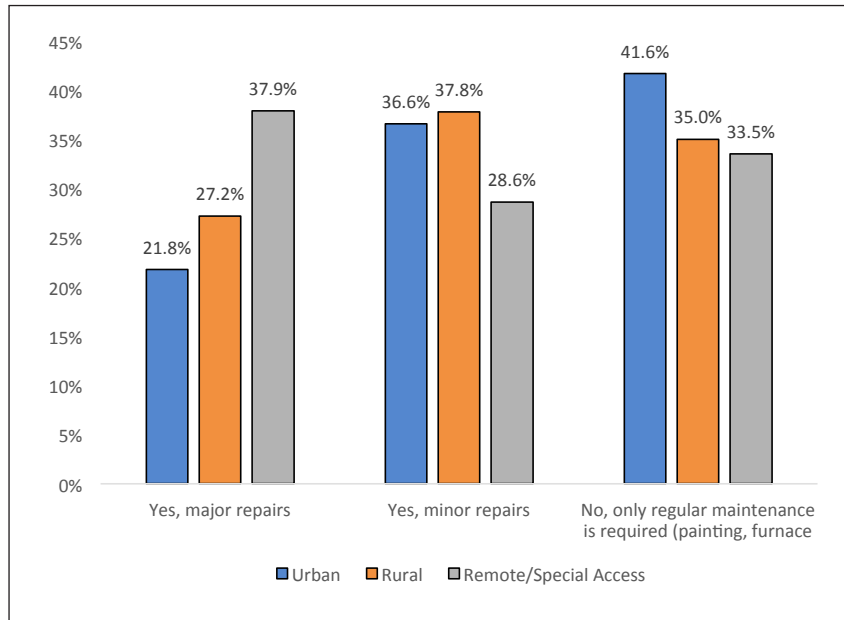
*Source: Statistics Canada tables, reported in the RHS Phase 2 National Report (FNIGC, 2012)

First Nations adults in rural communities reported lower levels of internet access (61.2%, 95% CI [58.8, 63.5]) compared with adults in urban (69.8%, 95% CI [65.7, 73.6]) and remote or special access communities (76.7%, 95% CI [72.7, 80.2]).

First Nations adults living in remote or special access communities were significantly more likely (37.9%) to live in a homethat was in need of major repairs than those in rural (27.2%) and urban (21.8%) areas. Remote communities are often located far from amenities, such as hardware stores, and renovation costs can be extremely high (see *Figure 2.14*).



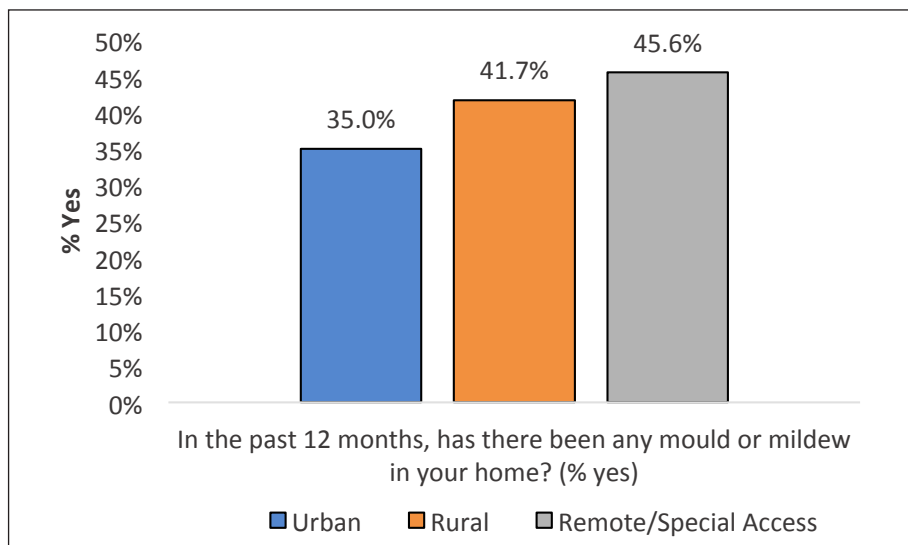
Figure 2.14: Percentage of First Nations adults reporting their dwelling in need of repairs, by remoteness



The percentage of First Nations adults reporting households mould or mildew in their homes in the preceding 12 months was 39.7% (95% CI [37.6, 41.9]),

which is three times higher than the rate in the general population (13%), as reported in the 2015 *Households and the Environment Survey* (Statistics Canada, n.d.a).

Figure 2.15: Percentage of First Nations adults reporting if there has been any household mould or mildew in their home in the past 12 months, by remoteness

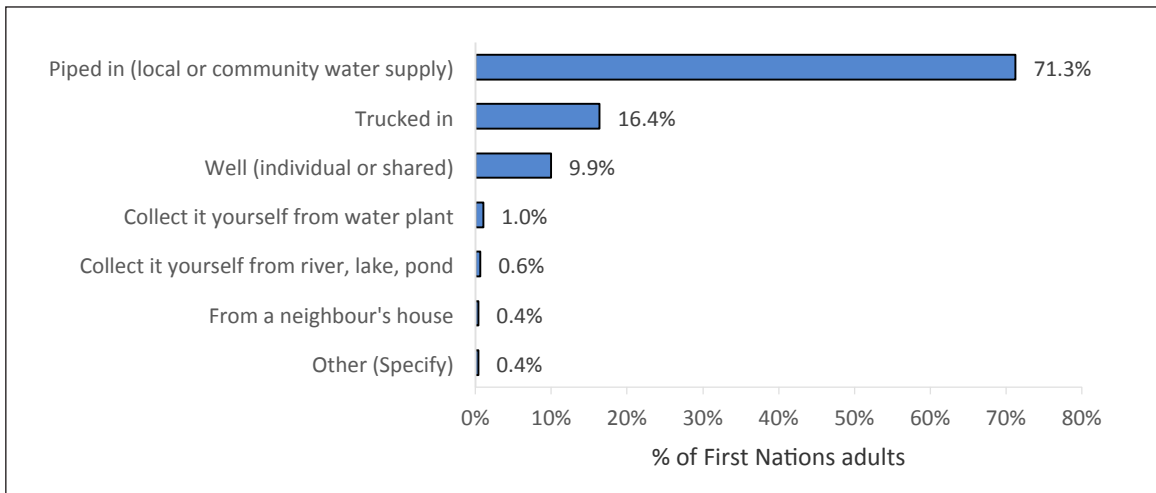




First Nations adults residing in rural communities reported a significantly higher prevalence of household mould or mildew in their home (41.7%, 95% CI [39.6, 43.9]) compared to First Nations urban community residents (35.0%, 95% CI [31.6, 38.6])

(see Figure 2.15). Although remote or special access communities showed a higher proportion reporting household mould or mildew than either urban or rural communities, these differences were not statistically significant.

Figure 2.16: Main water supply in households among First Nations adults



Nearly three-quarters (72.5%, 95% CI [69.9, 74.9]) of First Nations adults living in First Nations communities consider their main water source safe for drinking year-round. This represents an increase in confidence of drinking water since the RHS Phase 2, when only 64.2% of adults (95% CI [33.4, 38.2]) considered their main water supply to be safe for drinking year-round.

There were no statistically significant differences among urban, rural and remote or special access communities when it came to the perception of the quality of drinking water. A higher percentage of those who did not consider their water safe for drinking year-round had their water trucked in (25.1%, 95% CI [21.0, 29.8] vs. 12.9%, 95% CI [10.5, 15.9] who did not) or retrieved their water from a

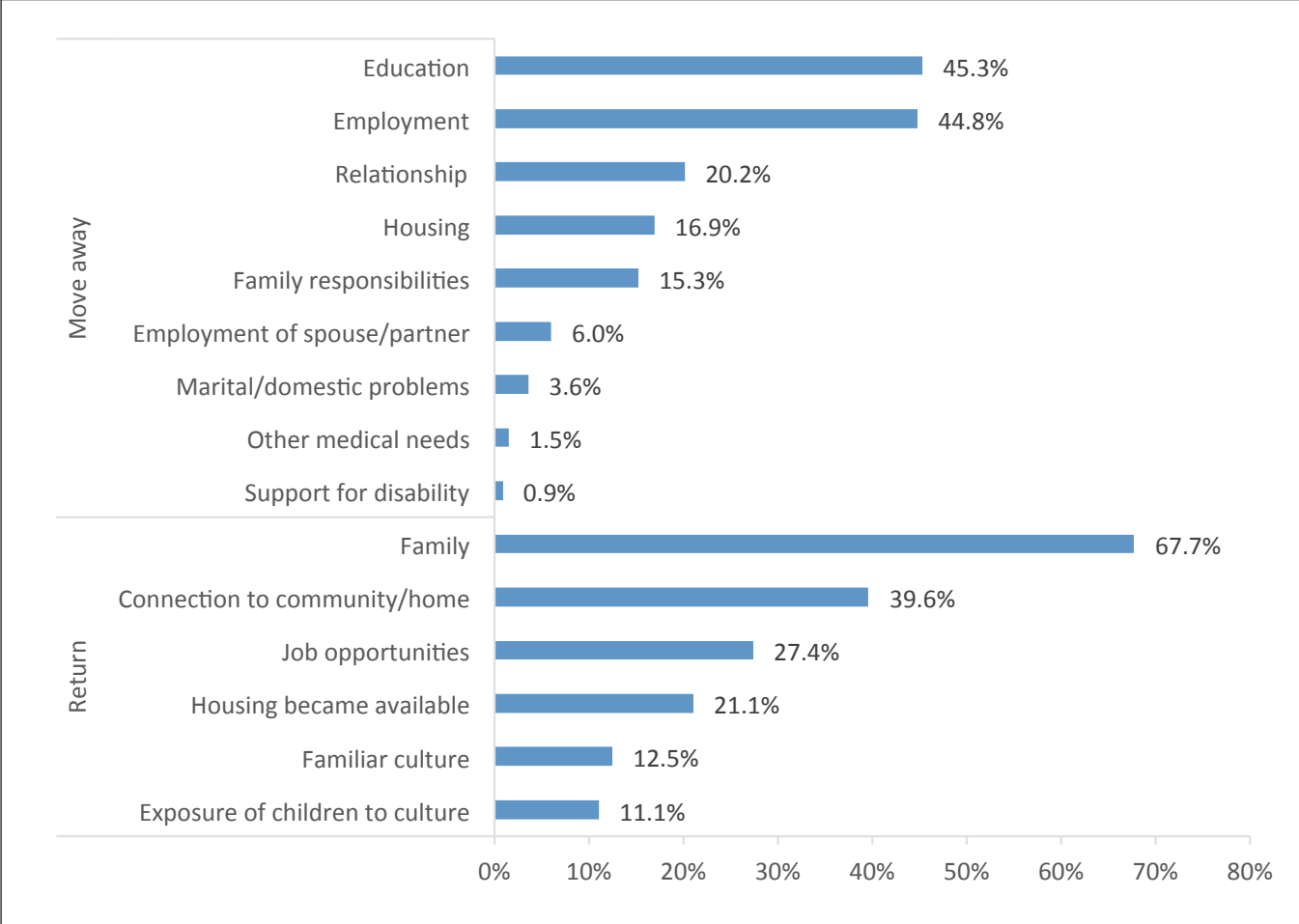
well (16.3%, 95% CI [12.6, 20.9] vs. 7.3%, 95% CI [5.7, 9.3] who did not). While those who did consider their water safe for drinking year-round more commonly reported having water piped in from a local or community water supply (77.9%, 95% CI [75.1, 80.4]) compared to 54.4% (95% CI [49.7, 59.1]) who did not.

Migration

According to RHS Phase 3 data, more than half (58.0%, 95% CI [55.9, 60.0]) of First Nations adults had lived outside of their community at some point in their lives. The most common reasons for leaving were for education and employment, while family was the top reason for returning, followed by connection to community (see Figure 2.17).



Figure 2.17: Reasons First Nations adults moved away and returned to their community





Discussion

The results of the RHS Phase 3 show that First Nations adults have a significantly higher high school and graduate level educational attainment than they did at the time of the RHS Phase 2 (2008-2010). Despite this, First Nations adults have lower educational attainment than the general population in Canada. There are two dimensions to this: secondary school and post-secondary school completion rates.

Secondary school completion rates in First Nations communities have long been hindered by a lack of funding and resources when compared with provincial ministries of education (e.g., Gordon & White, 2014; McCue, 2004). This hindrance, combined with the lasting, damaging effects of colonialism and a long history of racist government policies, has left First Nations with fewer opportunities for education (Gordon & White, 2014). This is especially evident in the low high school completion rates among elderly First Nations adults, who grew up during the era of Residential Schools, a system which had many devastating effects, not the least of which was that it gave First Nations students a poor education (“Residential Schools To Blame,” 2015).

Post-secondary completion rates among First Nations adults are also plagued by a lack of funding (Assembly of First Nations [AFN], n.d.). Furthermore, they are hampered by educational pathways that do not reflect Indigenous culture. Indigenous educational pathways refer in the most basic sense to admissions, curriculum and delivery that take into account Indigenous realities, culture and traditional knowledge (see Frawley, Larkin, & Smith, 2017 for an overview in the Australian context). Despite these challenges, First Nations completion rates in trades and technical programs are on par with those for the rest of Canada (AFN, n.d.). The Truth and Reconciliation Commission of Canada has

made several education-related recommendations in its Calls to Action (Truth and Reconciliation Commission of Canada [TRC], 2015), with the principal aims of closing educational funding gaps between First Nations and the general population and developing First Nations-led curricula and programs at all levels of education.

Employment is a significant economic issue for First Nations adults. Unemployment rates are higher than the national average and are especially high for young adults (aged 18–29). This is despite a higher than average labour force participation rate among First Nations adults. It is clear that a lack of opportunities—not a lack of desire to work—is a major hurdle for those seeking employment in First Nations communities. This is manifested in low personal and household incomes and a lack of security when it comes to accessing certain basic necessities, such as food, transportation and utilities. The Truth and Reconciliation Commission of Canada’s calls to action have called on the Canadian government to work with Aboriginal groups on a strategy to eliminate employment gaps between Aboriginal and the general population in Canada (TRC, 2015).

The disparities between urban, rural and remote or special access communities are very clear when it comes to housing conditions. First Nations adults residing in remote and special access communities were more likely to say that their home was in need of major repairs and more likely to say that they had mould or mildew in their home. Household mould and mildew are linked to lower incomes and overcrowding (World Health Organization, 2009). Overcrowding is a problem in remote communities where isolation makes the cost of construction and repairs prohibitively expensive, especially when the cost of living in remote communities is high to begin with.



More than one-quarter (27.5%) of First Nations adults reported that their main source of water is not suitable for drinking year-round, which is an improvement compared to the RHS Phase 2 2008-2010 results (35.8%). Yet the lack of safe drinking water remains a problem that has plagued First Nations communities for years, despite government promises to deal with the issue (see, for example, Levasseur & Marcoux, 2015 and McClearn, 2017). In many First Nations communities, water treatment plants are in a state of disrepair due to poor maintenance or design (McClearn, 2017). Access to safe drinking water is an extremely important public health issue, as access can save lives, improve education outcomes, result in health care savings and strengthen local economies (World Health Organization, 2008). Children with access to safe drinking water are less likely to be sick and spend less time collecting water from alternative sources, and therefore have more time and energy to devote to their education. Adults, similarly, benefit from improved access to safe drinking water and, in turn, are able to be more productive in their local economies.

The number of adults living in a household with telephone service decreased between RHS Phase 2 and RHS Phase 3, likely due to the increasing

prevalence of cellular phones. Internet access is high among First Nations adults in urban and remote or special access communities, but lower in communities classified as rural. This is possibly an indication that rural communities have not received adequate funding to improve internet infrastructure. Overall access to computers and internet, however, has continued to increase since the RHS Phase 1 (2002-2003).

A majority of First Nations adults reported living away from their community at some point in their lives. Given the state of education and employment in First Nations communities, it is not surprising that these are the two most popular motivations for leaving. Many First Nations youth are forced to leave remote communities to attend high school in larger cities, where they often struggle due to isolation, racism and a lack of support. With better local employment and education prospects in First Nations communities, local social and support networks might be kept intact, with fewer people being forced to leave in search of better opportunities. The most commonly cited reason for returning was family reasons, followed by connection to community/home. This shows the desire of First Nations adults to live in their communities, despite the lack of educational and employment opportunities.



Conclusions

Due to a lack of funding and access to services, there is a disparity when comparing the social determinants of health for First Nations people to the general population. Factors such as education, employment, income and housing are a part of this. Recent government initiatives have promised to improve First Nations education and engage in dialogue with First Nations regarding how to move forward (Indigenous and Northern Affairs Canada, 2017), but it remains to be seen whether this will result in any meaningful change. Future research will hopefully show whether educational attainment in First Nations communities does begin to approach levels on par with the rest of Canada. More meaningfully, though, and in keeping with the Truth and Reconciliation Commission of Canada's calls to action (TRC, 2015), future developments in Indigenous education should not only aim to narrow funding and achievement gaps between First Nations and the general population, but curriculum must be designed within a First Nations context. The idea of educational achievement may also need to be reframed in a culturally appropriate way.

Income and employment disparities between First Nations adults and the general population in Canada also persist. Although these are complex phenomena that have no single solution, government interventions have been largely unsuccessful and are often not based on available evidence (MacKinnon, 2013). In fact, many measures of economic prosperity for on-reserve First Nations communities declined between 2006 and 2011 (National Aboriginal Economic Development Board, 2015). The Truth and Reconciliation Commission of Canada calls to action

“... the federal government to develop with Aboriginal groups a joint strategy to eliminate educational and employment gaps between Aboriginal and non-Aboriginal Canadians” (TRC, 2015).

In terms of issues surrounding safe drinking water access, the current Canadian government has pledged to end boil-water advisories on First Nations reserves by 2021 (The Canadian Press, 2015), and future research should evaluate the degree to which these current efforts are implemented and, if they are, how successful they have been in increasing access to safe drinking water. It is also clear that more research needs to be done to analyze the unique challenges facing remote First Nations communities that shoulder a disproportionate amount of the burden of the many struggles that all First Nations communities face.

Finally, the migration patterns of First Nations people are an avenue where there is potential for further research, especially when it comes to the economic and social impacts (positive and negative) of migration on households. Furthermore, those who live outside of their communities, especially for economical or educational reasons, may face additional challenges, which government policy or community efforts might support but currently lie outside the scope of the RHS.

In any future research, it is important to stress the importance of social determinants of health in the First Nations context. Until these factors are addressed, it will be difficult to assess the effectiveness of any single intervention on the health outcomes of First Nations people.



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CHAPTER THREE: CHRONIC HEALTH CONDITIONS

EXECUTIVE SUMMARY

First Nations populations experience a disproportionately high burden of chronic disease and associated risk factors compared with the general population. Health inequities occur across the life course and are shaped by the relationship between health and the effects of racist colonial policies. This chapter presents findings from the RHS Phase 3 on the prevalence of self-reported chronic health conditions among First Nations adults (18 years and older), youth (aged 12–17) and children (aged 11, and younger) living on reserve and in Northern communities. Significant differences between those with no chronic health conditions and those experiencing one or more chronic health conditions are considered, with respect to determinants of health and life balance.

Nearly two-thirds (59.8%) of First Nations adults, one-third (33.2%) of First Nations youth, and more than one-quarter (28.5%) of First Nations children reported having one or more chronic health conditions. Among First Nations children, the number of reported conditions shows a significant decrease from the RHS Phase 2 (2008-2010).

Chronic health conditions such as diabetes, arthritis, high blood pressure, allergies and chronic back pain remain the most commonly reported conditions among First Nations adults; and remain some of the most prevalent chronic health conditions overall when compared with the RHS Phase 1 (2002-2003) and RHS Phase 2 (2008-2010).

Among First Nations children and youth, allergies and asthma were the most commonly reported health conditions, as was the case in the RHS Phase 1 and Phase 2.

Similar to the findings from the RHS Phase 2 a higher proportion of female First Nations adults reported comorbidity (i.e., the presence of two or more chronic health conditions in one individual) compared to First Nations males, indicating that First Nations women carry a disproportionate burden of chronic illness.

Household mould and mildew remain an area of pressing concern. A higher percentage of First Nations adults with chronic health conditions, compared to those with none, reported living in homes where household mould or mildew was present. Further research and policy response is needed in this area.

More First Nations youth with chronic health conditions reported feelings of depression and a reduced sense of mental, emotional and spiritual balance, compared to youth without a health condition. More than one-third (34.8%) of First Nations youth diagnosed with anxiety disorders, one-third (33.8%) of those with mood disorders, and nearly one-third (29.7%) of those with learning disorders reported that they were receiving treatment for their conditions. Further work is needed to better understand how chronic health conditions among First Nations youth are understood, treated and supported.

Timely access to screening, treatment and monitoring of chronic health conditions is a key factor. Further research is needed to better understand, prevent and manage chronic health conditions that affect health and well-being across the life course.



KEY FINDINGS

- Nearly two-thirds (59.8%) of First Nation adults reported having at least one known chronic health condition (as diagnosed by a health professional).
- Among adults reporting a chronic health condition, allergies (21.5%), arthritis (18.3%), high blood pressure (17.2%), diabetes (15.9%) and chronic back pain (12.4%) were the most commonly reported conditions; these remain some of the most prevalent chronic health conditions when compared with the RHS Phase 1 (2002-2003) and RHS Phase 2 (2008-2010).
- Nearly two-thirds (59.2%) of First Nation adults diagnosed with diabetes were attending a clinic or seeing someone for diabetes education. Pills (74.6%), diet (67.7%) and exercise (52.2%) were the most commonly reported treatments for those who were managing diabetes.
- A significantly higher percentage of female First Nation adults (46.5%) compared to male First Nations adults (36.4%), reported co-morbidity (the presence of two or more chronic health conditions). Similarly, findings from the RHS Phase 2 showed that adult First Nations women were at higher risk of co-morbidity compared to adult First Nations men (RHS Phase 1 did not explicitly report on these variables).
- Co-morbidity among First Nation adults increased by age group: 20.8% (for 18 to 29-year-olds), 31.8% (for 30 to 39-year-olds), 43.4% (for 40 to 49-year-olds), 55.3% (for 50 to 59-year-olds), and 74.6% for 60 year-olds, and older.
- Nearly three-quarters (73.0%) of First Nation adults who reported one health condition were obese or overweight; the majority (80.9%) of those who reported two or more health conditions were obese or overweight.
- One-third (33.2%) of First Nations youth reported having at least one known chronic health condition (as diagnosed by a health professional).
- Among First Nations youth, allergies (12.7%), asthma (8.6%), anxiety disorders (8.3%), mood disorders (6.6%) and learning disorders (4.8%) were the most commonly reported chronic health conditions. Allergies and asthma remain the two most commonly reported health conditions among First Nations youth, when compared with the RHS Phase 1 and RHS Phase 2.
- More than one-third (34.8%) of First Nations youth diagnosed with anxiety disorders, one-third (33.8%) of those with mood disorders, and nearly one-third (29.7%) of those with learning disorders reported that they were receiving treatment for their conditions
- More than 1 in 5 (21.4%) First Nations youth with one or more chronic health conditions reported feeling depressed all or most of the time in the 12 months prior to the survey. This was significantly higher than the percentage for those with no health condition (5.9%).
- More than one-quarter (28.5%) of all First Nations children had been diagnosed with one or more chronic health conditions; a significant decrease from RHS Phase 2 which reported that more than one-third (35.6%) of First Nations children had one or more chronic health issues. (Note that the total number of chronic health conditions was not explicitly reported in RHS Phase 1).
- Among First Nations children, allergies (10.1%), asthma (8.3%), speech or language difficulties (6.1%), dermatitis/eczema (5.9%) and chronic ear infections (3.3%) were the most prevalent chronic health conditions. Allergies and asthma remain the most commonly reported health conditions for children across all three RHS phases.



- A significantly higher proportion of female First Nations children (74.9%) reported no health conditions, compared to 67.5% of male First Nations children
- More than 1 in 5 (21.4%) First Nations children with one or more chronic health conditions experienced significantly higher emotional or behavioural issues, than other children without a health condition (7.4%).

INTRODUCTION

Compared to the general population, First Nations people face an alarmingly disproportionate burden of health inequities including higher rates of chronic disease and associated risk factors. The evidence shows that these disparities are reflected across the life course (King, Smith & Gracey, 2009; Reading, 2009).

High rates of chronic health conditions do not occur in isolation, rather health inequalities are shaped by—and rooted in—the inseparable relationship between health and generations of racist colonial policies. The effects of colonization have resulted in a legacy of environmental dispossession, degradation of the land, substandard living conditions, inadequate access to health services, social exclusion and a dislocation from community, language, land and culture. These policies have been clearly linked to adverse health consequences for individuals and community (King, Smith & Gracey, 2009; NCCA, 2018).

Consequently, Indigenous adults have tended to be adversely affected by chronic health conditions, such as diabetes, high blood pressure, cardiovascular disease and arthritis (FNIGC, 2005; FNIGC, 2012; Reading, 2009). In particular, diabetes has had a growing impact in First Nations communities with estimates three to five times higher among First Nations populations compared to the general population; and the risk being higher in rural than

in urban areas (Chowdhury Turin et al., 2016). Diabetes has also been identified as a major risk for chronic kidney disease (Komenda et al., 2016). First Nations women have been found to have a higher lifetime risk of developing diabetes than First Nations men (Chowdhury Turin et al., 2016). Rates of Type 2 diabetes have also been identified as an area of concern among Indigenous children and youth (Earle, 2011).

Among First Nations children and youth, allergies and asthma are some of the most commonly reported health conditions (FNIGC, 2012). Indeed, respiratory illnesses among First Nations adults, youth and children are higher than that of the general population (Karunanayake et al., 2017; Pahwa et al., 2017). First Nations children also tend to experience higher rates of acute and chronic ear infections, skin conditions (such as eczema) and higher exposure to environmental contaminants, when compared to children in the general population (King, Smith & Gracey, 2009; Smylie, 2009).

In light of these concerns, this chapter uses cross-sectional data from the RHS Phase 3 to examine chronic health conditions among First Nations at different stages of the life course (adults, youth and children). This chapter considers the complex interactions between people and their environment, as well as the health of a person in their entirety, and is organized according to the four quadrants (directions) established in the RHS Cultural Framework (see pg. 3; FNIGC, 2012). Considering chronic health conditions from a life course perspective provides an opportunity for health disparities to be understood as couched within “underlying economic, gender, political, behavioural, and environmental factors” that contribute to the risk of developing chronic health conditions across age groups and within communities (Darnton-Hill et al., 2004 in Reading, 2009).



This perspective complements a holistic understanding of the nature of health as it connects the health experiences of children, youth and adults from individual and community perspectives. Because Indigenous concepts of health understand wellness as being more than the presence or absence of disease (King, Smith & Gracey, 2009), this approach can be complementary to First Nations' ways of knowing health and well-being that draw on the physical, mental, emotional and spiritual aspects of health (Reading, 2009). For these reasons, this chapter is guided by the RHS Cultural Framework, which is useful for examining chronic health conditions across the lifespan.

Although the data is cross-sectional and not longitudinal in nature, it does offer a broad picture across age groups. The relationship between determinants of health and physical, mental, emotional and spiritual aspects of well-being are examined in the following pages. The purpose of this chapter is to advance understanding of chronic health conditions among First Nations adults, youth and children so as to better inform effective policy-making and program development in First Nations communities.

METHODS

Analyses of chronic health conditions are based on data from the RHS Phase 3 (child, youth and adult surveys) conducted in First Nations reserve and Northern communities across Canada. Adults and youth answered the survey questions directly, and parents or guardians answered on behalf of children participating in the survey. First Nations adults were asked to identify any long-term health condition (those expected to last, or had already lasted, at least six months or more) that had been diagnosed by a health professional. Adults were provided a list of 34 possible conditions and could choose more than one response. These included:

- allergies,
- Alzheimer's disease (or any other dementia),
- anemia (chronic),
- anxiety disorder (e.g., phobia, obsessive compulsive disorder, panic disorder),
- arthritis (excluding fibromyalgia),
- asthma,
- attention deficit disorder/attention deficit-hyperactivity disorder (ADD/ADHD),
- autism spectrum disorder (ASD),
- blindness or serious vision problems that cannot be corrected with glasses,
- cancer,
- cataracts,
- chronic back pain (excluding arthritis),
- dermatitis/atopic eczema,
- diabetes,
- effects of stroke (brain hemorrhage),
- emphysema,
- chronic bronchitis or chronic obstructive pulmonary disease (COPD),
- epilepsy,
- glaucoma,
- hearing impairment,
- heart disease,
- hepatitis,
- high blood pressure,
- high cholesterol,
- HIV/AIDS,
- kidney problem,
- learning disorder,
- liver disease (excluding hepatitis),
- mood disorders (e.g., depression, bipolar disorder, mania, dysthymia),
- neurological disease, excluding Alzheimer's or dementia (e.g., Parkinson's, Huntington's, multiple sclerosis),
- osteoporosis,
- speech or language difficulties,
- stomach or intestinal problems,
- thyroid problems or tuberculosis.

Youth were asked the same question as adults and were provided the same list of possible responses for health conditions (with the exceptions of Alzheimer's



disease, cataracts, effects of stroke, glaucoma, high cholesterol, HIV/AIDS, liver disease, neurological disease and osteoporosis). Instead they were asked if they had been diagnosed with: chronic ear infections, developmental disorder (e.g., cerebral palsy, Down syndrome, spina bifida), or fetal alcohol spectrum disorder (FASD).

Children’s parent(s)/guardian(s) were asked the same question regarding long-term health conditions and were provided with the same options as in the youth survey, with the exception of chronic back pain and

high blood pressure. Chronic conditions that do not appear in the results section were suppressed due to low cell count ($n < 5$) or very high sampling variability ($CV > .333$).

To measure the prevalence rate of diabetes among First Nations adults, age standardization was carried out using the same methodology as the 2011 Census of Canada. This was done to enhance comparability with other population datasets. A number of other variables are also considered to better understand diabetes diagnosis and treatment (see *Table 3.1*).

Table 3.1: Diabetes-related variables

Variable	Description	Categories
DIABETES		
Diabetes diagnosis	Female adults who answered “yes” to being diagnosed with diabetes were asked if they were pregnant when first diagnosed with diabetes	Yes; No
Insulin	When you were first diagnosed with diabetes, how long was it before you were started on insulin?	Less than a month; 1-2 months; 2-6 months; 6 months to <1 year; ≥1 year; Never
Diabetes treatment	Multiple response question: What kind of treatment are you using to manage your diabetes?	Diet; Exercise; Insulin; Pills; Traditional medicine; Traditional ceremonies/help from healer; No treatment or measure; Other
Diabetes clinic attendance	Are you currently attending a diabetes clinic or seeing someone (medical doctor, nurse, etc.) for diabetes education?	Yes; No
Reasons for not attending diabetes clinic	Multiple response question: If not attending a diabetes clinic or seeing someone for diabetes education, why is that?	No longer require diabetes education, have the information I need; I don’t have sufficient information about where to go; A diabetes clinic is not available in my area; A diabetes health specialist is not available in my area; Does not fit my schedule; Direct health care costs; Transportation costs; Childcare costs; Felt the health service would be inadequate; Felt the health service would be culturally inappropriate; Chose not to attend; Other



The prevalence of chronic ear infections among First Nations children is also reported. Parents or guardians who responded “yes” when asked if the child had ever developed an ear infection since birth, were then asked how many ear infections the child had in the 12 months prior to the survey (with a response range of 0–365).

What follows is an analysis of the prevalence of chronic health conditions among First Nations adults, youth and children, as well as rates of treatment (undergoing treatment or taking medication for diagnosed health conditions) and average age of diagnosis. Where available, this data is compared with previously reported findings from RHS Phase 1 (2002–2003) and RHS Phase 2 (2008–2010).

For the purposes of this analysis, the total number of reported health conditions in RHS Phase 3 were recoded into three categories based on the number of positive responses to questions about long-term diagnosed health conditions: with no chronic health condition forming one category, one chronic health condition forming the second category and two or more chronic health conditions forming the third. Responses were also re-coded into two categories, where no chronic health condition formed one category and one or more formed the other.

Cross-tabulations were generated to display the relationships between those with one or more, or two or more, health conditions and those without chronic health conditions, with respect to the following determinants of health: gender, age, attendance at Indian Residential Schools (IRS); perceived physical, mental, emotional and spiritual balance; experiences of depression among youth; emotional behaviour of children; sense of belonging to local community; employment; education level; reported difficulties learning in school among youth; household income; mould or mildew in the home; access to safe water; health care use (traditional healer, doctor or

community health nurse, mental health services); children’s exposure to cigarette smoke or alcohol in utero; body mass index (BMI); sharing traditional foods; and access to nutritious, balanced meals (see *Table 3.2*).

Cross-tabulations were also generated to examine the relationship between access to safe water and reported cases of asthma and dermatitis/atopic eczema. Furthermore, mould or mildew in the home was cross-tabulated with reported cases of asthma and dermatitis/atopic eczema. Statistically significant differences between estimates were identified by way of non-overlapping confidence intervals.

The results of the data analysis are organized according to four sub-sections which represent the four quadrants (or directions) of the RHS Cultural Framework (see *Table 3.2* on Page 46). The first sub-section of the results is guided by the first (or East) quadrant: *Vision* or *Ways of Seeing*. It therefore focuses on understanding key indicators of physical health among First Nations adults, youth and children and establishes a baseline picture (FNIGC, 2012). To do so, prevalence and treatment of chronic health conditions are assessed, with a focus on the most prevalent chronic health conditions. This section also considers gender and age in relation to the number of chronic health conditions reported.

The second sub-section is framed according to the second (South) direction of the RHS Cultural Framework: *Relationships* or *Time/Ways of Relating*. This section considers determinants of health that are the result of “relationships built over time,” and it also considers awareness of particular points in time that are related to wellness (FNIGC, 2012). This section examines the relationship among chronic health conditions and the sense of belonging to the local community, experiences of depression and how colonial processes impact health (e.g., attendance at Indian Residential Schools). The relationship between



chronic health conditions and physical, emotional, mental and spiritual balance is also examined to consider how those experiencing chronic health conditions perceive aspects of their life to be in or out of balance.

The next sub-section is informed by the third (West) quadrant: *Reason or Analysis*. This direction refers to learned knowledge and takes the broader determinants of health into consideration. This section will therefore examine some of the complex and interrelated determinants of health, such as education, employment, household income, housing (i.e., exposure to mould or mildew in the home), access to safe water and access to Western health care and traditional healing.

In the final section of the results, *Actions or Behaviours* are examined, representing the fourth (North) quadrant of the RHS Framework. Although this area considers health challenges, such as smoking and alcohol use, it also represents strength and a nurturing community. This section examines the body mass index (BMI), where BMI categories are based on Health Canada guidelines, which suggest that individuals weighing less than 18.5 kg/m² are underweight, those 18.5–24.9 kg/m² are normal weight, those 25–29.9 kg/m² are overweight and those ≥30 kg/m² are obese (Health Canada, 2015). Children's exposure to alcohol and smoking are also explored as factors associated with chronic health conditions. This section also examines the relationship among health conditions and sharing traditional foods as well as access to nutritious, balanced meals.

Table 3.2: Key variables

Variable	Description	Categories
VISION (WAYS OF SEEING)		
Gender*	Are you...? Is [the child]...?	Male; Female
Age	Based on date of birth given, respondent was then asked: Are you x years old? Is [the child] x years old?	18-29; 30-39; 40-49; 50-59; ≥60 (adult) 12-14; 15-17 (youth) 0-5; 6-11 (child)
RELATIONSHIPS (WAYS OF RELATING TO TIME)		
Residential School Attendance (adult)	Adults who responded “yes” to attending a Residential School were asked if they believed their overall health and well-being had been affected by their attendance at Residential School?	Yes, negatively impacted; Yes, positively impacted; No impact
Perceived life balance (adult, youth)	How often do you feel in balance physically, emotionally, mentally and spiritually?	All of the time/Most of the time; Some of the time; Almost none of the time
Experiences of depression (youth)	In the past month, how often did you feel depressed?	All of the time/Most of the time; Some of the time; A little of the time; None of the time
Emotional behaviour (child)	During the past six months, do you think [the child] has had more emotional or behavioural problems than other boys or girls of [his/her] age?	Yes; No
Sense of belonging (adult, youth)	How would you describe your sense of belonging to your local community? Would you say it is...?	Very strong/Somewhat strong; Somewhat weak/ Very weak
REASON (ANALYSIS)		
Employment (adult)	Are you currently working at a job or business for pay (wages, salary, self-employed)?	Yes; No
Education (adult)	Did you complete a high school diploma?	Yes; No
Difficulties learning in school (youth)	Do you have problems learning in school?	Yes; No
Household income (adult)	For the previous year, total personal income from all sources	0-\$24,999; ≥\$25,000
Household income (child)	For the previous year, total income from all sources for [child]’s household	0-\$29,999; ≥\$30,000
Exposure to mould or mildew in home (adult)	In the past 12 months, has there been mould or mildew in your home?	Yes; No
Access to safe drinking water (adult)	Do you consider the main water supply in your home safe for drinking year-round?	Yes; No



Health care use (adult, youth)	When did you last...? Consult a traditional healer; Visit a doctor or community health nurse; Access a mental health service (e.g., counseling, psychological testing)	Within the past 12 months/1-2 years ago; Over 2 years ago
Health care use (child)	During the past 12 months, did [the child] require any health care (e.g., from a doctor, nurse, other health professional)?	Yes; No
ACTION (BEHAVIOURS)		
Exposure to smoke in utero (child)	Did [the child]'s mother smoke during pregnancy with [him/her]?	No, did not smoke at all; Yes; where Yes = Yes, throughout the pregnancy; Yes, but quit in the 1st trimester; Yes, but quit in the 2nd trimester; Yes, but quit in the 3rd trimester
Exposure to alcohol in utero (child)	Did [the child]'s mother drink any alcohol during pregnancy with [him/her]?	No; Yes, where Yes = Yes, less than once a month; Yes, once a month; Yes, 2-3 times a month; Yes, once a week; Yes, 2-3 times a week; Yes, 4-6 times a week; Yes, everyday
Body Mass Index (adult, youth)	Calculated using the formula: BMI = Weight (kg)/Height (m) ²	Categories created: Underweight; Normal weight; Overweight; Obese
Sharing traditional foods	In the past 12 months, how often did someone share traditional food with your household? In the past 12 months, how often did someone share traditional food with [the child]'s household? (e.g., land-based animals, fresh or salt water fish, other water-based foods, sea-based animals, game birds, small game, berries or wild vegetation, bannock or fry bread, wild rice, corn soup)	Often; Sometimes; Rarely/ Never
Nutritious, balanced meals	In the past 12 months, how often did you eat nutritious, balanced meals? In the past 12 months, how often did [the child] eat nutritious, balanced meals? (i.e., a meal containing a variety of food groups)	Always/Almost always; Sometimes; Rarely/ Never

* Unless otherwise indicated, all variables are derived from RHS Phase 3 First Nations adult, youth and child surveys

RESULTS

Vision (Ways of Seeing): An Overall Picture of Health Conditions

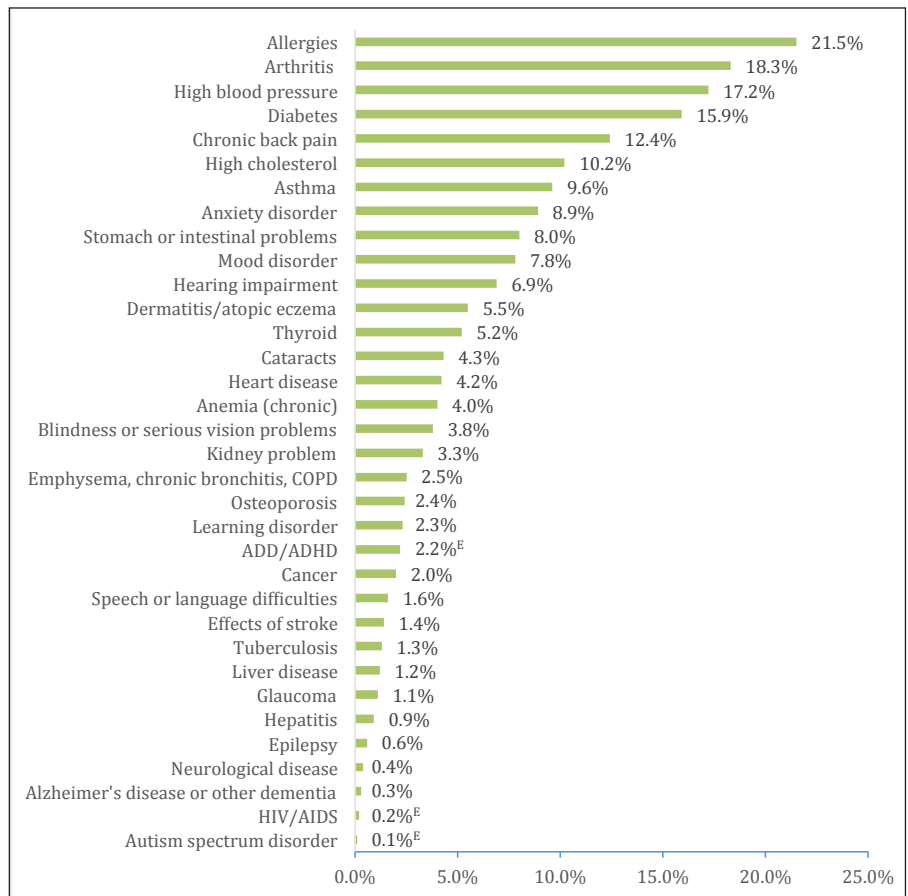
Chronic health conditions among First Nations adults

Nearly two-thirds (59.8%) of First Nations adults reported one or more chronic health conditions (95% CI [57.8, 61.8]) as diagnosed by a health professional, while 40.2% (95% CI [38.2, 42.2]) did not report a chronic health condition. This is a decrease compared to the RHS Phase 2, where 62.6% (95% CI [60.9, 64.3]) of adults reported one or more health conditions; and RHS Phase 1, where 61.6% reported one or more health conditions. These differences however, are not statistically significant.

Among First Nations adults who reported having at least one chronic health condition, allergies (21.5%, 95% CI [20.2, 22.9]), arthritis (18.3%, 95% CI [17.2, 19.6]), high blood pressure (17.2%, 95% CI [16.3, 18.2]), diabetes (15.9%, 95% CI [14.7, 17.1]), chronic back pain (12.4%, 95% CI [11.3, 13.6]), high cholesterol (10.2%, 95% CI [9.3, 11.1]), asthma (9.6%, 95% CI [8.6, 10.6]), anxiety disorder (8.9%, 95% CI [8.0, 9.9]), stomach and intestinal problems (8.0%, 95% CI [7.1, 8.9]) and mood disorders (7.8%, 95% CI [7.2, 8.6]) were the 10 most prevalent chronic health conditions (see *Figure 3.1*).

While the results from each phase of the RHS indicate slightly different proportions, high blood pressure, arthritis, allergies, diabetes and chronic back pain remain some of the most prevalent chronic health conditions among First Nations adults, with a higher proportion reporting stomach and intestinal problems in the RHS Phase 2 and Phase 3, compared to the RHS Phase 1.

Figure 3.1: Prevalence of diagnosed chronic health conditions among First Nations adults



Note: E High sampling variability, interpret with caution.



Figure 3.2 illustrates the percentage of First Nations adults undergoing treatment for the most frequently reported diagnosed chronic health conditions. Most First Nations adults with the respective conditions were receiving treatment for diabetes (87.9%, 95% CI [84.6, 90.6]), high blood pressure (85.5%, 95% CI [83.0, 87.6]), high cholesterol (80.0%, 95% CI [76.7,

82.9]), asthma (67.5%, 95% CI [61.2, 73.2]), stomach or intestinal issues (57.9%, 95% CI [52.3, 63.3]) chronic back pain (53.9%, 95% CI [49.7, 58.0]) and arthritis (51.6%, 95% CI [48.3, 54.8]). Nearly half of those reporting allergies (41.4%, 95% CI [38.0, 44.2]), anxiety (47.8%, 95% CI [43.7, 52.0]) or mood disorders (47.7%, 95% CI [43.2, 52.2]) were being treated.

Figure 3.2: Percentage of First Nations adults with a chronic health condition receiving treatment

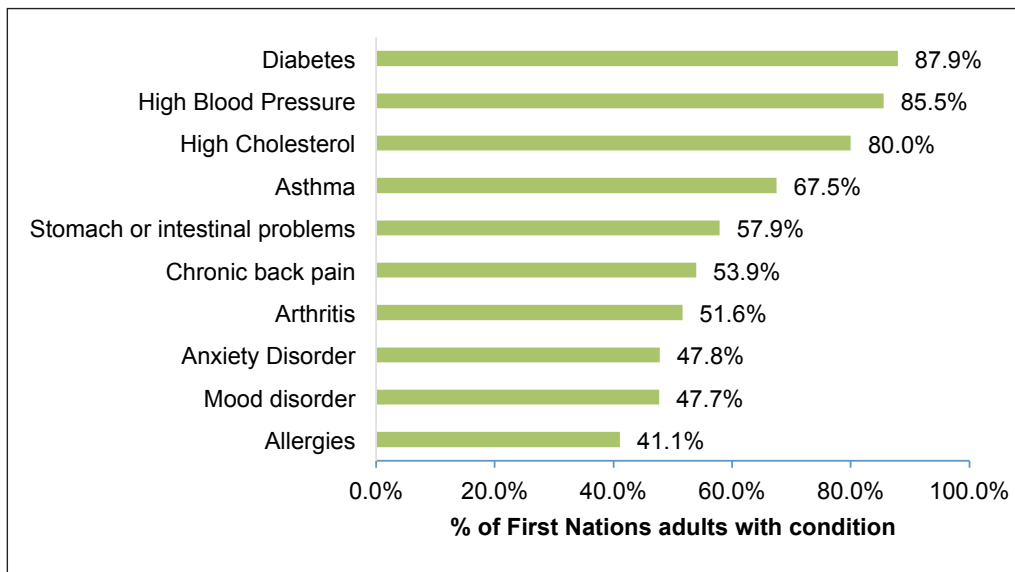
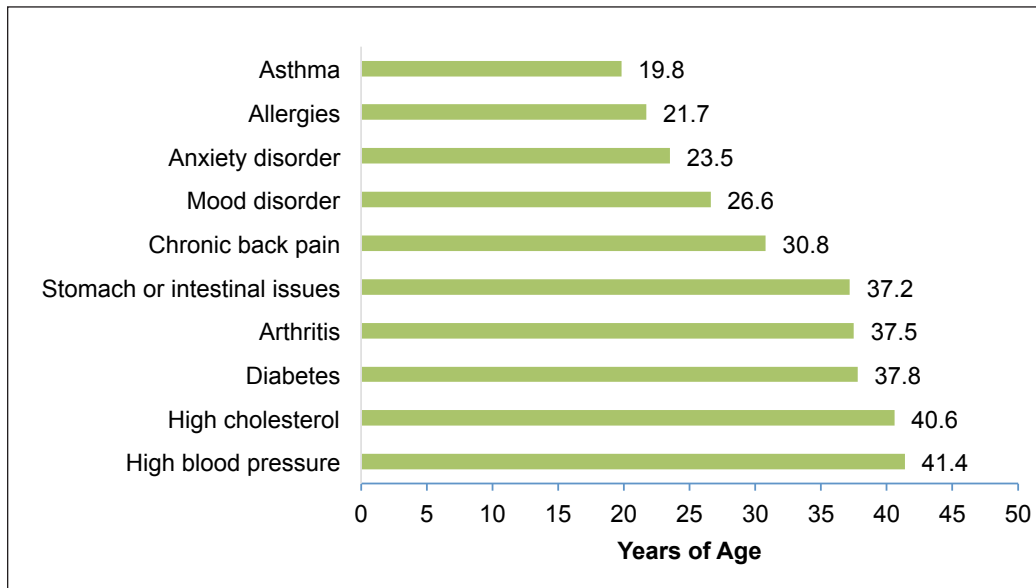


Figure 3.3 shows the mean age of diagnosis for the most commonly reported chronic health conditions. The figure indicates that the mean age that First Nations adults were diagnosed with asthma was at 19.8 years (95% CI [18.3, 21.4]), allergies at 21.7 years (95% CI [20.9, 22.4]), anxiety disorder at 23.5 years (95% CI [22.3, 24.7]), mood disorder at 26.6 years (95% CI [25.5, 27.7]),

chronic back pain at 30.8 years (95% CI [29.5, 32.0]), stomach or intestinal issues at 37.2 years (95% CI [32.2, 42.1]), arthritis at 37.5 years (95% CI [36.2, 38.8]), diabetes at 37.8 years (95% CI [36.9, 38.8]), high cholesterol at 40.6 years (95% CI [39.2, 42.0]) and high blood pressure at 41.4 years (95% CI [38.9, 43.8]).

Figure 3.3: Mean age of chronic health condition diagnosis among First Nations adults



Diabetes

According to the RHS Phase 3, the age-standardized prevalence of diabetes among First Nations adults was 19.2%, which is similar to the prevalence rates reported in the RHS Phase 2 (20.7%) and RHS Phase 1 (20.1%).

The crude percentage of female First Nations adults with diabetes (17.1%, 95% CI [15.7, 18.5]) was higher compared to male First Nations adults (14.7%, 95% CI [13.1, 16.5]), which, though of interest, is not statistically significant.

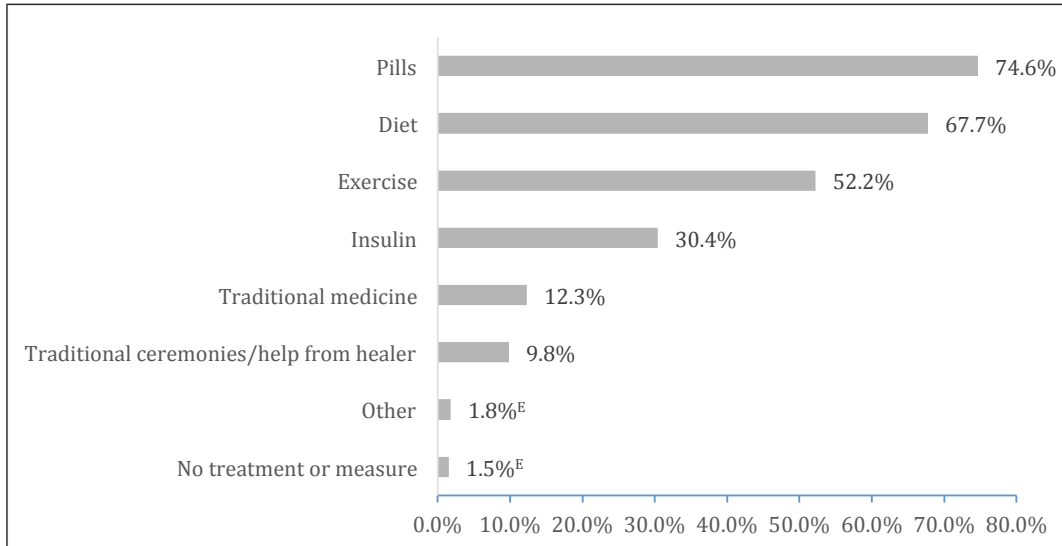
Nearly 17 percent (16.9%, 95% CI [14.4, 19.7]) of female First Nations adults reported being first diagnosed with diabetes while they were pregnant. Of all First Nations adults diagnosed with diabetes, more than 1 in 5 (22.6%, 95% CI [19.3, 26.2]) did not start

on insulin for one year or more after being diagnosed; while more than half (54.6%, 95% CI [50.5, 58.7]) never did. Most First Nations adults who reported being diagnosed with diabetes used pills (74.6%, 95% CI [70.0, 78.8]), diet (67.7%, 95% CI [64.3, 70.9]) or exercise (52.2%, 95% CI [48.7, 55.7]) to manage their diabetes (see *Figure 3.4*).

Nearly 3 in 5 of First Nations adults (59.2%, 95% CI [55.3, 63.1]) that reported being diagnosed with diabetes were attending a diabetes clinic or seeing someone for diabetes education. Of those First Nations adults who were not attending a diabetes clinic, more than half (53.0%, 95% CI [46.3, 59.7]) reported that this was because they already had the information they needed.



Figure 3.4: Percentage of main treatment types used to manage diabetes among First Nations adults



Note: Respondents could choose more than one response.

^E High sampling variability, interpret with caution.

Chronic health conditions among First Nations youth

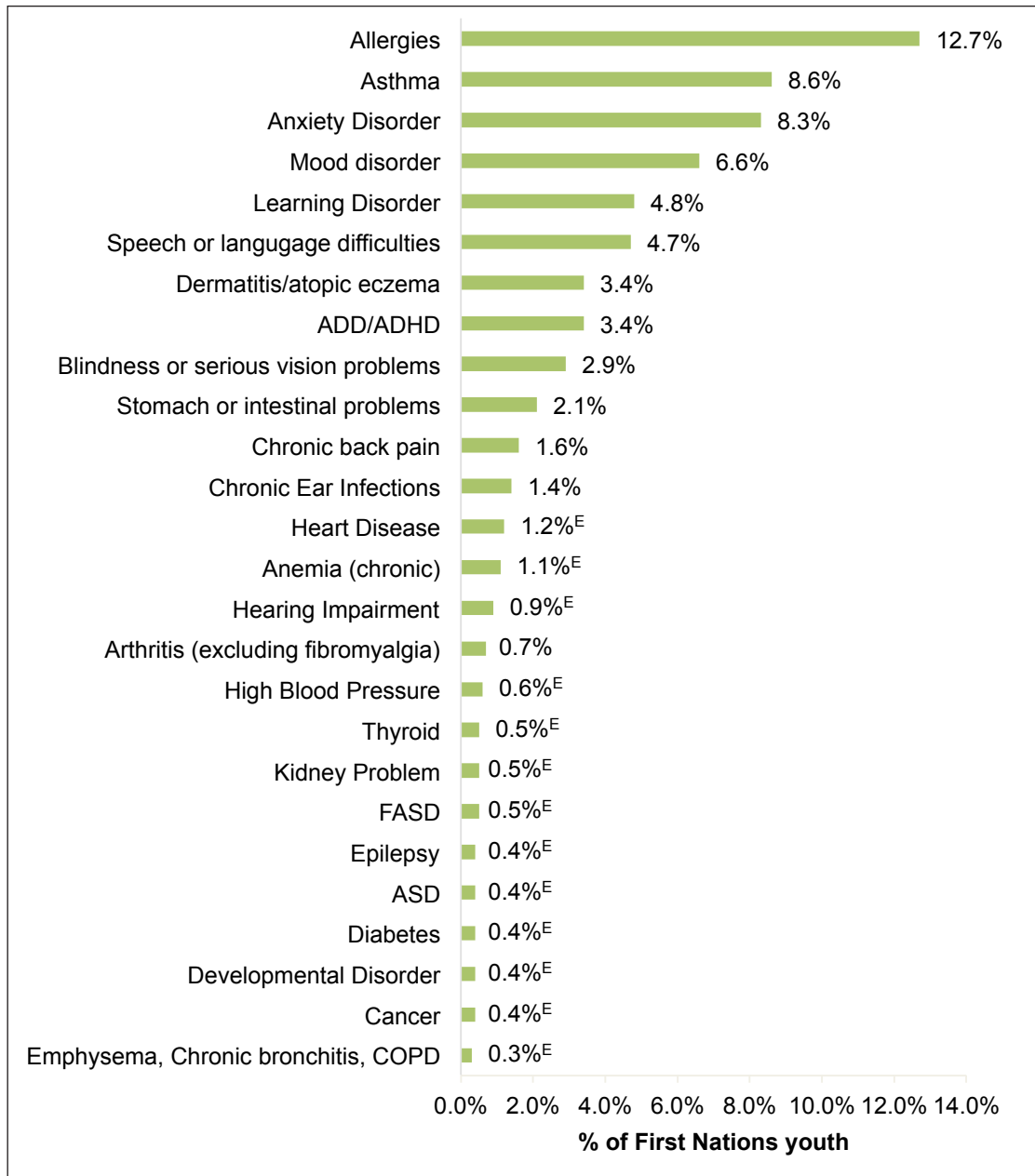
According to the RHS Phase 3, nearly two-thirds (66.8%) of First Nations youth did not report a chronic health condition (95% CI [64.9, 68.6]), while the remaining 33.2% (95% CI [31.4, 35.1]) reported having one or more health conditions (as diagnosed by a health care professional). In comparison, in the RHS Phase 2 a slightly higher percentage (37.8%) of First Nations youth reported having one or more health conditions (95% CI [35.7, 39.9]); this difference was statistically significant. (Note: the total number of chronic health conditions among First Nations youth were not explicitly reported in the RHS Phase 1).

The most prevalent chronic health conditions among First Nations youth were: allergies (12.7%, 95% CI [11.4, 14.1]), asthma (8.6%, 95% CI [6.8, 10.8]), anxiety disorders (8.3%, 95% CI [7.2, 9.4]), mood disorders (6.6%, 95% CI [5.8, 7.6]), learning disorders (4.8%, 95% CI [4.1, 5.6]), speech or language difficulties (4.7%, 95% CI [3.8, 5.7]), dermatitis/eczema (3.4%, 95% CI [2.8, 4.1]), and ADD/ADHD (3.4%, 95% CI [2.9, 4.0]). (See Figure 3.5)

Allergies and asthma remain the most commonly reported chronic health conditions among First Nations youth across all phases of the RHS. This being the case, a higher proportion of First Nations youth reported allergies in the RHS Phase 1 (15.1%, 95% CI [13.3, 17.0]) and Phase 2 (16.0%, 95% CI [14.6, 17.5]) compared to Phase 3 (12.7%, 95% CI [11.4, 14.1]), though these differences were not significant.

Similarly, a higher proportion of First Nations youth reported having asthma in the RHS Phase 1 (13.6%, 95% CI [11.7, 15.7]) and Phase 2 (12.7%, 95% CI [11.3, 14.3]) compared to Phase 3 (8.6%, 95% CI [6.8, 10.8]). While the RHS Phase 3 shows that anxiety disorders (8.3%, 95% CI [7.2, 9.4]) and mood disorders (6.6%, 95% CI [5.8, 7.6]) are among the most commonly reported chronic health conditions among First Nations youth, trend data is not available as these conditions were not explicitly reported in previous phases.

Figure 3.5: Prevalence of diagnosed chronic health conditions among First Nations youth



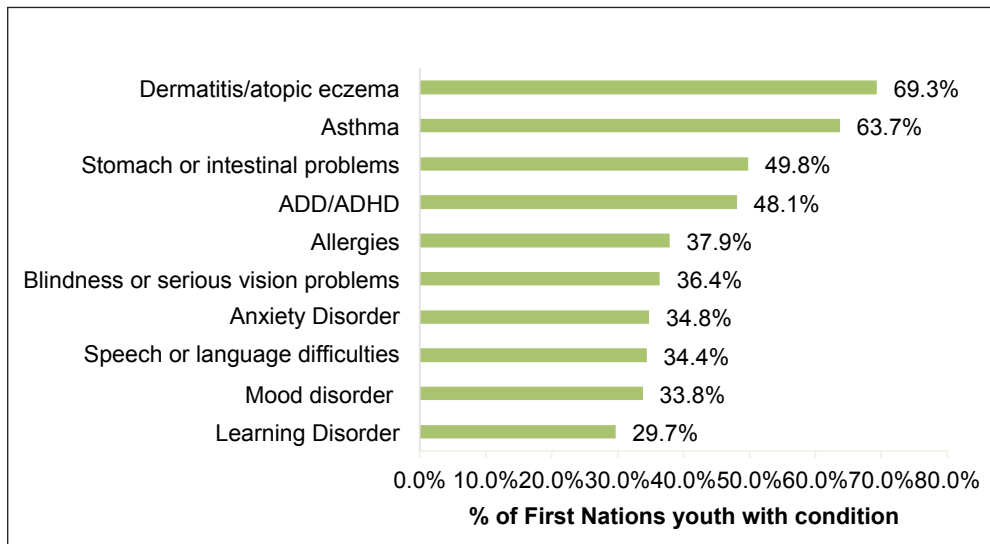
Note: E High sampling variability, interpret with caution.



Figure 3.6 features the percentage of First Nations youth diagnosed with a condition and were undergoing treatment for the most frequently reported chronic health conditions. While most were receiving treatment for dermatitis/eczema (69.3%, 95% CI [59.6, 77.5]) and asthma (63.7%, 95% CI [53.5,

72.8]), nearly half (49.8%) were receiving treatment for stomach or intestinal problems (95% CI [37.4, 62.3]), ADD/ADHD (48.1%, 95% CI [38.7, 57.6]), allergies (37.9%, 95% CI [32.7, 43.4]), blindness or serious vision problems (36.4%, 95% CI [28.4, 45.1]), and speech or language difficulties (34.4%, 95% CI [25.1, 45.1]).

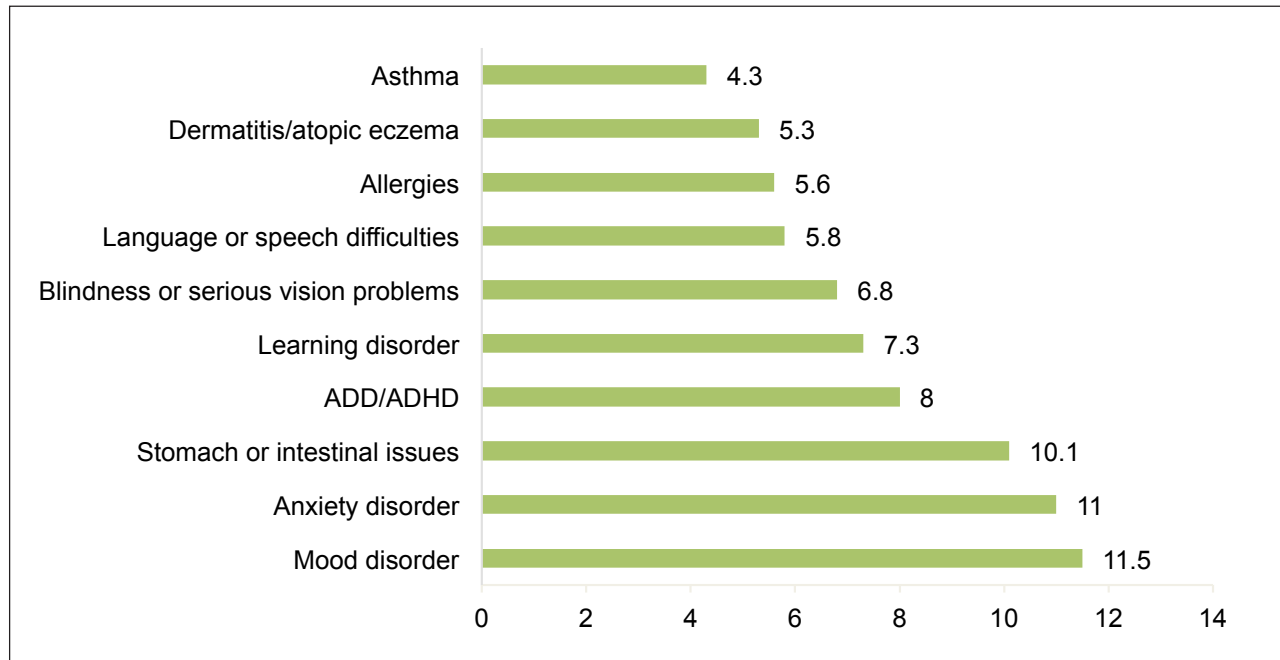
Figure 3.6: Percentage of First Nations youth with a chronic health condition receiving treatment



First Nations youth were diagnosed with asthma at a mean age of 4.3 years (95% CI [3.9, 4.7]), dermatitis/atopic eczema at 5.3 years (95% CI [4.7, 5.8]), allergies at 5.6 years (95% CI [5.1, 6.2]), language or speech

difficulties at 5.8 years (95% CI [5.1, 6.4]), blindness or serious vision problems at 6.8 years (95% CI [6.0, 7.7]). (See Figure 3.7)

Figure 3.7: Mean age of chronic health condition diagnosis among First Nations youth



Chronic health conditions among First Nations children

According to the RHS Phase 3, more than one-quarter (28.5%) of all First Nations children (95% CI [26.8, 30.1]) have one or more chronic health conditions (as diagnosed by a health professional). This shows significant improvement from the RHS Phase 2, which reported that 35.6% (95% CI [33.57, 37.5]) of First Nations children had one or more reported chronic health conditions (this question was not explicitly reported in the RHS Phase 1).

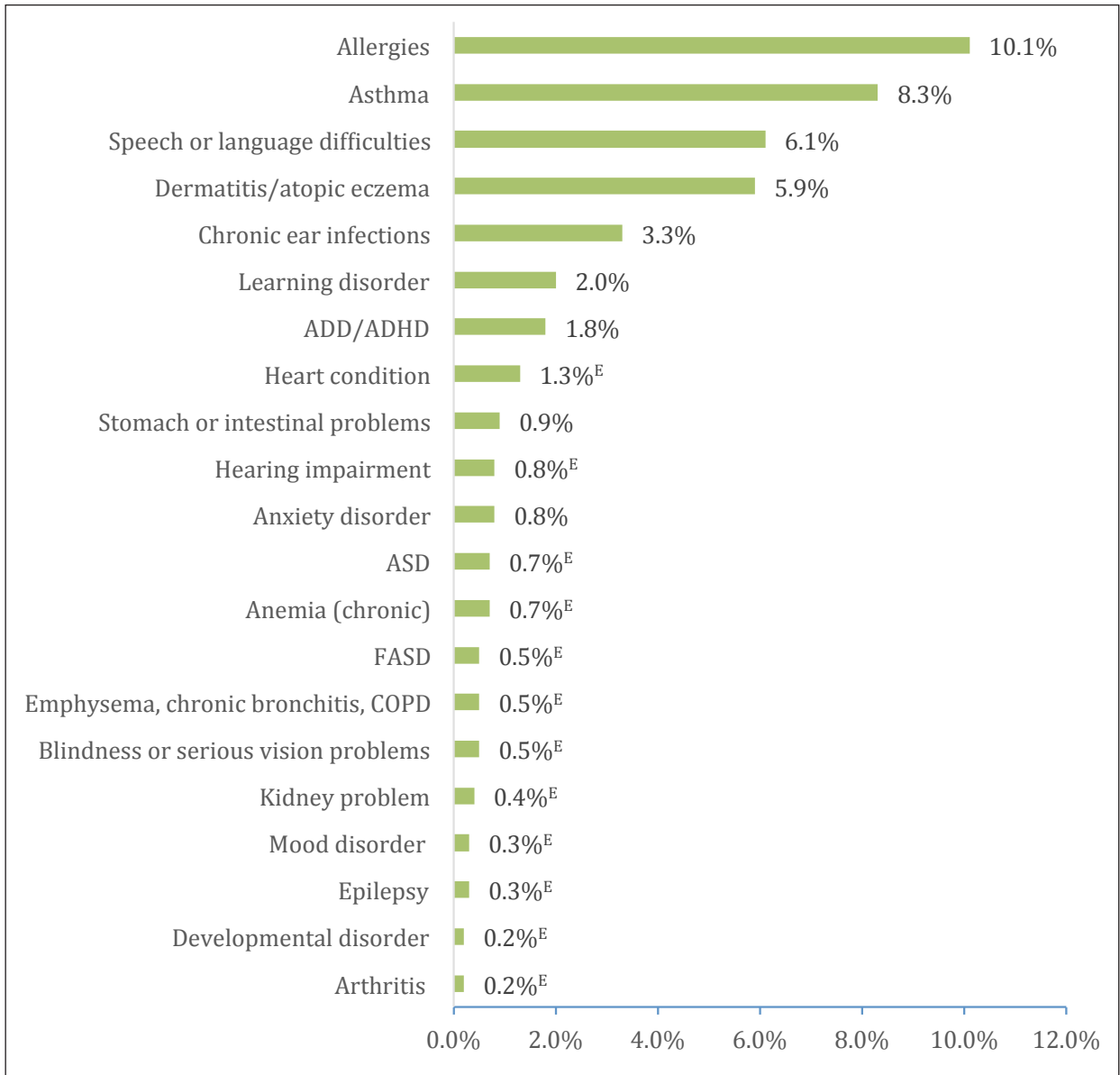
The most prevalent chronic health conditions among First Nations children were: allergies (10.1%, 95% CI [8.8, 11.5]), asthma (8.3%, 95% CI [7.3, 9.6]), speech or language difficulties (6.1%, 95% CI [5.2, 7.2]),

dermatitis/eczema (5.9%, 95% CI [5.2, 6.6]), chronic ear infections (3.3%, 95% CI [2.7, 4.1]) and learning disorders (2.0%, 95% CI [1.6, 2.5]). (See Figure 3.8).

Across all phases of the RHS, allergies and asthma remain the most commonly reported chronic health conditions among First Nations children. This being the case, the RHS shows a slight decrease in prevalence across the three surveys over time. In RHS Phase 1, 12.2% (95% CI not available, as not explicitly reported) of First Nations children were reported to have allergies and 11.4% (95% CI [10.4, 12.6]) were reported in Phase 2. Similarly, 14.6% (95% CI [13.0, 16.4]) of surveyed First Nations children had been diagnosed with asthma in Phase 1, and 10.1% (95% CI [9.1, 11.1]) in Phase 2.



Figure 3.8: Prevalence of diagnosed chronic health conditions among First Nations children



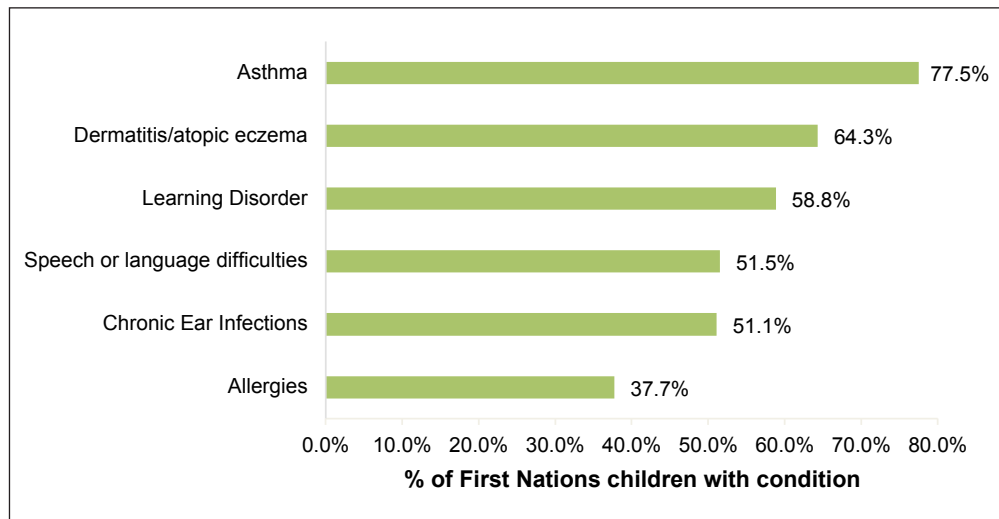
Note: E High sampling variability, interpret with caution.



Figure 3.9 shows the percentage of diagnosed First Nations children undergoing treatment for the most frequently reported chronic health conditions. More than three-quarters (77.5%) were receiving treatment for asthma (95% CI [71.5, 82.5]), nearly two-thirds (64.3%) were being treated for dermatitis/eczema

(95% CI [58.2, 69.9]), and 58.8% were being treated for a learning disorder (95% CI [46.3, 70.2]). Meanwhile, 51.5% were being treated for speech or language difficulties ((95% CI [43.6, 59.5]), (51.1%, 95% CI [40.8, 61.4]) for chronic ear infections and (37.7%, 95% CI [31.8, 44.0]) for allergies.

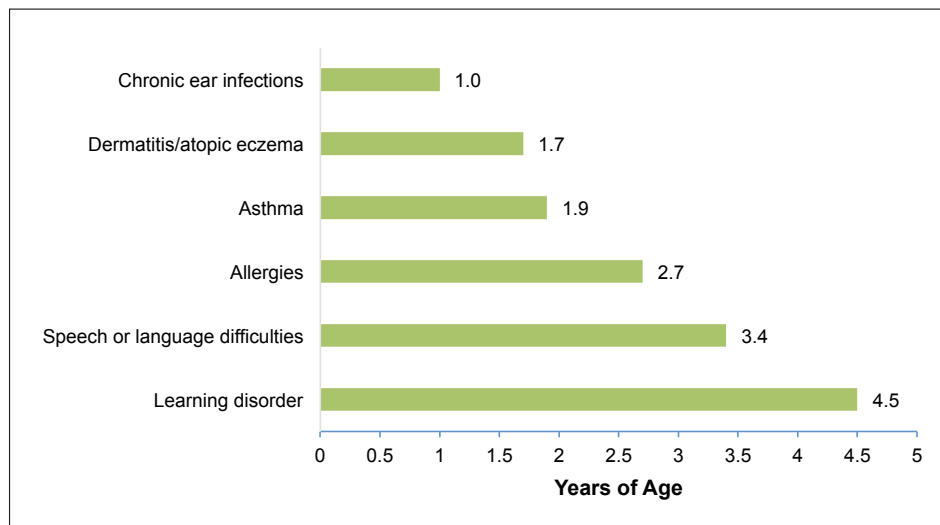
Figure 3.9: Percentage of First Nations children with a chronic health condition receiving treatment



The mean age of diagnosis for the most commonly reported health conditions among First Nations children were 1.0 years for chronic ear infections at (95% CI [0.9, 1.1]), 1.7 years for dermatitis/atopic eczema (95% CI [1.5, 1.9]), 1.9 years for asthma (95%

CI [1.6, 2.2]), 2.7 years for allergies (95% CI [2.4, 2.9]), 3.4 years for speech or language difficulties (95% CI [3.2, 3.6]) and 4.5 years for learning disorders (95% CI [4.0, 5.1]). (See Figure 3.10)

Figure 3.10: Mean age of chronic health condition diagnosis among First Nations children





Chronic ear infections

Nearly one-third (30.5%) of all First Nations children who had ever had an ear infection (since birth), experienced one ear infection (95% CI [28.2, 33.0]) in the 12 months prior to the survey. A smaller percentage had two (13.4%, 95% CI [11.6, 15.4]) or three (4.6%, 95% CI [3.7, 5.6]) ear infections that same year. Nearly half (46.1%) of First Nations children who had ever had an ear infection since birth (95% CI [43.4, 48.9]) did not experience an ear infection during the 12 months prior to the survey.

Chronic health conditions among First Nations adults, youth and children, by gender

According to the RHS Phase 3, a higher percentage (46.5%) of female First Nations adults (95% CI [44.7, 48.4]), compared to male First Nations adults (36.4%, 95% CI [33.9, 38.9]); and female First Nations youth 16.9% (95% CI [15.1, 18.9]), compared to male First Nations youth (13.5%, 95% [12.0, 15.3]), report having two or more chronic health conditions (see *Figure 3.10*).

Although, in the case of youth these differences were not statistically significant (see *Figure 3.10* and *Figure 3.11*). Similarly, findings from the RHS Phase 2 showed that female First Nations adults were at a higher risk of co-morbidity, compared to male First Nations adults (19.2% women reported four or more chronic health conditions, while 12.5% of men reported the same).

The differences between First Nations women and men with only one chronic health condition in RHS Phase 3 were not statistically significant in the adult, youth and child populations (see *Figure 3.10*, *Figure 3.11* and *Figure 3.12*). In the case of youth diagnosed with one chronic health condition, the RHS Phase 2 similarly showed no differences between genders.

A significantly higher proportion of female First Nations children had no reported health condition (74.9%, 95% CI [72.8, 76.9]) compared to male First Nations children (67.5%, 95% CI [65.1, 69.8]). The differences between male and female children with one, two or more health conditions were not significant (see *Figure 3.12*).

Figure 3.10: Percentage of First Nations adults with chronic health conditions, by number of conditions and gender

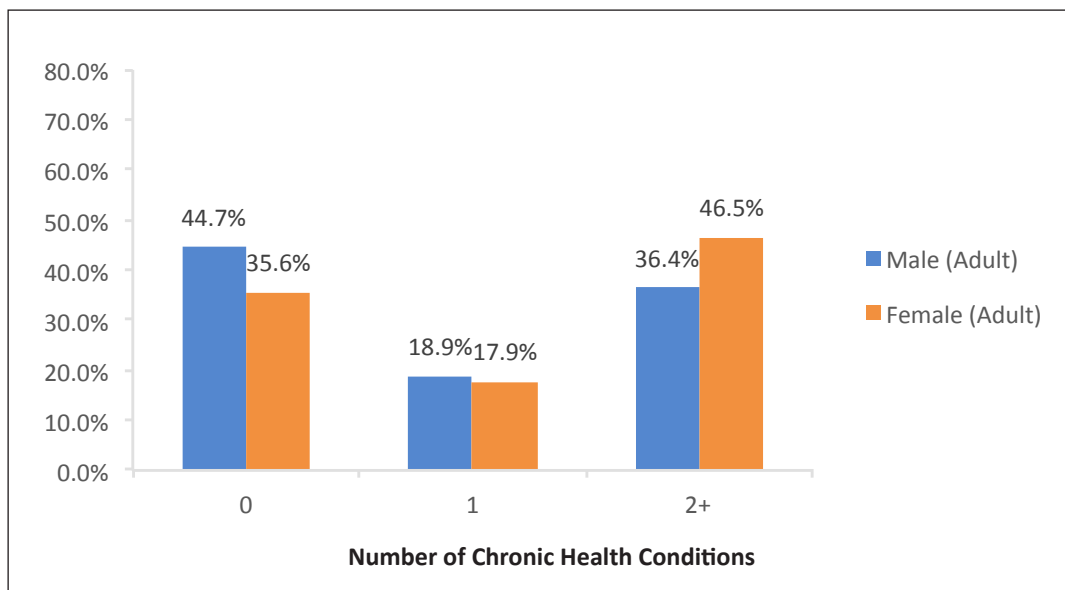




Figure 3.11: Percentage of First Nations youth with chronic health conditions, by number of conditions and gender

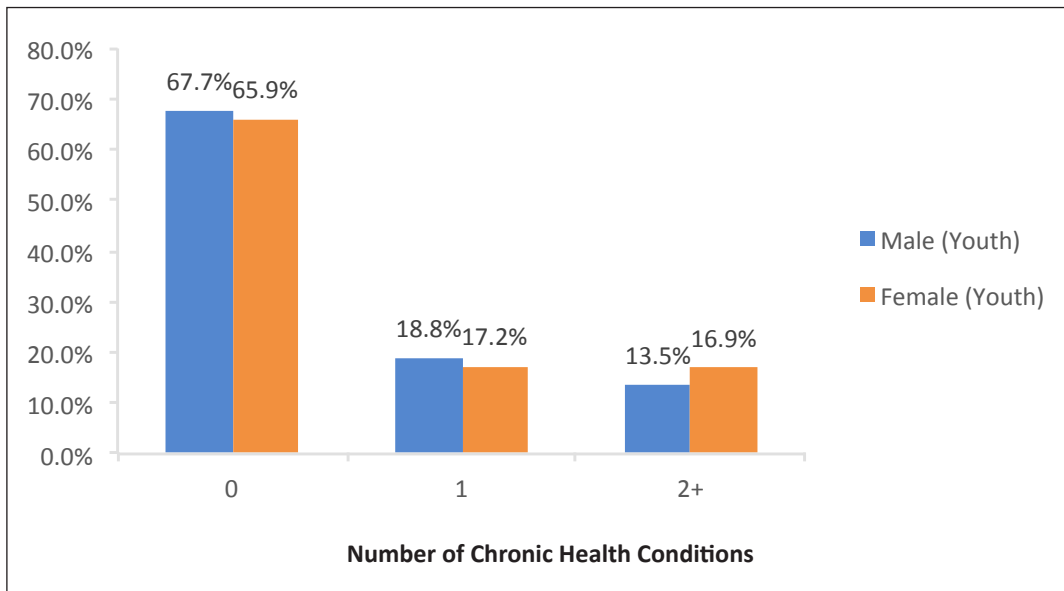
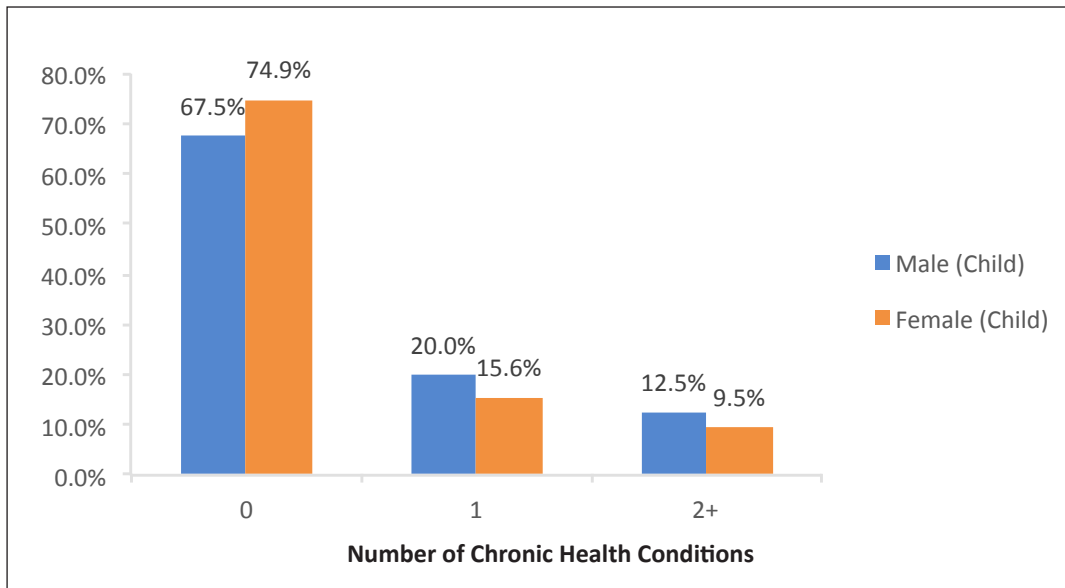


Figure 3.12: Percentage of First Nations children with chronic health conditions, by number of conditions and gender





Chronic health conditions among First Nations adults, youth and children, by age

While the results of this analysis are cross-sectional, they do show a trend towards an increase in co-morbidity with age groups (see *Table 3.3*). Reports of having one diagnosed chronic health condition were fairly constant across all age groups, but the differences were not significant between each respective age group. More than three quarters of children age 0–5 had no health condition (77.2%, 95% CI [74.8, 79.4]) and 66.8% (95% CI [64.5, 69.0]) of those age 6–11 had no diagnosed chronic health condition (showing a slight increase in self-reported health

condition with age). Nearly three quarters of First Nations youth ages 12–14 (70.2%, 95%CI [66.7, 73.4]) and two thirds of youth ages 15–17 (63.9%, 95%CI [61.6, 66.2]) had no health condition.

Trends for First Nations adults show a significant increase in co-morbidity as age increases from 30 to 39 years onward. Co-morbidity more than doubles from young adulthood (18–29 years) (20.8%, 95% CI [18.4, 23.4]) to mid-age range (50–59 years) (55.3%, 95% CI [52.4, 58.2]) and quadruples by 60 years and up (74.6%, 95% CI [72.1, 77.0]).

Table 3.3: Number of chronic health conditions among First Nations adults, youth and children, by age group

0 Health Condition			1 Health Condition		2+ Health Conditions	
AGE (CHILDREN)	%	95% CI	%	95% CI	%	95% CI
0-5	77.2	[74.8, 79.4]	14.5	[12.7, 16.5]	8.4	[6.9, 10.1]
6-11	66.8	[64.5, 69.0]	20.2	[18.1, 22.5]	13.0	[11.5, 14.6]
AGE (YOUTH)	%	95% CI	%	95% CI	%	95% CI
12-14	70.2	[66.7, 73.4]	17.3	[14.2, 21.0]	12.5	[10.8, 14.5]
15-17	63.9	[61.6, 66.2]	18.6	[16.7, 20.7]	17.5	[15.8, 19.4]
AGE (ADULTS)	%	95% CI	%	95% CI	%	95% CI
18-29	57.9	[54.4, 61.3]	21.3	[18.3, 24.7]	20.8	[18.4, 23.4]
30-39	48.7	[44.8, 52.6]	19.5	[17.0, 22.1]	31.8	[28.0, 35.9]
40-49	37.8	[34.2, 41.6]	18.8	[16.8, 21.1]	43.4	[40.1, 46.7]
50-59	28.1	[25.2, 31.3]	16.5	[14.7, 18.5]	55.3	[52.4, 58.2]
≥ 60	12.3	[10.8, 14.0]	13.1	[11.4, 15.0]	74.6	[72.1, 77.0]



Relationships (Ways of Relating to Time): Personal and Community Wellness and Culture

Indian Residential School attendance

According to the RHS Phase 3, the large majority of First Nations adults who indicated that they have chronic health conditions and had attended an Indian Residential School (IRS) report that their overall health and well-being was affected by their IRS experiences.

Of those IRS Survivors diagnosed with one health condition, nearly two-thirds (65.7%, 95% CI [58.6, 72.1]) felt their IRS experience had negatively impacted their health, while nearly two-thirds (65.8%, 95% CI [61.0, 70.3]) of those with two or more chronic health conditions also felt it had negatively impacted their health. Of those who reported no chronic health condition, nearly half (49.9%, 95% CI [42.3, 57.5]) felt that their IRS experience had negatively impacted their health and well-being. For an in-depth examination of IRS, see Chapter Six of this report.

Life balance

When asked how often they felt in balance physically, emotionally, mentally and spiritually, the large majority (more than 90%) of First Nations adults with chronic health conditions reported feeling in balance in all four domains. These findings, however, were not significantly different from those First Nations adults with no diagnosed chronic health condition.

Most First Nations youth with one or more chronic health conditions also felt they were in physical, emotional, mental and spiritual balance “all, most, or some of the time.” The difference between perceptions of physical balance among First Nations youth without health conditions and those with one or more health conditions was not statistically significant.

However, there was significant differences in perceived emotional balance between youth with one or more health conditions (84.3%, 95% CI [81.1, 87.1]) and youth with none (89.5%, 95% CI [87.6, 91.1]), in perceived mental balance among youth with one or more health conditions (81.8%, 95% CI [77.9, 85.2]) and those with none (87.9%, 95% CI [85.8, 89.7]) and in perceived spiritual balance between those with one or more health conditions (79.3%, 95% CI [75.4, 82.7]) and those none (87.6%, 95% CI [85.7, 89.4]).

Emotional well-being

More than 1 in 5 (21.4%, 95% CI [18.4, 24.8]) of First Nations youth with one or more chronic health conditions reported that they had felt depressed all or most of the time in the 12 months leading up to the survey. This was significantly higher than the percentage of First Nations youth with no health conditions who reported having felt depressed during this time (5.9%, 95% CI [4.7, 7.3]).

More than one-fifth (21.4%) of First Nations children with one or more chronic health conditions reported having more emotional or behavioural issues than other children their age (95% CI [18.8, 24.3]) over the six months prior to the survey. This was significantly higher than the percentage for First Nations children without a health condition, of which 7.4% (95% CI [6.1, 8.9]) demonstrated behavioural or emotional issues.

Sense of belonging

When asked to indicate their sense of belonging to the local community, the majority (80.5% (95% CI [78.9, 81.9]) of First Nations adults with one or more chronic health conditions report a very strong or somewhat strong sense of belonging. These findings were not significantly different from First Nations adults with no health condition (81.2%, 95% CI [79.1, 83.2]).



In the case of First Nations youth, nearly three-quarters (74.9%, 95% [71.7, 77.9]) with one or more chronic health conditions reported a very strong or somewhat strong sense of belonging to community; however, this was not significantly different from those youth without health conditions.

Reason (Analysis Or Learned Knowledge): Socioeconomic Indicators Of Health And Well-Being

Employment and education

Among First Nations adults, a high school completion was not significantly different between those with and those without health conditions. Similarly, the total personal income and the percentage of adults working for pay (e.g., wages, salary, self-employed) did not significantly differ between those with one or more chronic health conditions and those with no health condition.

A higher proportion of First Nations youth with one health condition (30.4% 95% CI [25.3, 36.1]) and two or more health conditions (57.7% 95% CI [53.1, 62.0]) reported problems learning in school compared to those who reported no health condition (22.0%, 18.7, 25.6]).

Nearly two-thirds (62.2%, 95% CI [58.1, 66.1]) of First Nations children with no health condition lived in households that earned a total annual income of less than \$29,999, compared to more than half (51.6%, 95% CI [47.1, 56.1]) with one or more health conditions. More than one-third (37.8%, 9% CI [33.9, 41.9]) of First Nations children with no health condition lived in households with an annual income of \$30,000 or more, and nearly half (48.4%, 95% CI [43.9, 52.9]) with one or more health conditions lived in households with the same annual income.

Health care use

Most First Nations adults with one health condition (84.0%, 95% CI [79.1, 87.9]) or two or more chronic conditions (92.2%, 95% CI [90.8, 93.4]) had visited a doctor or community health nurse within a two-year period leading up to the survey. A higher proportion of those with one health condition (21.6%, 95% CI [19.3, 24.1]) and two or more health conditions (25.8%, 95% CI [23.9, 27.7]) had accessed a mental health service (e.g., counselling, psychological testing) in the two years prior to the survey compared to those with no chronic condition (13.4%, 95% CI [11.6, 15.4]).

More than one-quarter (27.0%, 95% CI [23.6, 30.7]) of those with one health condition and more than one-third (34.3%, 95% CI [31.6, 37.2]) with two or more chronic conditions had consulted a traditional healer; compared with 21.9% (95% CI [19.6, 24.3]) with no health conditions, during this same time period. These differences were not significant.

Most First Nations youth with one health condition (87.1%, 95% CI [84.0, 89.7]) or two or more health conditions (90.7%, (95% CI [87.9, 93.0]) had visited a doctor or community health nurse within the two years prior to this survey compared to 74.2% (95% CI [71.2, 77.0]) with no reported health condition. Nearly one-quarter of First Nations youth with one health condition or with two or more health conditions (24.3%, 95% CI [19.5, 29.9] and 25.2%, 95% CI [21.2, 29.8], respectively) had consulted a traditional healer during the same time period compared to those (14.6%, 95% CI [12.6, 16.8%]) with no reported health condition.

Mental health services were accessed by 22.7% (95% CI [18.3, 27.9]) of youth who reported a health condition and by 44.6% (95% CI [40.0, 49.4]) with two or more chronic conditions during this same time period, compared with 12.7% (95% CI [10.7, 14.9]) with no reported health condition. These differences were statistically significant.



The RHS Phase 3 findings show that 63.4% (95% CI [58.7, 67.9]) of First Nations children with one health condition and 77.5% (95% CI [72.2, 82.1]) of those with two or more chronic conditions required health care during the 12 months leading up to the survey compared with 55.0% (95% CI [52.4, 57.6]) with no health condition.

Chronic health conditions and mould or mildew in the home and access to safe drinking water

Of those First Nations adults who did not consider their water supply to be safe year-round, there was no difference in the percentage with no chronic health condition (40.5%, 95% CI [37.0, 44.1]) and those with one or more chronic health conditions (40.5%, 95% CI [38.2, 42.8]).

A higher proportion of First Nations adults (43.1%, 95% CI [40.7, 45.5]) with one or more chronic health conditions reported that they had mould or mildew in their home within the 12 months prior to the survey compared to those with no health condition (34.2%, 95% CI [31.3, 37.2]). The difference between these two groups was significant. Similarly, a significantly higher proportion of First Nations adults with asthma (47.6%, 95% CI [41.7, 53.6]) reported they had mould or mildew in their home during the same time period compared to those without asthma (38.6%, 95% CI [36.5, 40.9]).

A higher proportion of First Nations adults with dermatitis/atopic eczema (49.0%, 95% CI [42.2, 55.7]) also reported mould or mildew in their home in the year prior to the survey compared to 38.8% (95% CI [36.7, 41.0]) who did not report having dermatitis/atopic eczema. These differences were significant.

Action (Movement): Healthy Behaviours and Lifestyle

Chronic health conditions and exposure to alcohol and cigarette smoke

Nearly half (48.9%, 95% CI [42.5, 55.4]) of First Nations children with two or more chronic health conditions were exposed to smoke in utero, compared to more than one-third (34.3%, 95% CI [31.6, 37.1]) that reported no health condition. A significantly higher percentage of First Nations children with two or more health conditions were exposed to alcohol in utero (16.6%, 95% CI [12.2, 22.1]) compared to those without a health condition (5.4%, 95% CI [4.4, 6.6]).

Body mass index

Nearly three-quarters (73.0%, 95% CI [68.8, 76.8]) of First Nations adults who reported one health condition were obese or overweight, along with 80.9% (95% CI [78.8, 82.8]) of those who reported two or more health conditions compared with 70.4% (95% CI [68.1, 72.7]) with no health condition. Note that the difference between those with no health condition and those with one health condition was not significant.

More than one-quarter (25.5%, 95% CI [21.8, 29.7]) of those who reported one health condition were within a normal weight classification, while 17.6% (95% CI [15.9, 19.5]) of those with two or more chronic conditions were within a normal weight range compared to 28.1% (95% CI [26.0, 30.4]) with no health condition.

There was no significant difference between obese and overweight First Nations youth with one or



more chronic health conditions (19.7%, 95% CI [16.9, 22.8]) and those with none (16.0%, 95% CI [13.3, 19.1]). Similarly, the difference between First Nations youth with one or more chronic health conditions (45.5%, 95% CI [41.1, 50.1]) and those with no health condition (49.5%, 95% CI [46.4, 52.6]) was not statistically significant for those in a normal BMI weight category.

Chronic health conditions and traditional foods

Among First Nations adults and children the frequency of sharing traditional food in the 12 months prior to the survey was not significantly different between those with no health condition and those with one or more health conditions. In the case of First Nations children, although the difference was not statistically significant, a higher percentage with one or more health conditions had often consumed traditional foods in their household (76.3%, 95% CI [73.2, 79.1]) compared to those without a health condition (69.7%, 95% CI [67.7, 71.7]).

In the case of First Nations youth, a significantly higher proportion of those with one or more chronic health conditions (28.2%, 95% CI [23.6, 33.3]) had often shared traditional food over the 12 months leading up to the survey compared to those without a health condition (19.0%, 95% CI [17.1, 21.1]).

Chronic health conditions and nutritious meals

Among First Nations adults, youth and children, the frequency of eating nutritious, balanced meals over the course of the year leading up to the survey was not significantly different between those with no health condition and those with one or more health conditions.

DISCUSSION

The purpose of this chapter was to examine the prevalence and determinants of chronic health conditions among First Nations adults, youth and children. Health conditions were analyzed at different stages across the life course using cross-sectional data from the RHS Phase 3 adult, youth and child surveys. The findings were organized according to the four directions of the RHS Cultural Framework. This was done in an effort to account for the interconnected relationship between the determinants of health and the physical, mental, emotional and spiritual aspects of well-being.

Adults

The RHS Phase 3 findings indicate that more-than-half of all First Nations adults reported one or more known chronic health conditions. Allergies, arthritis, high blood pressure, diabetes and chronic back pain remain some of the most commonly reported health conditions when compared with RHS Phase 1 and Phase 2.

The findings, however, positively show that most affected adults were receiving treatment for diagnosed health conditions, including diabetes. This is important given that the age-standardized rate of diabetes prevalence among First Nations adults was found to be 19.2%. In contrast, in 2008-2009, the prevalence rate of diabetes for the general population, age 20 years and older, was notably lower at 8.7% (Public Health Agency of Canada, 2011). It should be noted that although kidney issues were not as commonly reported as other health conditions (3.3% of First Nations adults reported kidney problems), these findings may not represent actual rates of chronic kidney disease (CKD), given that diabetes is a major risk factor for CKD.



Based on an analysis of the First Nations Community Based Screening to Improve Kidney Health and Prevent Dialysis, a CKD screening and treatment initiative, Komenda et al. (2016) found that the burden of CKD among First Nations people is more than twice that of the general population. Particularly, high rates of CKD were found in First Nations communities that are only accessible by air compared to those that were accessible by road. This suggests that public health strategies are needed to better screen, triage and treat First Nations people with CKD. Similarly, rates of cancer (2.0%) may be under-reported, as this chronic condition may not be diagnosed in a timely way due to the lack of access to diagnosis and treatment on reserve.

Another important consideration when undertaking any analysis of chronic health conditions is the diverse nature of these conditions. For example, while allergies is a commonly used category when assessing and measuring chronic health conditions, they are not necessarily debilitating in nature nor require ongoing treatment, whereas other chronic health concerns may present more long-term challenges (e.g., diabetes, cancer).

Other significant findings include gender differences in the number of health conditions. A significantly higher proportion of female First Nations adults reported co-morbidity compared to male First Nations adults. Similarly, findings from the RHS Phase 2 showed that adult First Nations women were at higher risk of co-morbidity compared to adult First Nations men. This is an area of concern, and is consistent with the literature, which indicates that Indigenous women tend to carry a higher burden of chronic illness compared to Indigenous men (e.g., higher rates of heart disease, diabetes and cervical and gallbladder cancer) (Bourassa, McKay-McNabb & Hampton, 2005). Furthermore, co-morbidity in general is often associated with complex health outcomes, clinical management and health care needs (Valderas et al., 2009). This finding suggests

that First Nations women require health care and community-based supports to prevent and treat chronic illness.

More than half of First Nations adults with chronic health conditions who had attended Residential School felt it had negatively impacted their health, pointing to the potential impact of colonial policy on overall health and well-being. That being the case, it must also be noted that those who attended IRS would be older adults who may have poorer general health than younger adults.

The findings also indicate that a higher percentage of First Nations adults with chronic health conditions lived in houses that had mould or mildew compared to those without chronic conditions. A higher proportion of First Nations adults with asthma, as well as dermatitis/atopic eczema, also reported living in homes with mould or mildew. This finding points to the importance of access to safe, adequate housing. Indeed, on-reserve housing faces a number of challenges, one of which is a crisis of mould contamination. From a health perspective, mould or mildew in the home has been associated with respiratory health outcomes and has been found to be a significant determinant of chronic bronchitis among First Nations adults (Pahwa et al., 2017). Signs of mould and mildew in the home have also been shown to be significant risk factors for respiratory diseases and allergies in children and youth (Karunanayake et al., 2017).

This calls for further research and policy that investigates and addresses the relationship between housing quality and chronic health conditions. Although there was no significant difference between First Nations adults with and those without health conditions who had lack of access to clean water year-round, this does not mean to suggest that this is not a key area of concern in addressing chronic health conditions at all stages of the life course. With boil-water advisories occurring in a number of First



Nations communities, research has demonstrated that those without clean water are more likely to report waterborne illnesses and skin irritations (O’Gorman and Penner, 2018). This can contribute to the development and management of chronic health conditions among First Nations adults, youth and children.

Youth

Nearly one-third of First Nations youth reported having one or more chronic health conditions. Allergies, asthma, anxiety disorder, mood disorder and learning disorder were the most commonly reported conditions. Allergies and asthma remain the two most commonly reported health conditions among First Nations youth when compared with the RHS Phase 1 and Phase 2.

A significantly higher proportion of First Nations youth with at least one chronic health condition had often shared traditional food over the 12 months prior to the survey compared to those without a health condition. This finding might point to the role of community and cultural support for those experiencing health challenges. Further research in this area warrants investigation.

In general, First Nations youth who reported having chronic health conditions indicated feeling depressed more often than those who reported having no health condition. Similar findings from the RHS Phase 2 also indicate that First Nations youth with a health condition showed higher rates of depression and suicide ideation (FNIGC, 2012). Given that research has demonstrated that Indigenous adolescents with chronic illness experience higher emotional distress (Reading, 2009), further work is still needed to better understand what factors lead youth with a diagnosed health condition to report these predispositions. Although most First Nations youth with health conditions reported visiting a doctor or community health nurse, less than half the youth

diagnosed with anxiety, mood or learning disorders were receiving treatment. Furthermore, youth who reported a chronic health condition indicated having more difficulty learning in school. This may have implications for how health conditions are being treated, supported or monitored.

The results also show a significant difference in perceived mental, emotional and spiritual balance between youth with one or more health conditions and those with no conditions. This finding suggests that First Nations youth with chronic health conditions tend to feel more out of balance in terms of emotional, mental and spiritual well-being. This supports the finding discussed in the paragraph above, which points to a potential gap in how the health of First Nations youth is being screened, treated and monitored.

Children

More than one-quarter of all First Nations children had been diagnosed with one or more chronic health conditions. Positively, this shows a proportional decrease from the RHS Phase 2. Allergies, asthma, speech or language difficulties, dermatitis/eczema and chronic ear infections were the most prevalent chronic health conditions among First Nations children. Similar to First Nations youth, allergies and asthma remain the most commonly reported health conditions for First Nations children across all RHS surveys. This being the case, there has been a proportional decrease in reported cases of allergies and asthma from the RHS Phase 1 and Phase 2.

Indeed, most chronic illnesses among First Nations children can be controlled by avoiding environmental contaminants such as mould, mildew and cigarette smoke. Given that the average age of diagnosis for asthma and eczema among First Nations children was under the age of two years, having access to adequate housing and safe, clean water are key to continually improve these conditions among young children.



Further analysis and response to clean water access and its connection to asthma and skin conditions, such as dermatitis/eczema, could also work to address some of these health concerns.

Differing from adults and youth, a significantly higher proportion of female First Nations children had no reported health condition compared to male First Nations children.

Nearly one-quarter of First Nations children with one or more chronic health conditions experienced more emotional or behavioural issues, which was a significantly higher rate than children without a health condition. This could perhaps point to underlying signs of mental health issues, which may require particular supports or attention from health service providers. Further research into the relationship between chronic health conditions and behavioural issues is warranted.

CONCLUSIONS

The goal of this chapter was to advance the understanding of chronic health conditions among First Nations adults, youth and children so as to better inform effective policy making and program development in improving the health and well-being of First Nations communities.

Despite positive trends in terms of reduced prevalence of some chronic health conditions, significant health disparities between First Nations communities and the general population remain an area of concern. Key findings point to the need for timely access to screening, treatment, and monitoring of chronic health conditions. This is particularly evident for First Nations adults with diabetes and CKD. Further research is needed to identify gaps in diagnosis and health care provision for chronic health conditions so that individual and community health can be supported in a timely and responsive manner.

The findings of this study also provide additional evidence that First Nations women tend to carry a higher burden of chronic illness and co-morbidity compared to First Nations men. This speaks to the continued importance of programming that supports timely access to safe, adequate care that addresses the health needs and concerns of First Nations women.

The findings also indicate the importance of addressing and supporting the mental, emotional and spiritual well-being of First Nations youth. It was suggested in the RHS Phase 2 report that the mental health experiences of First Nations youth diagnosed with chronic health conditions be considered by health professionals. Arguably, this still remains the case. Similarly, First Nations children with chronic health conditions may be expressing early signs of depression or anxiety, based on findings related to emotional well-being. Further work is needed to better understand how chronic health conditions among First Nations youth and children are understood, treated and supported.

Access to safe, clean drinking water and homes free of mould and mildew continue to be a pressing priority on First Nations reserves. With potentially detrimental chronic health implications for First Nations adults, youth and children, further research and active policy response are needed to address these community health concerns.

Although evidence is limited at this stage, the findings suggest that further investigation is warranted into the relationship between sharing traditional foods and how this may serve to support community members experiencing health challenges.

Ongoing efforts are needed to better understand, prevent and manage chronic health conditions that affect the overall health and well-being of First Nations communities and individuals at different stages across the life course.



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CHAPTER FOUR: MENTAL HEALTH AND SUBSTANCE USE

EXECUTIVE SUMMARY

Mental health issues and addictions are often identified as key health concerns for First Nations people living on reserve or Northern communities. Where possible, the following analysis tracks the progression of their mental wellness and substance use issues through three phases of the RHS and provides future research recommendations that could further guide the development of interventions or health policies more suitable to First Nations concepts of well-being.

Data from the RHS Phase 3 suggests that the majority of First Nations youth and adults are abstaining from prescription and illegal drug use. The data also shows that more than half of First Nations adults and youth reported having very good or excellent mental health.

Scores from the Kessler Psychological Distress Scale indicated that some mental distress was noted in adults and youth. Positive results were also noted in the RHS Phase 3 child survey, which shows that the prevalence of maternal smoking has decreased as has the prevalence of fetal alcohol spectrum disorders (FASD).

In identifying ways to meet the needs of First Nations people who require assistance, the authors reviewed First Nations treatment literature, the Truth and Reconciliation Commission of Canada's (TRC) Calls to Action and the First Nations Mental Wellness Continuum Framework. Each provide guidance and offer recommendations for the development of culturally based, community governed programs that could enhance existing strengths in First Nations children, youth and adults and increase involvement in mental health and addictions treatment where support is needed.

A further need exists to close gaps between Indigenous and non-Indigenous communities in a number of health indicators, including mental health and addictions. As such, the limitations of the analyses undertaken in this chapter and the importance of sharing clear, valid, and reliable data with First Nations leadership are reviewed. The development of culturally based indicators that track the strengths of First Nations children, youth and adults, their ties to their families and communities, and their use of cultural supports will help to drive systemic change. Tracking the progress to wellness ensures that programs can be designed to foster and create wellness. Such data could ensure that the positive changes created by community-driven frameworks such as *Honouring Our Strengths* and the *First Nations Mental Wellness Continuum Framework* continue.

KEY FINDINGS

Children

- Less than 1 in 100 (0.8%) of First Nations children living on reserve and Northern communities were diagnosed by a health care professional as having an anxiety or mood disorders; 1.8% were diagnosed as having an attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD); and 0.7% were diagnosed with autism-spectrum disorder (ASD).
- The prevalence of fetal alcohol spectrum disorder (FASD) in First Nations children decreased from 1.8% in the RHS Phase 1 (2002-2003), to less than one-percent (0.5%) in RHS Phase 3.



- More than one-third (37.5%) of female First Nations adults reported smoking during their pregnancy; this marked a significant decrease compared to the nearly half (46.9%) of female First Nations adults who were reported having smoked during pregnancy in the RHS Phase 2 (2008-2010).

Youth

- More than half (55.5%) of First Nations youth rated their mental health as *very good* or *excellent*.
 - Nearly one-quarter (23.4%) of First Nations youth reported psychological distress scores which suggested that they were likely to have a moderate to severe mental disorder.
 - More than three-quarters (75.3%) of First Nations youth said they had abstained from consuming alcohol; a significant increase compared to the RHS Phase 2 (61.0%).
 - More than half (50.7%) of First Nations youth who said they had consumed an alcoholic beverage in the previous 12 months, reported they had engaged in binge drinking one or more times per month in the same time period.
 - The majority (72.8% to 99.7%) of First Nations youth reported that they had never used certain kinds of prescription and illegal drugs.
- Nearly 1 in 5 (17.4%) First Nations adults reported psychological distress scores which suggested that they were likely to have a moderate to severe mental disorder.
 - More than one-third (37.2%) of First Nations adults who had consumed an alcoholic beverage in the previous 12 months, said they had engaged in binge drinking less than once per month (or never).
 - The majority (69.7% to 99.7%) of First Nations adults said they did not partake in a range of prescription or illegal drugs in the previous 12 months.

Adults

- More than half (50.5%) of First Nations adults living on reserve and Northern communities reported their mental health as *very good* or *excellent*.
- More than 2 of 5 (42.6%) First Nations adults reported that they had not consumed any alcoholic beverage in the past 12 months.

INTRODUCTION

A strengths-based focus should be kept in mind while addressing the impacts of colonial history on First Nations people. The Indian Residential School (IRS) system traumatized generations of students, who were split from their families in an attempt to eradicate their language and culture. Disproportionately high numbers of children were also removed from their families in the Sixties Scoop, practices that continue to this day in what some call the “Millennial Scoop”.

The consequent trauma often manifests itself in higher rates of suicide, mental health, and addictions issues in First Nations population, and significant disparities in health between First Nations and the general population (Assembly of First Nations and Health Canada, 2015). In First Nations world views, the impact of this trauma should be fully acknowledged as should the efforts to address it. The First Nations Mental Wellness Continuum and the TRC’s Calls to Action identify specific actions that recognize the inherent strength of First Nations and provide recommendations that can support health equity and mental wellness.



Comparisons between mental health conditions in First Nations populations and in the general population are complicated by cultural differences in the understanding of mental wellness. First Nations cultures see a strong connection between mental wellness and: strong physical, spiritual and emotional health; a connection to language, land, beings of creation and ancestry; the support of a caring family and environment; and an interconnectedness enriched by hope, belonging, purpose and meaning (Assembly of First Nations and Health Canada, 2015).

On the other hand, Western biomedical models view mental wellness as the absence of mental illness, although this thinking has recently started to shift (Restoule et al., 2015; Mental Health Commission of Canada, 2012). For example, the Public Health Agency of Canada (PHAC) recognizes that health is determined by complex interactions between social and economic factors, the physical environment and individual behaviour, and it identifies twelve social determinants of health: gender, culture, health services, income/social status, social support networks, education/literacy, employment and working conditions, social environments, physical environments, personal health practices and coping skills, healthy child development, and biology/genetic endowment (Assembly of First Nations and Health Canada, 2015).

Inequities in the social determinants of health (as evidenced by such factors as poverty, unemployment, housing and food security) certainly play a role in the mental health challenges faced by some First Nations peoples. Yet “...identifying these enduring social structural and historical causes of adversity ‘does not obviate the need to address current mental health’” (Boksa, Joobar & Kirmayer, 2015, p. 363).

Rural, remote and northern communities are often particularly hard hit by challenges in promoting mental wellness due to higher transportation

costs, higher prevalence of suicide and less access to specialized care (Assembly of First Nations and Health Canada, 2015).

The TRC Calls to Action included the following to be undertaken to help address mental wellness (TRC, 2015, pp. 2–3):

- A recognition that the current state of First Nations, Inuit and Métis health was the result of Canadian government policies, including IRS;
- A collaboration between the federal government and Aboriginal peoples to establish measurable goals to identify and close the gaps in health outcomes between Aboriginal and non-Aboriginal communities, and to publish annual progress reports and assessing long-term trends including but not limited to mental health and addictions;
- Funding for new healing centers addressing the impact of residential schools;
- A recognition of the value of cultural healing practices; and
- Proper training for all health professionals that ensures they are fully aware of colonial history, First Nation, Inuit and Métis teachings and practices and the importance of cultural safety.

This chapter builds on the recommendations provided by the *First Nations Mental Wellness Continuum Framework* and the TRC’s Calls to Action. It does this by comparing the RHS Phase 3 data with data from the RHS Phase 2 (2008-2010) and RHS Phase 1 (2002-2003) (FNIGC, 2012; 2005), and to the general population, where possible. It also identifies trends related to mental health and addictions that could point to future areas of program development. These could be developed in partnership with First Nations communities and leadership using methodologies such as community-based participatory research (CBPR). Recommendations are



provided that could further guide the development of interventions or health policies suitable to First Nations concepts of well-being for First Nations children, youth and adults.

METHODS

Analyses were based on responses to the RHS Phase 3 survey from First Nations adults (18-years or older), youth (aged 12–17) and children (aged 0–11); questions about children were answered by their parent or legal guardian. Comparisons were most frequently made between the RHS Phase 3 and the RHS Phase 2; where possible data from the RHS Phase 1 was also examined, but differences in survey questions limited the ability to make such comparisons.

Adults and Youth

First Nations adults and youth were asked if they have been told by a health professional that they have any of the following conditions: anxiety disorder, mood disorder, attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD), autism spectrum disorder (ASD) or fetal alcohol spectrum disorder (FASD).

FASD is a neurodevelopmental disorder rather than a mental health issue. It is included in this discussion of mental health and addictions as a potential consequence of maternal substance misuse. The RHS Phase 3 survey questionnaire describes anxiety disorders as including: phobias, obsessive-compulsive disorder and panic disorder. The survey describes mood disorders as including: depression, bipolar disorder, mania or dysthymia. The survey did not provide post-traumatic stress disorder (PTSD) as an answer option.

Psychological distress for adults and youth was measured using the Kessler Psychological Distress Scale (Kessler & Mroczek, 1994). Adults and youth were asked 10 questions about how often they experienced symptoms of anxiety or depression in the previous month, and asked to rank them on a scale ranging from 1 (none of the time) to 5 (all of the time). Responses were summed with possible scores ranging from 10 to 50. Scores under 20 reflect low distress, 20–24 are categorized as “likely to have a mild mental disorder,” 25–29 as “likely to have moderate mental disorder”, and 30 (and up) as “likely to have a severe mental disorder.” Adults and youth also reported how often they felt balanced in their physical, emotional, mental and spiritual lives, ranked in terms of *all, most* or *some* of the time to *almost, most* or *none of the time*.

Adults and youth were asked if they had ever talked to someone about emotional or mental health, either over the telephone or face-to-face. They were offered with a list of support options ranging from: “talks with family and friends”, “traditional healers” and “health professionals” such as doctors, social workers or psychologists. Adults and youth answered *yes* or *no* to each option. They were further questioned about the time that that had elapsed since they had last consulted a traditional healer, visited a doctor or nurse, or accessed a mental health service.

The First Nations adult and youth surveys also included questions about tobacco misuse. Current smokers were defined as those who smoked daily or occasionally. Adults and youth were asked, “At the present time do you smoke cigarettes daily, occasionally or not at all?” Occasional smokers smoked more than “not at all” but less than “daily,” so this could encompass a broad range of adults and youth who smoked anywhere between a few times a week or a few times a year. Other questions inquired about the number of cigarettes smoked daily and the number of attempts to quit smoking. Those who did not presently smoke were asked whether they



had smoked in the past. Ex-smokers were asked to indicate their reason for quitting, and the methods they used to quit.

The First Nations adult and youth surveys also included questions on alcohol misuse. Adults and youth were considered to be abstinent from alcohol if they had not consumed any alcohol in the past 12 months. Adults and youth who consumed alcohol in the past 12 months were asked how often they consumed alcoholic beverages. Respondents were also asked how often they had engaged in binge drinking in the past 12 months.

For male respondents binge drinking was defined as consuming five or more alcoholic beverages in one sitting, a definition that was consistent with the RHS Phase 2. For female respondents, the RHS Phase 3 defined binge drinking as consuming four alcoholic beverages in one sitting, which is comparable to changes made in the *Canadian Community Health Survey* (CCHS). The RHS Phase 2 defined binge drinking for women as consuming five or more alcoholic beverages in one sitting.

The RHS Phase 3 defined “heavy drinking” as binge drinking at least once a month in the past 12 months. Adults and youth who indicated they drank any sort of alcohol in the past 12 months were asked if they had sought treatment. (Respondents, who reported not drinking, were not asked about treatment.) Some adults and youth who were asked about treatment may have engaged in mild social drinking that did not require treatment.

Adults and youth were also asked how often they had used various prescription or illegal drugs in the past 12 months, and whether they had sought treatment for substance abuse and addiction in the same time frame.

Children

Parents or guardians were instructed to report on health conditions only if a) the child had been diagnosed by a health care professional and b) the condition was expected to last for at least six months. Parents or guardians were asked whether their children had a wide range of health conditions, but the analysis in this chapter will focus on: anxiety and mood disorders, attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD), autism spectrum disorder (ASD) and fetal alcohol spectrum disorder (FASD).

RESULTS

Adults

Mental health among First Nations adults

According to the RHS Phase 3, more than half (50.5%, 95% CI [48.8, 52.2]) of First Nations adults reported having *very good* or *excellent* mental health, while more than one-third (36.5%, 95% CI [34.8, 38.2]) reported having *good* mental health. More than 1 in 10 (13.0%, 95% CI [12.0, 14.1]) First Nations adults reported having *fair* or *poor* mental health. Overall, the majority (87.0%, 95% CI [85.9, 88.0]) of First Nations adults rated their mental health as being *good*, *very good* or *excellent*.

Adults were also asked if they had a formal diagnosis of a mental health issue from a health professional. Nearly 1 in 10 (8.9%, 95% CI [8.0, 9.9]) First Nations adults said they had been diagnosed with anxiety, while a smaller percentage (7.8%, 95% CI [7.2, 8.6]) had been diagnosed with mood disorders (see *Table 4.1*).



Table 4.1: Percentage of First Nations adults diagnosed with mental health conditions

Diagnosis	RHS 2015/16 %	95% CI
Anxiety	8.9	[8.0, 9.9]
Mood disorder	7.8	[7.2, 8.6]
ADD/ADHD	2.2E	[1.5, 3.3]
ASD	0.1E	[0.1, 0.2]

Note: E High sampling variability, interpret with caution.

Psychological distress in adults was gauged using the Kessler Psychological Distress Scale (K10). The results from these tests also point to strong mental health in First Nations adults. Nearly two-thirds (66.1%) of First Nation adults were categorized as “likely to be well” (95% CI [63.8, 68.3]), while nearly one-fifth (17.4%) were found to be likely to have moderate to severe mental distress. More than two-thirds (68.9%) of adults reported strong physical, emotional, mental and spiritual balance *all or most of the time* (see Table 4.2).

Table 4.2: Perceptions of distress and personal balance among First Nations adults

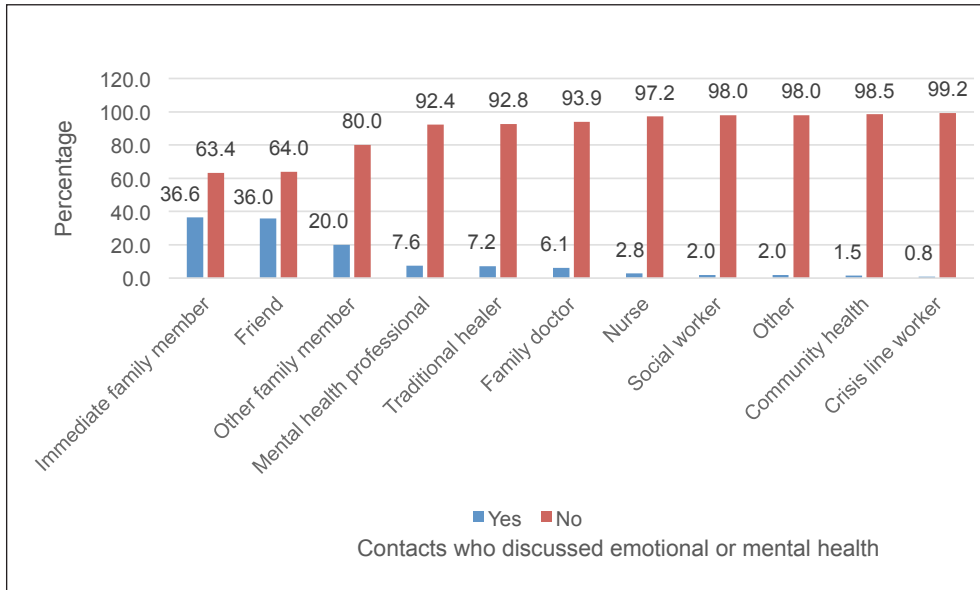
Measure of well-being	Self-rating	RHS Phase 3 (2015-2016) %	95% CI
Psychological distress score	Likely to be well	66.1	[63.8, 68.3]
	Likely to have a mild mental disorder	16.5	[15.1, 18.0]
	Likely to have a moderate mental disorder	9.4	[8.5, 10.4]
	Likely to have a severe mental disorder	8.0	[7.0, 9.2]
Balance - physical	Some/Almost none of the time/None of the time	31.1	[29.6,32.6]
	All/most of the time	68.9	[67.4, 70.4]
Balance - emotional	Some/Almost none of the time/None of the time	31.9	[30.2, 33.6]
	Most/All of the time	68.1	[66.4,69.8]
Balance - mental	Some/Almost none of the time/None of the time	30.2	[28.6,31.8]
	Most/All of the time	69.8	[68.2, 71.4]
Balance - spiritual	Some/Almost none of the time/None of the time	31.9	[30.3,33.6]
	Most/All of the time	68.1	[66.4, 69.7]

When asked when they last accessed a mental health service, more than two-thirds (70.9%, 95% CI [69.2, 72.6]) of First Nations adults said that they had never used any. It should be noted that all adults were asked this question regardless of whether they rated their mental health, and some adults may not have accessed a mental health service because they did not require assistance.

All adults (regardless of their self-reported mental health status) were asked if they had ever discussed their emotional or mental health with someone, either face-to-face or on the phone. More than one-third (36.0%, 95% CI [34.6, 37.4]) said they had talked to a friend, 36.6% (95% CI [34.9, 38.3]) said they had talked to an immediate family member, and one-fifth (20.0%) said they had talked to another family member (95% CI [18.5, 21.5]) (See Figure 4.1). Note that comparisons were not possible with earlier iterations of the RHS or the general population due to unavailability of data.



Figure 4.1: Contacts First Nations adults talked to about their emotional or mental health



Tobacco use among First Nations adults

According to the RHS Phase 3, more than half (53.5%, 95% CI [51.3, 55.6]) of First Nations adults smoked cigarettes, with 2 in 5 (40.3%, 95% CI [38.3, 42.3]) saying they smoked on a daily basis, and 13.1% (95% CI [12.0, 14.4]) saying they only smoked occasionally.

The RHS Phase 2 reported a slightly higher prevalence of adult smokers (56.9%), with 43.2% (95% CI [41.6, 44.8]) reporting they smoked on a daily basis, and 13.7% (95% CI [12.7, 14.9]) saying they smoked occasionally. These results were similar to the prevalence of smoking reported by the RHS Phase 1.

Overall, despite a small decrease in use in the RHS Phase 3 the prevalence of smoking in First Nations adults remained relatively stable between the three phases of the survey.

The RHS Phase 3 data showed no overall gender difference in smoking prevalence.

On average, First Nations adults who smoked daily reported smoking 11.6 cigarettes a day (95% CI [11.1, 12.1]). Among the same group, there was a significant difference between women (12.8 cigarettes a day) and men (10.4 cigarettes a day), (95% CI [12.0, 13.6]; [9.9, 10.9]).

The RHS phase 3 asked former smokers about why they quit. Nearly two-thirds (65.2%, 95% CI [62.3, 67.9]) said they had quit because they chose a healthier lifestyle (see *Table 4.3*). A phase-by-phase comparison of quit attempts/smoking cessation methods could not be completed due to skip logic differences in previous phases.



Table 4.3: Smoking cessation behaviours among First Nations adults who identified as current and ex-smokers in the 12 months prior to the survey

Smoking cessation behaviour	Overall %	95% CI
Quit attempts (past year)¹		
Did not try to quit	51.4	[48.9, 54.0]
1-2 attempts	30.0	[28.3, 31.8]
3 or more attempts	18.5	[16.7, 20.6]
Methods used for quit attempt²		
Cold turkey/Will power alone	88.5	[86.7, 90.0]
Spirituality	4.1E	[2.7, 6.1]E
Nicotine replacement patch	4.5	[3.7, 5.5]
Nicotine replacement gum	1.2E	[0.8, 1.7]E
Zyban (bupropion)	0.9E	[0.5, 1.6]E
Other prescribed medications	1.4E	[0.9, 2.0]E
Traditional methods	0.8E	[0.5, 1.3]E
Self-help/Support program	2.8	[2.1, 3.6]
Electronic cigarette	1.3E	[0.8, 2.3]E
Reasons for trying to quit²		
Choosing a healthier lifestyle	65.2	[62.3, 67.9]
Greater awareness of ill effects on health	22.1	[19.8, 24.6]
Health condition	22.0	[19.6, 24.7]
Cost	21.8	[19.1, 24.8]
Out of respect for loved ones	20.5	[18.2, 22.9]
Pregnancy	9.2	[8.0, 10.6]
Doctor's orders	5.8	[4.7, 7.2]
Respect for cultural significance of tobacco	5.5	[4.4, 6.7]
Peer pressure from friends or co-workers	3.7	[2.4, 5.6]

Note: ¹ This question was asked of current smokers only.

² This was a "mark all that apply" question asked only of ex-smokers.

E High sampling variability, interpret with caution.

RHS Phase 3 results indicate that more than two-thirds (69.8%, 95% CI [67.6, 72.0]) of First Nations adults lived in a smoke-free home, while nearly one-third (30.2%, 95% CI [28.0, 32.4]) said that someone

smoked in their home every day or almost every day. Similar questions were not included in previous phases of the RHS, so comparisons cannot be made.



Alcohol use among First Nations adults

According to the RHS Phase 3, nearly 2 in 5 (42.6%, 95% CI [41.0, 44.3]) First Nations adults reported that they had not consumed any alcoholic beverages in the past 12 months, while 57.4% (95% CI [55.7, 59.0]) reported that they had consumed an alcoholic beverage in the past year.

Of this latter group, a small minority (4.5%, 95% CI [3.7, 5.5]) reported drinking alcohol on a daily basis, while nearly one-quarter (23.3%, 95% CI [21.1, 25.5]) said they consumed alcohol on two to three occasions over the previous 12 months.

First Nations adults who reported having at least one drink in the past 12 months were asked how often they had engaged in binge drinking during the same period. The number of First Nations adults reporting that they never engaged in binge drinking was mostly unchanged from the RHS Phase 2 to the RHS Phase 3 (see *Table 4.4*).

According to the RHS Phase 2, more than 1 in 10 (13.5%, 95% CI [12.2, 14.9]) First Nations adults reported abstaining from alcohol completely in the previous 12 months, compared to 12.0% (95% CI [10.7, 13.4]) in the RHS Phase 2. Most frequencies of binge drinking also remained unchanged.

Table 4.4: Percentage of First Nations adults who reported having an alcoholic beverage in the past year who also reported binge drinking

Frequency of Use	RHS Phase 2 (2008-2010) %	95% CI	RHS Phase 3 (2015-2016) %	95% CI
Never	13.5	[12.2, 14.9]	12.0	[10.7, 13.4]
Less than once per month	23.0	[21.4, 24.7]	25.2	[23.1, 27.4]
Once per month	21.0	[19.6, 22.5]	21.4	[19.7, 23.1]
2-3 times per month	27.2	[25.5, 28.8]	25.8	[24.0, 27.7]
Once per week	6.3	[5.4, 7.3]	6.1	[5.4, 6.8]
More than once per week	8.0	[7.2, 8.9]	7.7	[6.8, 8.8]
Daily	1.1	[0.9, 1.3]	1.9	[1.4, 2.4]

First Nations adults who engaged in any amount of drinking were asked if they had sought treatment for alcohol abuse or alcohol addiction in the previous year. As a result, data from heavy drinkers is mixed with adults who engaged in binge drinking once and had no further problematic alcohol use; as well as data from those that consumed minimal amounts of alcohol in the past year and did not require treatment or data from First Nations adults who may have turned to friends or family for support and therefore did not seek more formal treatment.

The results indicate that the majority (89.0%, 95% CI [86.9, 90.7]) of First Nations adults who consumed any amount of alcohol in the previous years had not sought treatment, while 5.5% (95% CI [4.3, 7.0]) sought and completed treatment (see *Table 4.5*). The RHS Phase 2 did not include data on alcohol treatment, so a comparison is not possible.



Table 4.5: Percentage of First Nations adults who sought treatment for alcohol abuse/addiction in the past 12 months

Sought treatment?	%	95% CI
No	89.0	[86.9, 90.7]
Yes, and I completed the treatment	5.5	[4.3, 7.0]
Yes, but I didn't complete the treatment	2.8	[2.2, 3.6]
Yes, but no treatment was available	2.8	[1.8, 4.1]

Drug use among First Nations adults

RHS Phase 3 results indicate no statistically significant changes in the use of cannabis or crack

cocaine (the two most frequently reported drugs used among First Nations adults) compared to the RHS Phase 2 (see *Table 4.6*).

Table 4.6: Illicit drug use amongst First Nations adults in the 12 months prior to the survey

Illicit drug used in the past year	RHS Phase 2		RHS Phase 3	
	%	95% CI	%	95% CI
Cannabis				
No use in past year	67.7	[66.9, 69.2]	69.7	[68.2, 71.2]
Once or twice	11.1	[10.3, 11.9]	11.2	[10.3, 12.1]
Monthly	3.2	[2.8, 3.7]	2.4	[2.0, 2.8]
Weekly	5.6	[4.9, 6.6]	4.6	[3.8, 5.4]
Daily or almost daily	12.4	[11.3, 13.5]	12.1	[11.2, 13.1]
Cocaine or crack				
No use in past year	92.2	[91.4, 93.0]	91.9	[90.9, 92.8]
Once or twice	5.3	[4.7, 5.9]	5.6	[4.8, 6.5]
Monthly	1.3	[1.0, 1.6]	1.5	[1.2, 1.9]
Weekly	1.2	[0.9, 1.5]	0.6	[0.5, 0.9]
Daily or almost daily	N/A	N/A	0.3E	[0.2, 0.5]E

Note: E High sampling variability, interpret with caution.

The RHS Phase 3 indicates that the overwhelming majority (93.9% or higher) of First Nations adults never use illegal drugs, with the exception of

prescription opioids which three-quarters (75.1%, 95% CI [72.8, 77.2]) of adults said they had not used in the previous year (see *Table 4.7*).



Table 4.7: Abstinence from prescription and illegal drug use by First Nations adults in the past 12 months

Drug	% Never used	95% CI
Amphetamines	98.2	[97.9, 98.5]
Methamphetamine/Crystal Meth	98.8	[98.4, 99.1]
Ecstasy	98.4	[98.1, 98.7]
Hallucinogens	97.7	[97.3, 98.1]
Inhalants	99.4	[98.8, 99.7]
Heroin	99.7	[99.5, 99.8]
Prescription opioids	75.1	[72.8, 77.2]
Prescription stimulants	98.9	[98.6, 99.1]
Prescription sedatives	93.9	[93.0, 94.7]

The overwhelming majority (91.9%, 95% CI [90.3, 93.3]) of adults who reported using illegal or prescription drug use in the previous year said that they had not sought treatment for substance abuse or addiction in the same period; only 4.4% (95% CI [3.6,

5.4]) said they had sought and completed treatment (see *Table 4.8*). The RHS Phase 2 did not include data on treatment for prescription drugs or illegal drug use, so a comparison is not possible.

Table 4.8: Percentage of First Nations adults who sought treatment for prescription or illicit drug use in the past 12 months

Sought treatment?	%	95% CI
No	91.9	[90.3, 93.3]
Yes, and I completed the treatment	4.4	[3.6, 5.4]
Yes, but I didn't complete the treatment	2.4 ^E	[1.5, 3.8] ^E
Yes, but no treatment was available	1.2	[0.9, 1.7]

Note: E High sampling variability, interpret with caution.

Youth

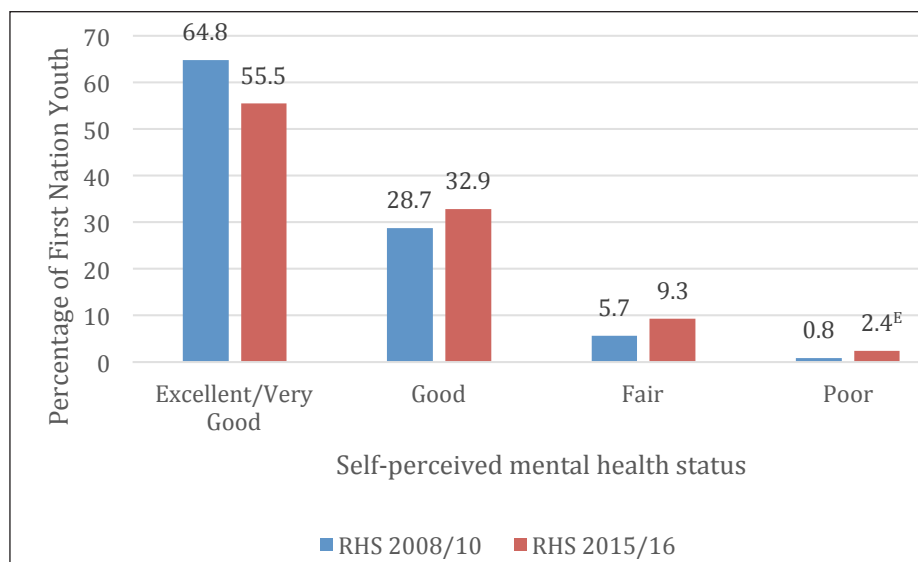
Mental health among First Nations youth

According to the RHS Phase 3 dataset, more than half (55.5%, 95% CI [52.8, 58.1]) of First Nations youth reported having *very good* or *excellent* mental health, compared to nearly two-thirds (64.8%, 95% CI [62.4, 67.2]) of youth in the RHS Phase 2 (2008-2010) (see *Figure 4.2*). The proportion of First Nations youth who reported *good* mental health was comparable from phase to phase, with 28.7% (95% CI not available)

reporting good mental health in the RHS Phase 2 (2008-2010), and 32.9% (95% CI [30.6, 35.3]) in the RHS Phase 3.

A very small proportion (0.8%, 95% CI [0.6, 1.1]) of youth reported having *poor* mental health in the RHS Phase 2; a number that increased to 2.4% (95% CI [1.7, 3.3]) in the RHS Phase 3. Overall the majority (88.4%, 95% CI [86.9, 89.7]) of First Nations youth reported having *good*, *very good* or *excellent* mental health in the RHS Phase 3 dataset (see *Figure 4.2*).

Figure 4.2: Self-reported mental health among First Nations youth



Note: E High sampling variability, interpret with caution.

In the RHS Phase 3, First Nations youth were also asked if they had a formal diagnosis of a mental health condition from a health professional. Nearly 1 in 10 (8.2%, 95% CI [7.2, 9.4]) said they had been were

diagnosed with anxiety, while 6.6% (95% CI [5.8, 7.6]) said they had been diagnosed with a mood disorders (see *Table 4.9*).



Table 4.9: Percentage of First Nations youth diagnosed with mental health conditions or FASD

Diagnosis	RHS Phase 3 %	95% CI
Anxiety	8.2	[7.2, 9.4]
Mood disorder	6.6	[5.8, 7.6]
ADD/ADHD	3.4	[2.9, 4.0]
ASD	0.4	[0.2, 0.7]
FASD	0.5	[0.3, 0.8]

Psychological distress was gauged by the Kessler Psychological Distress Scale (K10). Nearly two-thirds (63.0%, 95% CI [60.6, 65.2]) of youth were assessed as being likely to experience strong mental health, according to the scale while nearly one-quarter (24.4%) were assessed as being likely to have moderate to severe mental distress (see Table 4.10).

Table 4.10: Perceptions of distress and personal balance among First Nations youth

Measure of well-being	Self-rating	RHS Phase 3 %	95% CI
K10 score	Likely to be well	63.0	[60.6, 65.2]
	Likely to have a mild mental disorder	13.6	[12.4, 15.1]
	Likely to have a moderate mental disorder	8.9	[7.8, 10.2]
	Likely to have a severe mental disorder	14.5	[12.7, 16.5]
Balance - physical	Some/Almost none of the time/None of the time	26.7	[24.5, 29.0]
	Most/All of the time	73.3	[71.0, 75.5]
Balance - emotional	Some/Almost none of the time/None of the time	34.9	[32.3, 37.5]
	Most/All of the time	65.1	[62.5, 67.7]
Balance - mental	Some/Almost none of the time/None of the time	35.1	[32.4, 38.0]
	Most/All of the time	64.9	[62.0, 67.6]
Balance - spiritual	Some/Almost none of the time/None of the time	38.0	[35.4, 40.8]
	Most/All of the time	62.0	[59.2, 64.6]

Among First Nations youth who reported being diagnosed with mental health conditions, 34.8% (95% CI [27.9, 42.5]) were treated for anxiety, 33.8% (95% CI [25.6, 43.1]) were treated for mood disorders, 48.1%

(95% CI [38.7, 57.6]) were treated for ADD/ADHD, and 49.5% (95% CI [30.0, 69.1]) were treated for ASD (See Table 4.11). Treatment data for FASD was suppressed due to high sampling variability.



Table 4.11: Percentage of First Nations youth diagnosed with a mental health condition who were receiving treatment

Diagnosis	Percentage of youth undergoing treatment	95% CI
Anxiety	34.8	[27.9, 42.5]
Mood disorder	33.8	[25.6, 43.1]
ADD/ADHD	48.1	[38.7, 57.6]
ASD	49.5 ^E	[30.0, 69.1]
FASD	F	F

Note: ^E High sampling variability, interpret with caution.

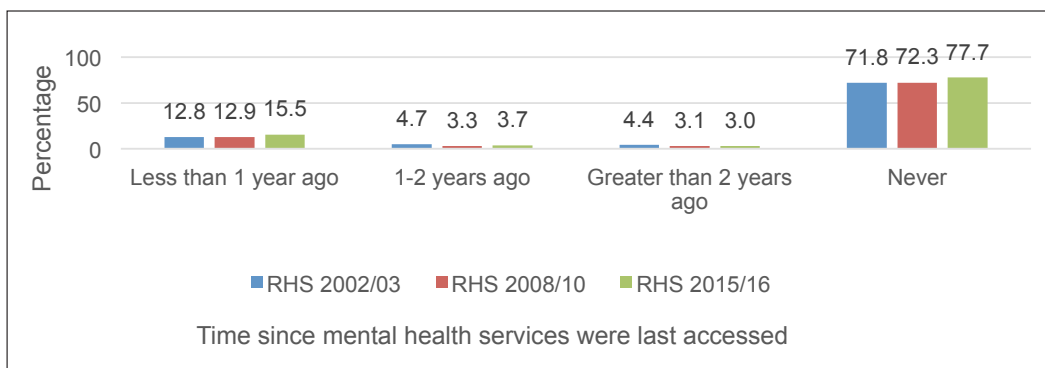
^F Suppressed due to small cell size or extreme sampling variability.

More than one-quarter (77.7%, 95% CI [75.7, 79.7]) of First Nations youth reported never using mental health services (e.g., counselling, psychological testing), compared to 15.5% (95% CI [13.9, 17.3]) who reported having used such services, in the previous 12 months.

A very small proportion (3.7%, 95% [CI 3.1, 4.5]) of youth reported their last visit to these services had been one to two years previous, and 3.0% (95% CI

[2.3, 3.8]) indicated their last visit was more than two years ago (see *Figure 4.3*). Over the three phases of the RHS there has been little change in utilization of these services, aside from a small decrease in the percentage of First Nations youth who never accessed a service. It should be noted that this question was asked of all youth, regardless of how they rated their mental health; as a result, many youth may not have accessed services because they did not require support.

Figure 4.3: Time since First Nations youth last accessed mental health services





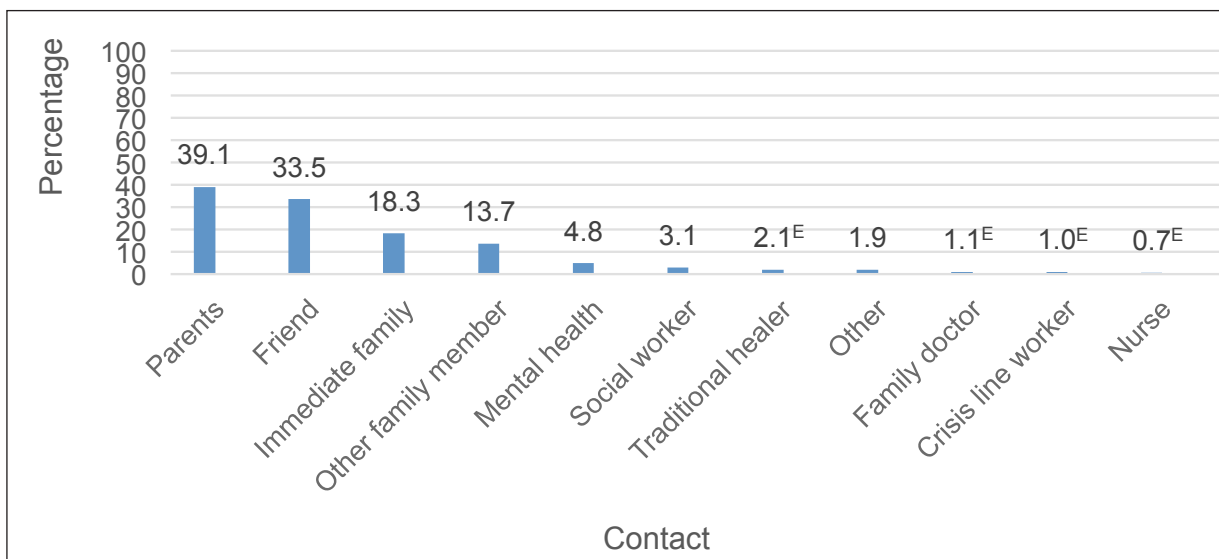
The RHS Phase 3 asked First Nations youth if they needed to see anyone or to talk to anyone about their emotional or mental health in the preceding 12 months. More than one-fifth (20.7%, 95% CI [18.7, 22.8]) responded “yes”; 79.3% (95% CI [77.2, 81.3]) responded “no.” Note that these percentages include youth who perceive themselves as having good to excellent mental health and who abstain from substance use, in addition to those who reported poor mental health and substance misuse.

In terms of social supports, nearly 2 in 5 (39.1%, 95% CI [36.4, 41.9]) First Nations youth said they talked to their parents about their emotional or mental health,

one-third (33.5%, 95% CI [31.0, 36.2]) said they talked to a friend, and nearly 1 in 5 (18.3%, 95% CI [16.2, 20.5]) said they talked to another immediate family member (see *Figure 4.4*).

“Other family members” were also a significant source of support, with 13.7% (95% CI [12.0, 15.5]) of youth reporting they talked to them about their emotional or mental health; mental health professionals, social workers, Traditional healers and family doctors were the least often reported sources of support. Note that comparisons are not possible with earlier phases of the RHS, or the general population, due to differences in response categories.

Figure 4.4: Contacts First Nations youth talked to about their emotional or mental health





Tobacco use among First Nations youth

According to the RHS Phase 3, the majority (82.8%, 95% CI [81.0, 84.5]) of First Nations youth reported never having smoked cigarettes. Only 1 in 10 (10.4%, 95% CI [9.1, 11.8]) youth reported smoking on a daily basis, and only 6.8% (95% CI [5.9, 7.9]) reported smoking on an occasional basis. This marks a significant decrease from the RHS Phase 2 findings, which reported that 20.4% (95% CI [18.6, 22.3]) of First Nations youth were daily smokers (a decrease of nearly 50 percent), and 12.8% (95% CI [11.4, 14.3]) were occasional smokers.

According to the RHS Phase 2, less than 1 in 10 (8.5%, 95% [CI 7.1, 10.1]) of First Nations youth said they were ex-smokers; that proportion increased to 11.5% (95% CI [9.3, 14.0]) in the RHS Phase 3. The most common reasons given in the RHS Phase 3 for quitting smoking were: choosing a healthier lifestyle (49.2%, 95% CI [37.7, 60.8]), respect for loved ones (29.2%, 95% CI [22.7, 36.6]) and peer pressure from

friends and co-workers (10.5%, 95% CI [6.5, 16.7]). Data on other reasons for quitting were available, though some results were suppressed due to small sample sizes or high sampling variability, while others had high sampling variability and needed to be treated with caution.

Alcohol use among First Nations youth

According to the RHS Phase 3, more than three-quarters (75.3%, 95% CI [73.2, 77.3]) of First Nations youth said they had abstained from any alcohol consumption in the preceding 12 months. This is a significantly higher proportion than RHS Phase 2 which reported that nearly two-thirds (61.0%, 95% CI [58.6, 63.4]) of youth had abstained from alcohol in the 12 months prior to the survey.

More than one-fifth (20.4%, 95% CI [16.7, 24.6]) of First Nations youth who had consumed an alcoholic drink in the previous year had never engaged in binge drinking. This was similar to that reported in the RHS Phase 2 (22.3%, 95% CI [19.5, 25.3]) (see Table 4.12).

Table 4.12: Percentage of First Nations youth who consumed an alcoholic drink in the past year and who also engaged in binge drinking in the past 12 months

Frequency of Use	RHS Phase 2 %	95% CI	RHS Phase 3 %	95% CI
Never	22.3	[19.5, 25.3]	20.4	[16.7, 24.6]
Less than once per month	26.3	[23.4, 29.4]	28.9	[24.9, 33.2]
Once per month	19.4	[16.8, 22.3]	18.3	[15.4, 21.5]
2-3 times per month	21.3	[18.8, 24.1]	23.9	[19.9, 28.3]
Once per week	n/a	n/a	3.8	[2.6, 5.6]
Once per week or more	10.6	[9.2, 12.3]	3.6	[2.6, 5.1]

The majority (93.5%) of youth who had consumed an alcoholic drink in the previous year said that they had not sought treatment (95% CI [91.0, 95.4]), while 3.0% (95% CI [1.9, 4.8]) said they wanted to access treatment but none was available (see Table 4.13). The RHS Phase 2 indicated that 5.8% (95% CI [4.7, 7.1]) of youth had sought treatment at some point in their

lives. The RHS Phase 3 data focused on the past 12 months. A full comparison with the RHS Phase 2 is not possible as treatment data was not published.

It is worth noting that all youth who indicated that they had consumed alcoholic beverages in the past 12 months were asked if they had sought treatment for



alcohol use or alcohol addiction, even if they did not self-identify their use as problematic. Moreover, youth

who reported abstinence in the previous year were not asked about treatment.

Table 4.13: Percentage of First Nations youth who consumed an alcoholic drink and sought treatment for alcohol abuse/addiction in the past 12 months

Sought treatment	%	95% CI
No	93.5	[91.0, 95.4]
Yes, and I completed the treatment	1.8 ^E	[1.0, 3.1]
Yes, but I didn't complete the treatment	1.7 ^E	[1.0, 2.7]
Yes, but no treatment was available	3.0 ^E	[1.9, 4.8]

Note: ^E High sampling variability, interpret with caution.

Drug use among First Nations youth

RHS Phase 3 results indicate that the overwhelming majority of First Nations youth had abstained from illicit and prescription drug use in the 12 months prior to the survey, with abstinence rates ranging from 97.7% to 99.7% (see *Table 4.14*). The exception here was cannabis use, which 72.8% (95% CI [70.3, 75.1]) of youth indicated that they had not used it in the past year.

However, cannabis use over time has seen a decrease over time. In the RHS Phase 1, one-third (32.7%,

95% CI [30.2, 35.2]) of First Nations youth reported cannabis use, which rose slightly in RHS Phase 2 (36.2%, 95% CI [34.1, 38.4]); while the proportion decreased to 27.2% (95% CI [24.9, 29.7]) in RHS Phase 3 (see *Table 4.14*).

Data was also collected on prescription drugs, and results indicate a similar high prevalence of non-use, with abstinence ranging from 89.6% to 98.9% (see *Table 4.14*).

Table 4.14: Abstinence from prescription and illicit drug use among First Nations youth in the past 12 months

Substance	Never used %	95% CI
Cannabis	72.8	[70.3, 75.1]
Cocaine	98.0	[97.4, 98.5]
Amphetamines	99.4	[99.1, 99.5]
Methamphetamine/Crystal meth	99.4	[99.0, 99.6]
Ecstasy	98.9	[98.6, 99.2]
Hallucinogens	97.7	[96.6, 98.4]
Inhalants	99.2	[98.8, 99.5]
Heroin	99.7	[99.4, 99.9]
Prescription opioids	89.6	[88.1, 90.9]
Prescription stimulants	98.9	[98.6, 99.2]
Prescription sedatives	98.7	[97.7, 99.2]



First Nations youth who indicated that they had used prescription or illegal drugs in the past 12 months were asked if they had sought treatment for substance abuse or addiction. It should be noted that many youth who were asked about treatment may have engaged infrequently that did not require an intervention. Furthermore, youth who reported no drug use were not asked about treatment—if a youth chose not to disclose recent substance use due to factors like stigma, they would not have been asked about treatment.

The results indicate that the majority (95.2%, 95% CI [93.7, 96.4]) of First Nations youth who used prescription or illegal drugs in the past 12 months had not sought treatment. The remaining 4.8% were broken down as follows: 1.5%E (95% CI [0.9, 2.7]) sought out and completed treatment, 1.5%E (95% CI [1.0, 2.3]) attended treatment without completing the program and 1.8%E (95% CI [1.1, 2.7]) sought treatment but were unable to access it. Please note that “E” indicates a high sampling variability and therefore estimates should be interpreted with caution.

Children

According to the RHS Phase 3, a very small proportion (0.8%, 95% CI [0.6, 1.1]) of First Nations children had been diagnosed with anxiety or mood disorders, which is similar to the findings from the RHS Phase 2 (0.7%, 95% CI [0.5, 0.9]) (see *Table 4.15*).

The prevalence of ADD/ADHD in First Nations children saw a slight decrease from 2.6% (95% CI [2.3, 3.0]) in RHS Phase 2 to 1.8% (95% CI [1.4, 2.2]) in RHS Phase 3.

The prevalence of ASD saw little change from the RHS Phase 2 and Phase 3, though high sampling variability in Phase 2 indicates that the estimates for that phase should be interpreted with caution. In the RHS Phase 2, 0.5% (95% CI not available) of children were diagnosed with ASD; in RHS Phase 3 there were 0.7% (95% CI [0.4, 1.1]). Comparable data was not collected for the RHS Phase 1.

The prevalence of FASD in First Nations children decreased from 1.8% (95% CI not available) in the RHS Phase 2, to 0.5% (95% CI [0.5, 0.8]) in the RHS Phase 3.

Table 4.15: Percentage of First Nations children diagnosed with a mental health condition/FASD

Diagnosis	RHS Phase 1 % [95% CI]	RHS Phase 2 % [95% CI]	RHS Phase 3 % [95% CI]
Anxiety or mood disorder	n/a	0.7 [0.5, 0.9]	0.8 [0.6, 1.1]
ADD/ADHD	2.6 [2.3, 3.0]	2.0 [1.6, 2.5]	1.8 [1.4, 2.2]
ASD	n/a	0.5E [n/a]	0.7 [0.4, 1.1]
FASD	1.8 [n/a]	0.9 [n/a]	0.5 [0.3, 0.8]

Note: E High sampling variability, interpret with caution.

Research has shown that alcohol consumption during pregnancy can lead to FASD. RHS Phase 3 data indicate that the majority (93.0%, 95% CI [91.9, 94.0]) of First Nations women abstained from drinking alcohol while they were pregnant. (Comparable data was not published in the RHS Phase 1 or RHS Phase 2). Data on the frequency of use in the mothers who

reported drinking in the RHS Phase 3 was suppressed due to low cell count or high sampling variability.

According to the RHS Phase 3, more than one-third (37.5%, 95% CI [35.0, 40.1]) of pregnant First Nations women reported smoking at some point during their pregnancy (see *Table 4.16*). This proportion was



significantly lower than what was reported in RHS Phase 2 (46.9%, 95% CI [44.5, 49.3]), and similar to the 36.6% (95% CI not available) reported in the RHS Phase 1.

RHS Phase 3 results indicate that nearly two-thirds (62.5%, 95% CI [59.9, 65.0]) of women reported never smoking during pregnancy, compared to more than half (53.1%, 95% CI [50.7, 55.5]) in the RHS Phase 2.

More than 1 in 4 (26.8%, 95% CI [24.6, 29.1]) of First Nations women reported smoking throughout their pregnancy, a drop from nearly one-third (32.7%, 95% CI [30.5, 34.9]) reported in the RHS Phase 2.

Among mothers who smoked at any point during their pregnancy, 58.8% (95% CI [54.9, 62.6]) smoked daily, an increase from 51.0% reported in the RHS Phase 2 (95% CI [47.6, 54.4]). Occasional smoking dropped to 41.2% (95% CI [37.4, 45.1]) from 49.0% (95% CI [45.5, 52.5]) in the RHS Phase 2.

Nearly three-quarters (72.4%, 95% CI [70.2, 74.6]), of First Nations women reported that nobody smoked in their home while they were pregnant; compared to nearly two-thirds (60.0%, 95% CI [57.6, 62.4]) in the RHS Phase 2. Overall, the proportions of in utero exposure to tobacco smoke seem to be decreasing even with the increase in the frequency of daily smoking during pregnancy.

Table 4.16: Prevalence of smoking at any point during pregnancy among First Nations mothers

	RHS 2008/10 %	95% CI	RHS 2015/16 %	95% CI
Mother smoked during pregnancy				
No, never smoked during pregnancy	53.1	[50.7, 55.5]	62.5	[59.9, 65.0]
Yes, smoked throughout the pregnancy	32.7	[30.5, 34.9]	26.8	[24.6, 29.1]
Yes, but quit in the 1st semester	9.2	[7.7, 10.7]	7.7	[6.8, 8.6]
Yes, but quit in the 2nd semester	3.6	[2.7, 4.5]	2.2	[1.7, 2.9]
Yes, but quit in the 3rd semester	1.4E	[0.9, 1.9]	0.8	[0.5, 1.2]
Frequency of smoking at any point during pregnancy				
Daily	51.0	[47.6, 54.4]	58.8	[54.9, 62.6]
Occasionally	49.0	[45.5, 52.5]	41.2	[37.4, 45.1]
Others smoked in the household while the mother was pregnant				
No	60.0	[57.6, 62.4]	72.4	[70.2, 74.6]
Yes	40.0	[37.5, 42.5]	27.6	[25.4, 29.8]

Note: ^E High sampling variability, interpret with caution.

First Nations parents who reported that their child was diagnosed with a mental health condition or FASD were asked if their child was being treated for the condition. Of those First Nations children who had been diagnosed, more than three-quarters (75.2%, 95% CI [56.2, 87.8]) were receiving treatment for ASD, more than half (58.8%, 95% CI [45.0, 71.3])

were being treated for ADD/ADHD, 46.7% (95% CI [28.4, 66.1]) were being treated for FASD, 44.0% (95% CI [21.3, 69.5]) were being treated for mood disorders, and nearly 2 in 5 (39.5%, 95% CI [26.8, 53.7]) were receiving treatment for anxiety disorders (see *Table 4.17*).



Table 4.17: Percentage of First Nations children diagnosed with mental health or neurodevelopmental conditions who are undergoing treatment

Diagnosis	RHS Phase 3 %	95% CI
Anxiety	39.5	[26.8, 53.7]
Mood disorder	44.0	[21.3, 69.5]
ADD/ADHD	58.8	[45.0, 71.3]
ASD	75.2	[56.2, 87.8]
FASD	46.7	[28.4, 66.1]

DISCUSSION

The RHS Phase 3 can fill many knowledge gaps by providing trending analyses in mental health diagnoses and substance use and misuse. However there are some knowledge gaps that cannot be filled by the survey. For example, the RHS does not include a broad spectrum of diagnoses (e.g., PTSD, schizophrenia) and sometimes relies on self-reports that can be influenced by factors such as stigma (which may discourage First Nations adults, youth or parents from disclosing a mental health or substance use issue). It further relies on First Nations adults, youth or parents to report a diagnosis by a professional (e.g., anxiety, mood disorder, ASD): in communities with limited access to health services, such diagnoses may not be available.

Children

The RHS Phase 3 data suggest that First Nations children generally have good or excellent mental health, though primary caregivers' responses may be biased with respect to social desirability or fear of triggering child welfare involvement.

Reports of mental wellness also contradict colonial narratives focused on deficits and illness. Such colonial narratives focus discussion towards mental health interventions that do not promote meaningful access to the social determinants of health (de Leeuw,

Greenwood, & Cameron, 2010). This access must be part of any effort to promote mental wellness in First Nations.

For example, Denison, Varcoe & Browne (2014) found that Indigenous women would seek health care for their children in mainstream organizations despite previous experiences of racism, prejudice and discrimination. However, racism and the fear of child apprehension convinced mothers not to access health care for themselves, creating the possibility that children would be vicariously exposed to their mother's struggles. Focusing specifically on interventions while ignoring community strengths and the broader determinants of health may perpetuate ill intergenerational health.

Community based participatory research may provide insight into culturally appropriate health programming for children that can enhance experiences of the social determinants of health and provide cultural support (Baydala, Ruttan & Starkes, 2015; Starkes and Baydala, 2014). For example, a partnership between Wikwemikong Unceded Indian Reserve and Laurentian University developed the Aboriginal Children's Health and Well-being Measure (ACHWM) by involving children and youth in the process to ensure the views of children and youth were represented in the questions (Young et al., 2015; Young et al., 2013). Alexander First Nation also established an inter-sectoral committee to improve



the health and well-being of children by monitoring all research in the community to ensure that it meets community needs (Gokiart et al., 2017).

The RHS Phase 3 suggests that one possible community need to be addressed is in-utero exposure to tobacco products and alcohol. Smoking during pregnancy is connected to physical health problems, such as low birth weight, and can contribute to childhood mental health issues, such as conduct disorder and bipolar disorder (Ardesheer, 2013; Gaysina et al., 2013; Slotkin, 2013). In-utero exposure to tobacco smoke could also occur if others smoked in the maternal household during pregnancy. The findings from the RHS Phase 3 show a decrease in the percentage of mothers who reported that no others smoked in the household while the mother was pregnant, compared to RHS Phase 2 findings.

Current research further indicates that First Nations children can experience major hindrances to executive function as a consequence of FASD (Rai et al., 2016). The FASD prevalence data for the general population was taken from an estimate. The true extent of FAS and FASD in Aboriginal and non-Aboriginal populations is not well-known due to difficulties in estimating or comparing prevalence (Firestone, Tyndall & Fischer, 2015).

The RHS Phase 3 did not track in-utero exposure to opioids, cannabis or other substances, which may also affect subsequent mental health status of children. Some research indicates that narcotic use for First Nations mothers during pregnancy may be on the rise, and that it is highly correlated with alcohol and smoking during pregnancy (Kelly et al., 2011). More research is needed in this area.

The RHS Phase survey does not fully explore the incidence of trauma during pregnancy, such as pressures from child welfare agencies, mental health issues, and family conflict. “The mental health of children and youth is also closely linked to parental

mental health – particularly maternal mental health” (Roy, 2014, p. 8). Trauma-informed care, particularly focused on intergenerational trauma, may increase the likelihood of strong mental health in children. More research is needed to investigate the prevalence and types of trauma during pregnancy and access to trauma-informed care for pregnant women.

Overall, the data suggest that many First Nations children are experiencing strong mental health and that, while prenatal exposure to maternal tobacco and alcohol misuse is decreasing, it remains an area of concern for promoting mental wellness to future generations. The broader health literature points to a growing emphasis on the social determinants of health and community based participatory research that may facilitate the growth of culturally based programming.

Youth

According to the RHS Phase 3, First Nations youth generally reported good mental health. This finding may need to be treated with caution, as some youth may have chosen not to disclose a mental health issue due to stigma or because they do not have access to services that could screen for mental health issues. These caveats aside, data further indicates that fewer youth are smoking commercial tobacco products, and significantly fewer youth are binge drinking than what was reported in the RHS 2008/10.

Furthermore, the majority of youth report never using prescription or illegal drugs (with cannabis being the exception). Even then, a large proportion of youth (nearly 7 out of 10) reported abstinence from cannabis use. Around 5–6 out of 100 youth who consumed alcohol, prescription drugs or illicit drugs had sought treatment in the past year. It should not be assumed that all who did not seek treatment needed it. Some youth who were asked about treatment may have engaged in mild social use that did not require professional intervention. Youth who



did not disclose their use of alcohol due to stigma or other factors would not have been asked about treatment.

It should not be assumed that all First Nations youth who asked about treatment required assistance nor should it be assumed that all youth who reported abstinence did not require assistance. Many may have already had the support they needed or simply did not require treatment. Others may have felt too stigmatized by the health care system to risk involvement with it. The RHS Phase 3 questionnaire did not explore the reasons youth avoided treatment.

The strong self-reported mental health percentage suggested by some findings, although positive, do not by itself provide a full picture of well-being. Furthermore, although a high proportion did report positive mental health, there is still a proportion that did not.

According to Firestone:

The widely elevated prevalence of alcohol, tobacco and illicit drug use, risk factors and related health problems among Aboriginal populations in Canada is of urgent public health and policy concern. Notably, available data reveal that initiation into drug use is occurring at a much earlier age, specific risk factors such as binge-drinking and unsafe drug use behavior are highly prevalent and the burden of related harms are particularly elevated among Aboriginal youth (Firestone et al., 2015, p. 1120).

The incongruity between RHS results and published literature is difficult to examine. The limited and inconsistent prevalence data for substance use, related harms and morbidity and mortality consequences are extremely concerning, given the known disparities in social determinants of health between Indigenous and non-Indigenous people in Canada (Firestone et al., 2015). As noted in the

introduction, the TRC (2015) called for collaboration between the federal government and Aboriginal peoples to establish measurable goals to identify and close the gaps in health outcomes between Indigenous and non-Indigenous communities, and to publish annual progress reports and assess long-term trends including, but not limited to, mental health and addictions.

Firestone et al. (2015) highlighted the need to create a more holistic model of wellness that involves the physical, emotional, spiritual and mental aspects of a person who is always in connection with his or her community and family, as well as his or her natural environment, and adjusting the current substance use and mental health service delivery model that is largely focused on individualized interventions. They further highlighted the need for meaningful youth engagement at every stage of design and implementation of programs, services and research addressing the role of systemic and persistent forms of social and economic exclusion and their impact on health and well-being.

Further evidence points to the importance of family and community (Petrasek MacDonald et al., 2013) with environmental connections. Atkinson (2017) provides examples of community-based interventions in family, school, community and land-based settings—such as Listening to One Another, a culturally based collaboration between three universities and First Nations communities in British Columbia, Manitoba, Ontario and Quebec—which promotes community and cultural pride.

In short, stronger, culturally informed data could explain why the RHS Phase 3 results point to high self-ratings of mental health and high abstinence from substance use, while the literature elsewhere points to high prevalence of substance misuse and suicide. It could also highlight any gaps between the general population and First Nations youth and identify strategies to address such gaps by creating



meaningful access to the social determinants of health, by acknowledging the strengths of First Nations youth and by identifying the needs of youth requiring additional support.

Adults

The RHS Phase 3 data indicates that the majority of First Nations adults rate their mental health as good, very good or excellent and abstain from prescription or illegal drug use. Much like the findings for children and youth, these findings contradict colonial narratives that emphasize deficits and illness. Overall, results indicate that the majority of First Nations adults perceive their mental health as strong, though a minority experience significant distress.

Broader health literature, written by authors aware of colonial narratives, acknowledges that many communities may experience distress and propose interventions better informed by cultural approaches. For example, Nelson and Wilson (2017) suggest that mental health research related to Indigenous peoples in Canada overemphasizes suicide and problematic substance use. They further contend that colonialism and trauma are a much more significant cause of distress and that treatment should address those concerns, rather than focus specifically on mental health and substance use. Gone (2013) further indicates the importance of recognizing historical trauma in treatment programs and provides a case example of how participating in traditional cultural rituals helped Indian Residential School Survivors recover from historical trauma.

Nearly three-quarters (70.9%) of First Nations adults did not access mental health treatment, which requires contextualization. All adults were asked if they had accessed treatment in the past 12 months, including those who self-rated their mental health as good, very good or excellent. Many First Nations adults may not have sought treatment because they did not require it.

Broader health literature does point to the need for treatment and further suggests that stigma and discrimination remain major barriers to accessing treatment services for Indigenous adults (Boksa, Joober & Kirmayer, 2015). Services may be inadequate or inappropriate, owing to a lack of culturally competent and knowledgeable mental health care providers. Many smaller, remote communities have limited or no access to mental health services, and there is often lack of trained Indigenous mental health workers or a high turnover of non-Indigenous health workers. These lead to a lack of continuity of services and connection to specialized services. Furthermore, the current jurisdictional division of health care between federal and provincial governments tends to lean towards funding that is often project-based and time limited, and sustainability is a continual challenge (Kanate et al., 2015).

A growing body of evidence suggests that Western interventions and culturally based interventions can be successfully combined to address multiple forms of trauma (Reeves & Stewart, 2015), including substance abuse issues such as opioid addiction (Kanate et al., 2015). Hall et al. (2015) point to the importance of “two-eyed seeing.” This approach combines the strengths of culturally based healing with compatible Western interventions, maximizing the impact of both. They applied the concept to data collection as well, combining Western qualitative and quantitative data collection methods with cultural evaluation strategies. They also used two-eyed seeing to strengthen Indigenous governance of their project.

In short, the literature suggests that some First Nations communities or individuals may not experience the same high rates of abstinence and high self-ratings of mental health reported in the RHS Phase 3. The strengths suggested by RHS data should be acknowledged, along with existing efforts, to build strengths-based, culturally based treatment that connects First Nations adults to their communities, families and culture through traditional land-based activities.



CONCLUSIONS

There are many themes that overlap when discussing mental health and substance use of First Nations children, youth and adults as a whole.

First, too little is known about the mental health of First Nations children, youth and adults. The RHS Phase 3 fills many statistical gaps by tracking self-reported mental health, specific mental health diagnoses (anxiety, mood disorders, ADD/ADHD, ASD) and substance use-related neurocognitive disorders (FASD). But further knowledge needs to be developed for a broader spectrum of diagnoses including PTSD, schizophrenia and intergenerational trauma.

Implementing the TRC's Call to Action to establish measurable goals to identify and close the gaps in health outcomes between Indigenous and non-Indigenous communities, to publish annual progress reports and assess long-term trends including, but not limited to, mental health and addictions would address this gap. Moreover, First Nations youth and children's subjective experiences in treatment needs to be documented so that interventions can be adapted to better suit them (Firestone et al., 2015; Young et al., 2015; Young et al., 2013).

Enhanced Indigenous data governance and management, culturally relevant health measurement, clarification of provincial, federal and First Nations jurisdictional responsibilities for health data collection and enhanced dissemination to Indigenous leadership are other possible solutions (Smylie, 2009).

Second, the medical model driving the broader mental health sector often focuses on deficits and

illness which contradicts the wellness focus of most culturally based programs. Atkinson (2017) noted the success of Listening to One Another (mentioned above). The *First Nations Mental Wellness Continuum Framework* built on the success of the nationwide Honouring Our Strengths programs. Firestone et al. (2015) note the success of the community-based suicide prevention program called "Through the Pain to Wellness."

Fournier et al. (2017) describe a promising community driven mental health intervention for First Nations men and boys in River Rock First Nation. Snowshoe et al. (2017) demonstrated strong links between cultural connectedness and mental wellness in youth. When wellness becomes the focus, instead of on deficits, effective interventions can be created.

Third, the funding base for many of these interventions is project-based. Kanate et al. (2015) highlight that funding is too often project-based and time-limited, which makes sustainability a constant challenge. The TRC called for sustained funding for healing lodges devoted to the treatment of IRS trauma. Similarly, funding for promising community-driven initiatives may enhance their sustainability.

Overall, the RHS Phase 3 findings indicate positive trends towards favourable self-perceptions of mental health and reductions in self-reported substance use. The development of community-driven culturally based wellness programs promoting family and community connections show great promise in maintaining existing strengths and building resilience. Continual reports of health disparities between First Nations and the general population can identify areas for intervention. Sustained funding will ensure that those interventions can be continued.



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CHAPTER FIVE: ORAL HEALTH

EXECUTIVE SUMMARY

Oral health is integral to overall health and well-being throughout the four phases of life that are recognized in First Nations culture: child, youth, adult and elder. From breastfeeding of infants, the arrival of the first baby teeth and the completion of the permanent dentition in adolescence, healthy teeth help in the nourishment of young bodies and the promotion of self-esteem. Later in the life, healthy teeth and gums allow adults and elders better enjoy life and maintain their body, mind, and spirit.

This chapter presents the RHS Phase 3 findings on self-reported or parent/caregiver-reported oral health, access and barriers to dental care and dental treatment needs among First Nations adults (aged 18 and older), youth (aged 12 to 17) and children (from birth to age 11) living in reserve and Northern communities. This chapter also reports on age-specific outcomes including complete tooth loss (i.e., edentulism) and denture use among adults, dental pain among youth and baby bottle tooth decay (BBTD/ECC) among children. Cross-sectional data across all three phases of the RHS conducted since 2002-2003 are presented to provide a clearer picture of how the key indicators of oral health and wellness have changed over this period. Comparisons of the RHS Phase 3 findings with those of nationwide, direct clinical measures surveys are also included to investigate the degree to which the oral health of First Nations compares to the general population in Canada.

While the majority of First Nations parents or guardians rated their (or their child's) oral health to be either *good* or *excellent* overall, more First Nations rated their oral health as *fair* or *poor* compared to non-Indigenous people in the general population.

This trend was consistent across all age groups. Over the 14 years between the three phases of the RHS, access to dental care—an important determinant of oral health—has slightly declined for most First Nations, but has modestly increased for First Nations seniors (aged 65 and older) and for children (ages 0–11).

Nearly one-third of adults reported difficulties accessing dental care, however, the reported barriers to accessing services have markedly declined since the RHS Phase 1 (2002-2003). Across the three phases of the RHS, the perceived need for dental care has decreased over time among adults. Among First Nations children and youth, the general trend observed is that treatment needs were lowest in RHS Phase 1 (2002-2003), with the proportions increasing in RHS Phase 2 (2008-2010), only for them to fall again in RHS Phase 3 (2015-2016). Still, some type of dental care was felt to be needed by large proportions of youth, adults, parents or caregivers.

Among First Nations adults and seniors, the prevalence of edentulism (complete tooth loss) has not fallen since the RHS Phase 2 though the use of dentures has declined since that survey. For First Nations youth, there was a lower prevalence of dental problems or pain when compared with the previous phases of the RHS.

With respect to First Nations children, 1 in 5 were reported to have (or had), BBTD/ECC. The majority (80.8%) of these children underwent dental treatment for the disease, with nearly one-third (32.0%) having had his or her most recent dental care provided by a dental professional situated more than 90 km from the community. When compared to the previous cycles of the RHS, the prevalence of BBTD/ECC declined over time mainly for children aged 3- to 5-years-old.



Taken together these findings point to a number of positive trends that reveal improvements in oral health and in access to care for First Nations living in reserve and Northern communities since the RHS Phase 1. The results of the RHS Phase 3 can help inform interventions designed to prevent and treat oral disease in First Nations people and draw attention to particular age groups and needs that require immediate care.

KEY FINDINGS

Children

- Overall, the majority (88.0%) of parents or caregivers reported that their child's teeth and mouth were excellent, very good or good, while leaving 12.0% stated that their child's oral health was fair or poor.
- The prevalence of fair/poor parent-reported oral health was highest (16.2%) among the 3-to 5-year-old age group when compared with children from the other age groups.
- Compared with their counterparts in the general population, First Nations children between the ages of 6–8 and 9–11 had higher prevalence estimates (12.5% and 9.9%, respectively) of parental ratings of fair or poor oral health. (Children ages 0–5 were not included in the 2007/09 Canadian Health Measures Survey so no comparison is possible for this age group in the general population).
- Nearly three-quarters (71.4%) of First Nations children received dental care the year prior to the RHS Phase 3 as reported by their parents or caregivers.
- Access to dental care increased with the child's age and was highest for 6- to 8-year-olds, the majority of whom (85.1%) were reported to have had dental care in the year before the survey.
- In the period since the RHS Phase 1, access to oral health care for First Nations children aged 0- to 11-years-old has increased from 69.1% to 71.4%; representing only a 3.2% rise.
- Overall, 18.4% of parents and caregivers reported that the most recent oral health care their children received was provided by a dental professional situated more than 90 km from the community, and 16.8% reported that their children received dental care delivered by a dental professional visiting the community.
- More than one-fifth (21.9%) of 3- to 5-year-olds were reported to have received their most recent dental care from a dental professional situated more than 90 km from the community.
- More than one-third (37.8%) of parents and caregivers of First Nations infants (ages 0–2) reported that the most recent dental care for their child was provided by a dental professional stationed in the community, while 33.2% of parents and caregivers of 6- to 8-year-olds and 38.9% of parents and caregivers of 9- to 11-year-olds said the same.
- Nearly 1 in 3 (31.8%) of First Nations parents and caregivers stated that their child had no current dental treatment needs.
- First Nations parents and caregivers most frequently reported that their children required regular checkups or maintenance (51.4%), followed by restorative care, such as fillings (28.8%), fluoride treatment (17.0%) and extractions (10.7%).



- Parent and caregiver-reported dental treatment needs for their children were lowest in the RHS Phase 1 (26.9% for restorative services; 42.7% for maintenance care; 7.0% for extractions and; 12.4% for fluoride treatment), with the proportions increasing in the RHS Phase 2 (37.3% for restorative services; 64.9% for maintenance care; 10.7% for extractions, and; 23.2% for fluoride treatment), except for orthodontics (5.2% in RHS Phase 1 and 5.1% in RHS Phase 2). This number decreased again in the RHS Phase 3 (28.8% for restorative services; 51.4% for maintenance care; 17.0% for fluoride treatment, and; 3.9% for orthodontics), except for extractions (10.5% in RHS Phase 2 and 10.7% in RHS Phase 3).
- Overall, 1 in 5 (20.0%) First Nations children between the ages 0–11 was reported to have, or had, baby bottle tooth decay (BBTD) or early childhood caries (ECC) and the majority of them (80.8%) had undergone dental treatment for the disease.
- BBTD/ECC affects mostly deciduous (baby) teeth. A child's first tooth usually appears around six months of age and by age 3 all 20 of a child's baby teeth have typically grown in. The prevalence of parent and caregiver-reported BBTD/ECC in deciduous teeth increased with age, from 10.9% in infants and toddlers (ages 0–2), to 24.3% in preschoolers, ages 3–5.
- Among infants with BBTD/ECC, more than one-third (38.4%) have been treated for the disease, whereas three-quarters (75.2%) of preschoolers have received treatment for BBTD/ECC.
- When compared to the two previous phases of the RHS, the RHS Phase 3 shows that the prevalence of BBTD/ECC declined over time for those in the 3–5 year-old age cohort: from 29.4% in RHS Phase 1 to 30.9% in RHS Phase 2 and 24.3% in RHS Phase 3.
- Increased prevalence of parental reports of BBTD/ECC was significantly associated with those mothers who breastfed, on average, fewer months than mothers of children with no BBTD/ECC experience. In other words, breastfeeding longer was a protective factor against BBTD/ECC.
- First Nations children who were bottle-fed Kool-Aid, other powdered drinks, fruit juices, teas, herbal mixtures or soft drinks were 2.2 to 2.6 times more likely to have BBTD/ECC, compared to those who were not fed these liquids.
- Among children who were treated for BBTD/ECC, almost equal proportions received their most recent care from a dental professional stationed in the community (32.5%) or by a dental professional situated more than 90 km from the community (32.0%). For the remainder, dental care was provided by a dental professional situated within 90 km of the community (23.6%) or by a visiting dental professional (12.0%).

Youth

- The majority (81.1%) of First Nations youth (ages 12–17) rated the health of their teeth and mouth as *good*, *very good* or *excellent*, while nearly 1 in 6 (18.9%) rated their oral health as *fair* or *poor*.
- Based on national comparisons, the prevalence of self-reported fair/poor oral health among adolescents is highest for Inuit youth ages 12–19 (29.3%), followed by First Nations youth ages 12–17 (18.9%), and lowest among youth ages 12–19 in the general population (11.2%), excluding Indigenous youth.
- Nearly three-quarters (74.6%) of First Nations youth reported accessing dental care in the year before the survey. This was lower than the 84.5% of youth ages 12–19 in the general population in 2007–2009, but is higher than that the 69.9% reported in the First Nations Oral Health Survey (2009–2010) for First Nations aged 12–19 years living on-reserve.



- Dental care access (which the RHS Phase 3 defined as receiving dental care in the year prior to the survey), has declined slightly since the RHS Phase 1 among First Nations youth. The decline was from 78.6% in RHS Phase 1 to 75.9% in RHS Phase 2 and to 74.6% in RHS Phase 3.
- Nearly one-quarter (24.9%) of youth reported no dental treatment needs. Dental treatment needs were most frequently reported by female First Nations youth, aged 15–17.
- The prevalence of treatment needs reported by First Nations ages 12–17 ranged from 8.2% for tooth extractions to 10.3% for fluoride therapies, 16.0% for orthodontics, 30.7% for restorative work and 51.9% for regular maintenance.
- Compared with the estimates in the youth survey of the RHS Phase 1, self-reported dental treatment needs in the RHS Phase 3 have declined for restorative (e.g., dental fillings) from 36.6% to 30.7%; and preventive care (fluorides) from 12.9% to 10.3%—but have increased for regular maintenance (from 42.0% to 51.9%) and surgery (from 6.1% to 8.2%).
- Self-perceived need for orthodontic treatment among youth was not reported in the RHS Phase 1 but has increased when compared with the findings in the RHS Phase 3 (16.0% in Phase 3 vs. 13.9% in Phase 2).
- Overall, 15.8% of First Nations youth ages 12–17 experienced problems with their teeth or with any dental pain in the month prior to the RHS Phase 3 survey.
- There was a trend towards lower prevalence of dental problems or pain in all gender and age groups for youth in the RHS Phase 3, when compared with the previous phases of the RHS.
- Compared to Inuit youth, First Nations youth have a lower prevalence of dental problems or pain (15.8% First Nations youth vs. 34.2%^F Inuit youth). Conversely, and relative to their peers in

the general population, First Nations youth have a higher prevalence of dental problems or pain (15.8% First Nations youth vs. 10.4% youth in the general population).

Adults

- Nearly two-thirds (66.0%) of First Nations adults rated the health of their teeth and mouth as *good*, *very good* or *excellent*, while more than one-third (34%) rated their oral health as *fair* or *poor*. Female First Nations adults were more likely (9.5%) to rate their oral health as excellent compared to men (7.5%).
- First Nations adults aged 50-to 59-years-old and 60 and older, reported the highest levels of fair or poor oral health (39.2% and 37.8%, respectively).
- Nearly 1 in 3 (31.9%) First Nations young adults (20–39), 35.8% of those aged 40–59 and 37.9% of older adults (60–79) reported *fair* or *poor* oral health. These age-specific proportions are at least two times the national average of the general population (15.5%).
- More than half (56.6%) of First Nations adults reported having any dental care one year ago or less compared to nearly three-quarters (74.5%) of the general population who reported a visit for oral health care for any reason within the last 12 months in 2007-2009.
- A higher proportion of First Nations women than men reported receiving dental care in the year prior to the survey (64.1% compared to 49.0%).
- Past-year access to dental care also differed with age, with 48.1% of First Nations adults aged 60 years and older presenting the lowest proportion compared to those aged 18–29 (59.0%).
- The proportion of First Nations adults who received dental care in the previous 12 months decreased from 59.2% in the RHS Phase 1 to 56.5% in the RHS Phase 2, and 56.6% in the RHS Phase 3. On the other hand, the proportion of seniors aged



65 and older reporting receipt of dental care in the past year increased from 34.0% in RHS Phase 1 to 43.6% in the RHS Phase 3.

- Among edentulous (with no natural teeth) 60–79 year olds, access to care increased from 14.9% in the RHS Phase 2 to 23.6% in the RHS Phase 3. Access to dental care also increased for dentate (with one or more natural teeth) seniors in the same age group from 51.1% in RHS Phase 2 to 61.7% in RHS Phase 3.
- Nearly 1 in 3 (34.9%) First Nations adults reported difficulties accessing dental care. The most frequently reported barrier to dental care was the lack of coverage for service under Health Canada's Non-Insured Health Benefits program (10.4%); however, barriers to accessing dental services have decreased since the RHS Phase 1.
- More than half (51.4%) of First Nations adults reported needing a dental checkup or cleaning and 5.9% reported needing periodontal (gum) work such as scaling. More than one-third (35.3%) reported needing fillings, crowns or bridges and 14.2%, 11.1%, 10.2% and 4.3% of adults reported needing extractions, fluoride treatment, prosthodontics (e.g., dentures, including repairs and maintenance) and orthodontics (e.g., braces), respectively. Only 1.9% required other types of dental treatment, and 28.3% reported no dental treatment needs.
- Compared with the findings from the RHS Phase 1, the prevalence of perceived need for the most common types of dental treatment, such as fillings (35.3% in RHS Phase 3 compared to 48.8% in RHS Phase 1), and maintenance (51.4% in RHS Phase 3 compared to 63.9% in RHS Phase 1) have seen a decline among First Nations adults.
- First Nations adults aged 60-years and older were less likely than adults in the younger age groups to report the need for dental care, except when it came to prosthodontic services (22.7%).
- More than 1 in 10 (11.0%) First Nations adults reported being edentulous or edentate (i.e., they had lost all their natural teeth), with no significant difference between males and females. The greatest difference occurred between age groups, with edentulism the highest (33.8%) for the oldest age group (60 and older) compared to 4.2% among 18–29 year olds.
- The overall prevalence of edentulism (complete tooth loss) among First Nations adults aged 18 years and older (11.0%) has not changed since the RHS Phase 2 (10.8%).
- Nearly one-quarter (23.6%) of First Nations adults reported wearing full or partial dentures, false teeth, bridges or dental plates to replace missing permanent teeth. The use of dentures has declined since the RHS Phase 2, when dentures were worn by 28.0% of First Nations adults.
- Among the edentulous, 74.7% had removable dentures in the RHS Phase 2 compared to 67.7% of edentate adults in the RHS Phase 3.
- Denture wearing, either fixed or removable, continues to be more common among females (26.8%) than males (20.5%).
- Very few First Nations adults reported trauma to their teeth, so the prevalence of dental injuries (1.9%E) should be interpreted with caution.

INTRODUCTION

Accurate, accessible and culturally relevant information on health (including oral health) and well-being are essential to understanding the health status of a population and the disparities that might exist among populations. However, it was not until the late 1990s when the *First Nations and Inuit Regional Longitudinal Health Survey* (FNIRHS) was



conducted that national data on dental service use and perceived treatment needs became available for First Nations and Inuit (Wien & McIntyre, 1999). The FNIRHS later became a First Nations driven survey—the First Nations Regional Health Survey (FNRHS, or RHS for short) (FNIGC, 2005; 2012a).

The RHS utilizes community participatory research methods to collect information on First Nations reserve and Northern communities based on Western and Traditional understandings of health and well-being. The impetus for the RHS was the lack of Indigenous-specific data and the repeated exclusion of First Nations living on reserve from national population health surveys. Currently in its third cross-sectional phase, the RHS data have influenced evidence-based decision-making and have been used to support a wide range of programs and policies, including oral health interventions and initiatives, at federal, provincial and local levels that assist in reducing health disparities between First Nations and the general population. The Children's Oral Health Initiative (COHI) is an example of a federally funded community-based preventive dental program that has benefited from data gleaned from the RHS (Mathu-Muju et al., 2016).

In addition to the RHS, three other national oral health surveys serve to fill some of the data gaps in our collective knowledge. These include the *Canadian Health Measures Survey* (CHMS) 2007–09 (Health Canada, 2010), the *Inuit Oral Health Survey* (IOHS) 2008–09 (Health Canada, 2011) and the *First Nations Oral Health Survey* (FNOHS) 2009/10 (FNIGC, 2012b). The CHMS, which had an oral health component, surveyed the general population in Canada but excluded people living on First Nations reserves or Crown lands. It did, however, include persons claiming Indigenous heritage who lived off-reserve. The First Nations and the Inuit oral health surveys were direct measures surveys and therefore incorporated clinical oral examinations. As far as

sampling frames are concerned, the RHS and the First Nations Oral Health Survey covered only First Nations living on-reserve, which represented nearly half (49.3%) of First Nations people with registered Indian status in 2011 (Statistics Canada, 2013).

Taken together, these national surveys revealed oral-health inequalities between First Nations and Inuit, and the general population in Canada in the experience of dental disease and access to dental care. For instance, the prevalence of untreated coronal caries in First Nations adults (56.5%) can be nearly three times that of adults in the general population (19.3%), while the prevalence of root caries can be 1.6 times as high among First Nations adults (32.9%, compared to 20.5%) with nearly 72.0% of the disease untreated (FNIGC, 2012b).

The FNOHS (2009-2010) also found that the prevalence of dental caries in the permanent teeth of First Nations children and youth was two to three times that of the rest of Canada, although much of this disease had been treated.

In primary teeth, the disparities are even more striking with the prevalence of early childhood caries (ECC) reaching nearly 86% in First Nations and Inuit children aged 3–5 years with an average of 8 out of 20 baby teeth affected by tooth decay. Most cases of ECC are treated under general anesthesia at hospitals which often require children (accompanied by their parents or guardians) to leave their communities and be flown to urban centres for treatment. These children can face long wait times for access to operating room services, which, along with the flights, result in high costs incurred by the federal government's health care budget (Milnes et al., 1993; Health Canada, 2017).

Similar to First Nations children living on reserve, Indigenous children younger than age six living off-



reserve in rural and urban areas face the highest rates of day surgery under general anesthesia to treat ECC (Schroth et al., 2016). This indicates that prevention is clearly needed to improve the oral health of some of the country's youngest and most vulnerable.

Inequitable access to dental care is at the heart of the poor oral health experienced by First Nations, many of whom reside in remote and special access communities. In the RHS Phase 2, more than half (56.5%) of adults living in First Nations communities reported receiving dental care in the 12 months prior to the survey compared to nearly three-quarters (71.6%) of adults in the general population (Health Canada, 2010).

Similarly, the First Nations numbers on receipt of dental care in the year prior to the RHS Phase 3 among youth and children lagged behind those of their peers in the general population. The recently published oral health literature provides many examples of inequalities in the oral health of Indigenous and non-Indigenous people in Canada (Shi et al., 2018; Zangiabadi, Costanian & Tamim, 2017; Farmer, Peressini & Lawrence, 2017; Lawrence et al., 2016; Jamieson et al., 2016; Chiefs of Ontario, 2013; Blanchard et al., 2012; Brothwell & Ghiabi, 2009; Lawrence et al., 2009).

However, prior to the establishment of the RHS, there was limited information available about dental service use, perceived needs and perceived oral health status among First Nations populations living on reserve and in Northern communities.

The purpose of this chapter is to report and discuss the findings from the descriptive analyses of the oral health and oral health care indicators contained in the Dental Care section of the adult, youth and child surveys of the RHS Phase 3. In addition, trends across the three phases of the RHS were examined to better

understand the impact that previous oral health policies and programs have had on reducing oral health inequalities among First Nations. To further contextualize the data, findings were compared with the results of nationwide, direct clinical measures surveys of oral health conducted since 2007.

METHODS

This chapter presents the results from the adult, youth and child components of the RHS Phase 3 which was conducted in 2015-2016. The survey included questions on: self-rated oral health status, parent and caregiver perceptions of child's oral health status, access and barriers to dental care, perceived needs for care and prevalence of oral conditions or ailments (such as edentulism, dental pain, baby bottle tooth decay (BBTD) and traumatic dental injuries). A description of the key indicators and the derived and recoded variables follows in the next section.

Most of these key oral health and wellness indicators were also included in the RHS Phase 1 (2002-2003) and Phase 2 (2008-2010) and belong to the physical health domain (Vision: Ways of Seeing) from the RHS Cultural Framework, represented in yellow within a four-directional model (Dumont, 2005). The analyses in this chapter focus on determining trends across the three phases of the RHS and across the key indicators when reporting the results.

All RHS Phase 3 data were self-reported outcomes—by surveyed adults, youth and parents or caregivers—collected through computer assisted personal interviewing (CAPI). Only population-weighted statistics are presented. Pearson Chi-square tests and 95% confidence intervals (CIs) were used to identify statistically significant differences among males and females, different age groups, dentate and edentulous (edentate) adults, breastfed and bottle-fed children



and the three phases of the RHS and other nationwide surveys, which collected the same oral health indicators.

Details about the methods used and data quality are available in Chapter One of this report, including information about the surveys (adult, youth and child), complex samples, CIs and coefficients of variation (CVs). In addition, all survey questions contained don't know and refused as response options, but they are not reported in the findings.

Common Indicators (Adult, Youth and Child)

Self-reported oral health

In the RHS Phase 3, First Nations respondents were asked how they rated the health of their (or their child's) teeth and mouth on a five-point ordinal scale using a global measure of oral health status. The self-rated oral health response options were: excellent, very good, good, fair and poor, which were later recoded as excellent/very good/good versus fair/poor in the analyses. The RHS Phase 3 was the first of the RHS surveys in which data for this self-reported global measure of oral health were collected.

Access to dental care

Access to dental care among First Nations adults, youth and children was assessed with the question: "Approximately when was the last time you [or your child] had any dental care?" with frequency responses ranging from "less than six months ago" to "never."

Responses were recoded as dental care "one year ago or less" and "more than one year ago" or "never," which are the most commonly used cut-off points to indicate access to dental services. Nonetheless, obtaining dental care in the last year remains a crude indicator of dental care accessibility as one

emergency dental visit counts the same as an annual checkup visit.

Perceived need for dental care

Perceived need for the most common dental treatments served as an additional indicator of the oral health status of First Nations adults, youth and children and the dental services that they might require. It is important to note that perceived treatment needs do not always agree with the diagnosis of a dental professional or with subsequent treatment plan(s).

In each phase of the RHS, First Nations adults, youth and parents or caregivers were asked whether they (or their child) currently needed any of the following dental treatments: cavities filled or other restorative work (e.g., fillings, crowns, bridges), maintenance (e.g., checkups or teeth cleanings), extractions (taking teeth out), fluoride treatment, periodontal (gum) work, prosthetics (e.g., dentures, including repairs and maintenance), orthodontics (e.g., braces), other types of treatment or no treatment at all. Respondents could choose more than one response, where applicable.

Dental injuries

The prevalence of dental injuries (tooth trauma) was another oral health indicator assessed. As with the earlier RHS surveys, this indicator was derived from an item in the Injury section of the adult, youth and child survey questionnaires, which asked about injuries occurring in the past 12 months that were serious enough to limit normal activities the day after the injury occurred. Dental injury was then selected for analysis from among the injuries that were listed as response options.



Indicators Unique to the Adult Survey

Complete tooth loss and denture use

Complete tooth loss, or edentulism, is the cumulative loss of all natural teeth over time due to past disease experiences that result in impaired chewing function. The major types of oral disease are dental caries (tooth decay) and periodontal (gum) disease. These lead ultimately to tooth loss if not identified and treated early. Edentulism is also the result of a lack of access to quality preventive and treatment services in a timely manner.

In keeping with the wording of questions used in the previous phases of the RHS, adults were asked if they had one or more of their own teeth, and the explanation “[w]e are referring to your own permanent adult teeth, not including false teeth or dentures” was also provided. The response options were “yes” or “no” and classified as dentate (with at least one natural tooth) or edentulous/edentate. In the RHS Phase 3, adults were also asked if they wore full or partial dentures, false teeth, bridges or dental plates to replace missing permanent teeth.

Barriers to dental care

Data on difficulties accessing dental care were also collected in the adult survey. In the RHS Phase 3, adults were asked to make their selections from a list of the same nine, non-mutually exclusive barriers to dental care (in addition to “other”) that was used in the two earlier phases of the RHS.

Indicators Unique to the Youth Survey

Dental pain

First Nations youth (ages 12–17) were asked if

they had experienced problems with their teeth or experienced any dental pain in the month prior to the survey, and they could answer affirmatively or negatively in their responses.

Indicators Unique to the Child Survey

Baby bottle tooth decay (early childhood caries)

Parents/caregivers were asked whether their child’s teeth had been affected by BBTD/ECC, and, if so, whether the child had been treated for the disease. A brief text was provided to explain BBTD/ECC that read, “Baby Bottle Tooth Decay, or Early Childhood Caries, is a form of tooth decay that occurs in children aged 5 years and under. It involves decay in so many teeth that children usually need dental surgery in hospital.” Response options were “yes,” “no” or “not applicable (child does not have teeth).”

Breastfeeding and bottle-feeding

The potential associations between BBTD/ECC experience and breastfeeding behaviour/duration and bottle-feeding practices were explored. Parents/caregivers were asked to describe the contents of their child’s bottle from a long list of liquids, including soft drinks. If the child was exclusively breastfed, parents/caregivers were asked to report the number of months their child was fed only breast milk.

Proximity to dental care

A new question in the RHS Phase 3 asked where the child had received his or her most recent dental care. The possible response categories included: dental professional stationed in the community, dental professional visiting the community, dental



professional situated within 90 km of the community and dental professional situated more than 90 km from the community. In the analysis, this variable was cross-tabulated with BBTD treatment.

RESULTS

Self-Reported Oral Health among First Nations Adults, Youth and Children

Consistent with other national oral health surveys, the proportions of First Nations who rated their oral health as fair or poor rather than those rating their oral health as excellent, very good or good are reported. Nearly 1 in 3 (34%, 95% CI [32.2, 35.9]) adults rated their oral health as fair (21.1%, 95% CI [19.8, 22.4]) or poor (12.9%, 95% CI [11.8, 14.2]); and a

higher proportion of women rated their oral health as excellent (9.5%, 95% CI [8.5, 10.5]) compared to men (7.5%, 95% CI [6.5, 8.6]) (see *Table 5.1*).

Among First Nations youth, 14.3% (95% CI [12.8, 15.9]) rated their oral health as fair, and 4.6% (95% CI [3.7, 5.8]) rated their oral health as poor, with no statistically significant difference in self-rated oral health between genders. Among First Nations children, 9.3% (95% CI [8.3, 10.5]) of parents/caregivers rated their child's oral health as fair, and only 2.7% (95% CI [2.1, 3.5]) rated their child's oral health as poor. Parental rating of children's oral health did not differ significantly between girls and boys.



Table 5.1: Self-rated oral health among First Nations adults and youth and parent/caregiver rating of their child’s oral health, by gender

SELF-RATED ORAL HEALTH	Male		Female		Both Genders	
	%	95% CI	%	95% CI	%	95% CI
Adults ≥ 18 years						
Excellent	7.5	[6.5, 8.6]	9.5	[8.5, 10.5]	8.5	[7.7, 9.3]
Very good	19.4	[17.7, 21.2]	21.0	[19.4, 22.7]	20.2	[18.8, 21.6]
Good	38.0	[35.6, 40.4]	36.7	[34.8, 38.6]	37.3	[35.6, 39.1]
Fair	22.2	[20.5, 24.0]	19.9	[18.4, 21.5]	21.1	[19.8, 22.4]
Poor	12.9	[11.4, 14.5]	13.0	[11.3, 14.9]	12.9	[11.8, 14.2]
Youth 12-17 years						
Excellent	11.3	[9.4, 13.5]	14.6	[12.6, 16.8]	12.9	[11.3, 14.8]
Very good	28.8	[25.9, 31.8]	32.2	[28.7, 35.9]	30.5	[28.4, 32.6]
Good	39.2	[36.0, 42.6]	36.2	[33.2, 39.3]	37.7	[35.7, 39.8]
Fair	15.8	[13.5, 18.3]	12.7	[11.0, 14.7]	14.3	[12.8, 15.9]
Poor	4.9	[3.8, 6.4]	4.3E	[3.0, 6.1]	4.6	[3.7, 5.8]
Children 0-11 years						
Excellent	22.3	[20.3, 24.5]	24.0	[21.7, 26.5]	23.2	[21.5, 24.9]
Very good	32.1	[29.3, 35.0]	33.0	[30.7, 35.3]	32.5	[30.6, 34.5]
Good	33.0	[30.3, 35.8]	31.6	[29.2, 34.1]	32.3	[30.4, 34.3]
Fair	9.6	[8.3, 11.1]	9.1	[7.7, 10.6]	9.3	[8.3, 10.5]
Poor	3.0 ^E	[2.1, 4.2]	2.4	[1.8, 3.2]	2.7	[2.1, 3.5]

Notes: E High sampling variability, interpret with caution.

Younger adults (18–29) were less likely than other adults to report fair or poor oral health (28.6%, 95% CI [25.9, 31.5]), particularly when compared with those aged 50–59 (39.2%, 95% CI [35.9, 42.6]) and those aged 60 and older (37.8%, 95% CI [34.6, 41.1]) (see *Table 5.2*).

Among 12–17 years old, the prevalence of self-reported fair/poor oral health was 18.9% (95% CI

[17.1, 20.9]), but the proportion of 15–17 years old reporting fair/poor oral health was higher (20.0%, 95% CI [17.7, 22.4]) than that reported by 12–14 years old (17.6%, 95% CI [14.5, 21.2]), albeit not statistically significant. The proportion of children with fair/poor parent-reported oral health was highest for the 3–5 years age group (16.2%, 95% CI [13.6, 19.2]) compared with the other age groups (see *Table 5.2*).



Table 5.2: Self-reported fair or poor oral health among First Nations adults and youth and parent/caregiver-reported fair or poor oral health of First Nations children, by age group and gender

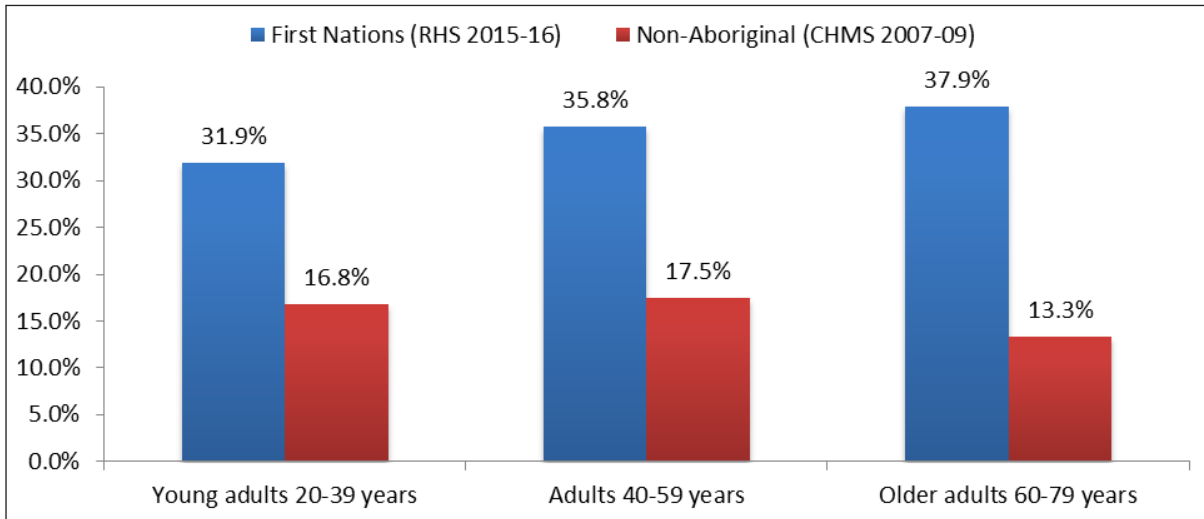
AGE (years)	Self-reported fair or poor oral health					
	Male		Female		Both Genders	
	%	95% CI	%	95% CI	%	95% CI
Adults						
18-29	27.5	[23.6, 31.7]	30.0	[26.7, 33.5]	28.6	[25.9, 31.5]
30-39	36.4	[31.5, 41.7]	34.3	[29.1, 39.9]	35.3	[31.6, 39.2]
40-49	35.1	[30.7, 39.6]	31.1	[27.2, 35.3]	33.0	[30.0, 36.2]
50-59	41.6	[37.1, 46.1]	36.7	[33.0, 40.6]	39.2	[35.9, 42.6]
≥ 60	41.7	[37.3, 46.3]	34.2	[30.6, 38.0]	37.8	[34.6, 41.1]
≥ 18 (All)	35.1	[33.0, 37.3]	32.9	[30.6, 35.3]	34.0	[32.2, 35.9]
Youth						
12-14	19.0	[14.4, 24.5]	16.3	[13.2, 19.8]	17.6	[14.5, 21.2]
15-17	22.2	[19.1, 25.6]	17.7	[14.8, 21.0]	20.0	[17.7, 22.4]
12-17 (All)	20.7	[18.3, 23.4]	17.0	[14.7, 19.6]	18.9	[17.1, 20.9]
Children Parent- or Caregiver-reported fair or poor child oral health						
0-2	9.6 ^E	[6.3, 14.4]	8.2 ^E	[5.7, 11.8]	8.9	[6.7, 11.7]
3-5	17.3	[13.7, 21.5]	15.1	[11.9, 19.0]	16.2	[13.6, 19.2]
6-8	14.5	[11.4, 18.2]	10.4	[8.4, 12.9]	12.5	[10.5, 14.7]
9-11	8.7	[6.9, 10.8]	11.2	[9.0, 13.9]	9.9	[8.5, 11.5]
0-11 (All)	12.6	[10.8, 14.5]	11.5	[10.0, 13.1]	12.0	[10.7, 13.4]

Note: E High sampling variability, interpret with caution.

The RHS Phase 3 national estimates and the available national data for self-reported fair or poor oral health are shown in Figure 5.1 for three age groups, i.e., 20–39, 40–59 and 60–79. In each of these age groups, a higher proportion of First Nations adults in the

RHS Phase 3 reported fair/poor oral health compared with the CHMS in 2007-2009 for non-Indigenous adults. The proportions were 1.9, 2.0 and 2.8 times higher for the First Nations adults in the RHS Phase 3, respectively.

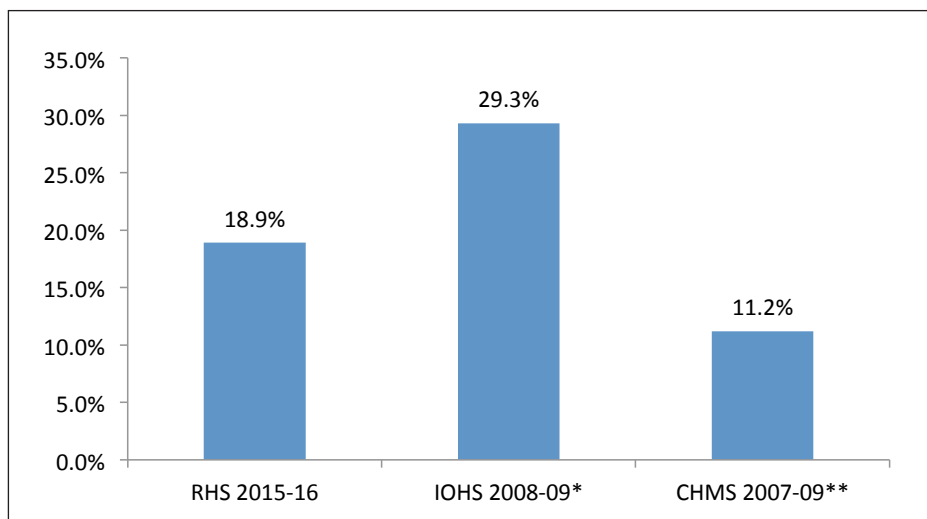
Figure 5.1: Prevalence of self-reported fair or poor oral health among First Nations and non-Indigenous adults in the general population, by age group, RHS Phase 3 (2015-2016) and CHMS 2007-2009



Based on national comparisons, the prevalence of self-reported fair/poor oral health among adolescents is highest for Inuit ages 12–19 (29.3%, 95% CI [16.2, 42.4]), followed by First Nations youth ages

12–17 (18.9%, 95% CI [17.1, 20.9]) and lowest among adolescents ages 12–19 in the general population (11.2%, 95% CI [8.0, 15.3]), excluding Indigenous youth (see Figure 5.2).

Figure 5.2: Prevalence of self-reported fair or poor oral health among First Nations, Inuit and non-Indigenous youth, RHS Phase 3 (2015-2016), IOHS (2008-2009) and CHMS (2007-2009)



Notes: * Inuit youth aged 12-19 years.

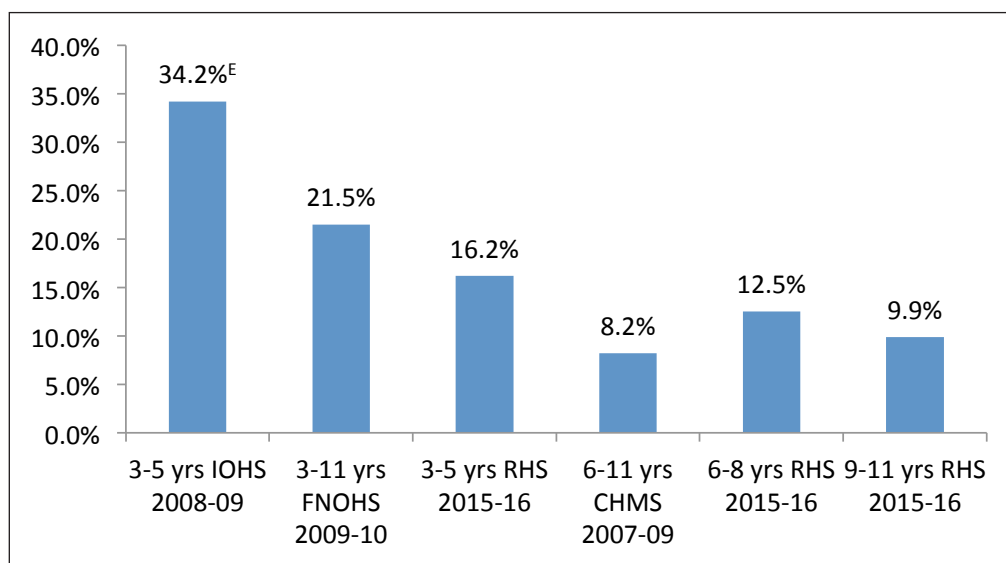
** Youth aged 12-19 years in the general population, excluding Indigenous youth.



The percentage of First Nations children with fair or poor oral health in national health surveys conducted in Canada are presented in Figure 5.3. Inuit children ages 3–5 were most likely to have fair/poor oral health ratings given by their parents or caregivers (34.2%^E,

95% CI [9.3, 59.1]). Among children ages 6–11, First Nations children ages 6–8 in the RHS Phase 3 had the highest prevalence of fair/poor oral health (12.5%, 95% CI [10.5, 14.7]).

Figure 5.3: Prevalence of parent/caregiver-reported fair or poor oral health among children in national health surveys conducted in Canada, by age group



Note: E High sampling variability, interpret with caution.

Access and Barriers to Dental Care among First Nations Adults

When asked “Approximately when was the last time you had any dental care?” more than half (56.6%, 95% CI [54.7, 58.4]) of First Nations adults reported having dental care in the last year (29.9% had care less than 6 months prior to the survey and 26.7% had care between 6 months and a year before the survey, see Table 5.3).

Nearly 1 in 10 (9.1%, 95% CI [8.4, 9.9]) had last obtained dental care for any reason more than five

years prior to the survey (see Table 5.3). Women were significantly more likely than men to have received dental care in the past year (64.2% compared to 49.0%), and men were more likely to have last received dental care more than two years prior (26.4% compared to 15.1%).

Past-year access to dental care also differed according to age groups, with 48.0% (95% CI [44.7, 51.4]) of adults aged 60 years and older presenting the lowest proportion when compared to the highest, those adults aged 18–29 (59.0%, 95% CI [55.6, 62.3]).



Table 5.3: Last time dental care was obtained for any reason prior to the survey among First Nations adults, overall and by gender and age group

	Last time dental care was obtained					
	Less than 6 months ago	Between 6 months & 1 year ago	Between 1 & 2 years ago	Between 2 & 5 years ago	More than 5 years ago	Never
	% [95%CI]	% [95%CI]	% [95%CI]	% [95%CI]	% [95%CI]	% [95%CI]
All	29.9 [28.4, 31.4]	26.7 [25.2, 28.2]	21.5 [20.1, 23.0]	11.7 [10.7, 12.8]	9.1 [8.4, 9.9]	1.2 ^E [0.8, 1.6]
GENDER						
Male	26.0 [23.9, 28.2]	23.0 [21.1, 25.0]	22.9 [20.8, 25.1]	14.7 [13.1, 16.5]	11.7 [10.6, 13.0]	1.7 ^E [1.1, 2.6]
Female	33.8 [32.0, 35.7]	30.4 [28.2, 32.6]	20.2 [18.4, 22.1]	8.7 [7.6, 9.9]	6.4 [5.5, 7.4]	0.6 ^E [0.4, 1.0]
AGE (years)						
18-29	29.3 [26.5, 32.3]	29.7 [27.1, 32.4]	25.3 [22.1, 28.9]	10.0 [8.5, 11.8]	4.8 [3.8, 6.0]	0.9 ^E [0.5, 1.5]
30-39	31.4 [28.2, 34.7]	26.9 [24.0, 30.2]	22.3 [19.6, 25.2]	12.1 [9.7, 15.0]	5.9 [4.3, 8.1]	^F
40-49	32.0 [29.1, 35.0]	26.2 [23.4, 29.2]	20.5 [18.0, 23.1]	12.5 [10.4, 15.1]	8.0 [6.2, 10.1]	0.9 ^E [0.5, 1.6]
50-59	29.4 [26.9, 31.9]	26.7 [24.1, 29.4]	19.9 [17.7, 22.3]	11.8 [10.1, 13.7]	11.6 [9.9, 13.4]	0.8 ^E [0.4, 1.3]
≥ 60	26.5 [23.6, 29.6]	21.6 [18.9, 24.4]	16.7 [14.9, 18.7]	12.9 [11.2, 14.8]	20.4 [18.2, 22.7]	2.0 ^E [1.2, 3.5]

Notes: E High sampling variability, interpret with caution.

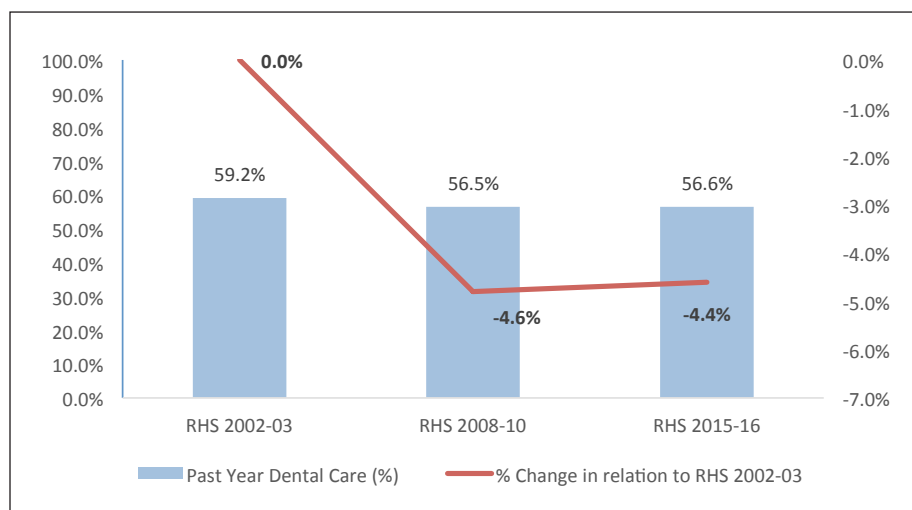
F Suppressed due to low cell count or very high sampling variability.

The proportion of First Nations adults who received dental care in the previous 12 months decreased from 59.2% (95% CI not reported) in the RHS Phase 1 to 56.5% (95% CI [54.7, 58.2]) in the RHS Phase 2, and was 56.6% (95% CI [54.7, 58.4]) in the RHS Phase 3 (see Figure 5.4). It should be noted that in the

FNIRHS, published in 1997, nearly 52% (95% CI not reported) of persons 18 years of age and over, residing in the participating First Nations and Labrador Inuit communities, received dental care in the previous year.



Figure 5.4: First Nations adults who received dental care in the year prior to the survey and the percentage of change in relation to the RHS Phase 1 (2002-2003)



Note: Percentage change in relation to the RHS 2002/03 was calculated for the RHS 2008/10 by using the formula: $[(56.5\% - 59.2\%) / 59.2\%] * 100 = -4.6\%$. The same formula was applied to the RHS 2015/16.

Compared with the results from the RHS Phase 2, there was a significant increase in the proportion of adults aged 60–79 receiving dental care in the year prior to the survey, from 36.9% (95% CI [33.8, 40.1]) in 2008-2010, to 49.6% (95% CI [46.1, 53.2]) in RHS Phase 3 (2015-2016) (see *Table 5.4*).

This was particularly the case among edentulous 60–79 years old for whom the increase ranged from 14.9% (95% CI [12.3, 18.0]) in the RHS Phase 2 to 23.6% (95% CI [19.4, 28.3]) in RHS Phase 3. Access to dental care also increased for dentate seniors ages 60–79 from 51.1% (95% CI [46.9, 55.3]) in RHS Phase 2 to 61.7% (95% CI [57.9, 65.4]) in RHS Phase 3.



Table 5.4: First Nations adults who received dental care in the year prior to the survey, by age group and dentate status, RHS Phase 3 (2015-2016) and RHS Phase 2 (2008-2010)

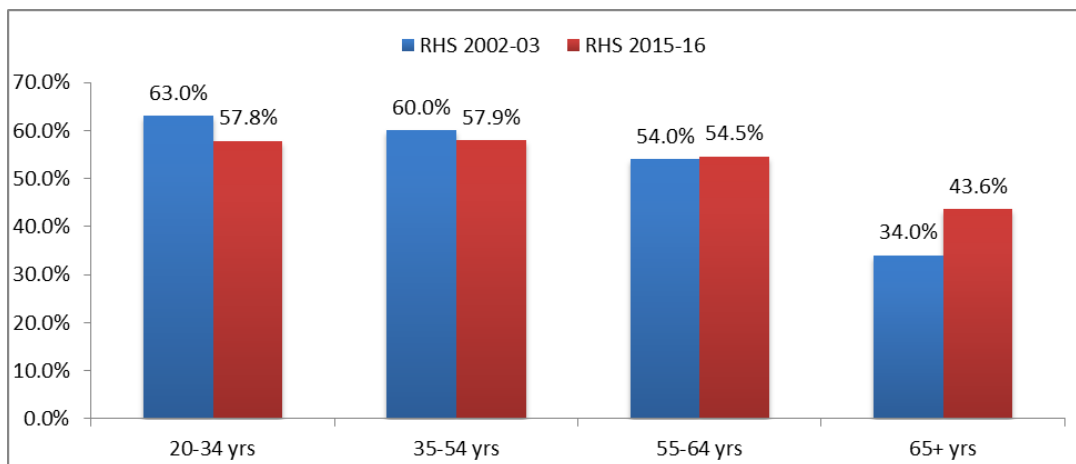
AGE (years)	DENTATE STATUS	Dental care in the year prior to the survey			
		RHS 2015/16		RHS 2008/10	
		%	95% CI	%	95% CI
20-39	Dentate	58.7	[55.7, 61.6]	60.8	[58.2, 63.3]
	Edentulous	43.5	[32.3, 55.5]	59.6	[47.0, 71.1]
	Overall*	58.0	[54.9, 61.1]	60.7	[58.2, 63.3]
40-59	Dentate	59.2	[56.9, 61.5]	60.0	[57.5, 62.6]
	Edentulous	42.6	[35.8, 49.6]	36.5	[9.3, 44.3]
	Overall	57.6	[55.4, 59.7]	57.4	[55.0, 59.8]
60-79	Dentate	61.7	[57.9, 65.4]	51.1	[46.9, 55.3]
	Edentulous	23.6	[19.4, 28.3]	14.9	[12.3, 18.0]
	Overall*	49.6	[46.1, 53.2]	36.9	[33.8, 40.1]
≥ 18 (RHS 2015/16) ≥ 20 (RHS 2008/10)	Dentate	59.2	[57.3, 61.2]	59.7	[57.8, 61.5]
	Edentulous	34.5	[30.3, 38.9]	28.9	[25.4, 32.7]
	Overall*	56.6	[54.7, 58.5]	56.5	[54.8, 58.2]

Note: * Both dentate and edentulous adults within the age group.

When the RHS Phase 3 results are compared with the RHS Phase 1, the prevalence of past-year dental care utilization did not change substantially for the 35–54 and 55–64 age groups, but it did decrease from 63.0% (95% CI not reported) in the RHS Phase 1 to 57.8% (95% CI [54.2, 61.4]) in the RHS 2015/16 in the 20–34 age group (see *Figure 5.5*).

Conversely, the proportion of seniors 65 and older reporting accessing dental care in the previous year increased from one-third (34.0%, 95% CI not reported) in the RHS Phase 1 to 43.6% (95% CI [39.2, 48.2]) in the RHS Phase 3.

Figure 5.5: First Nations adults who received dental care in the year prior to the survey, by age group, RHS Phase 1 and RHS Phase 3

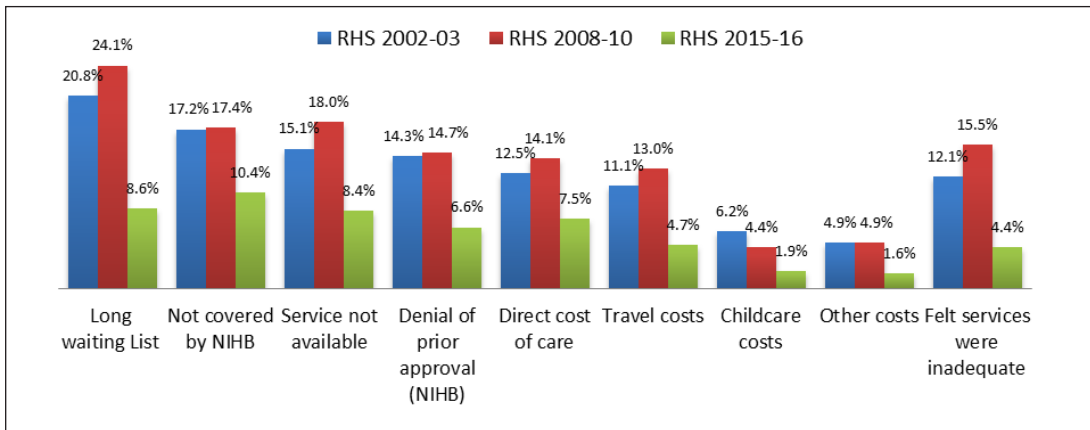




Nearly 1 in 3 (34.9%, 95% CI [32.9, 37.0]) First Nations adults reported difficulties accessing dental care, nearly two-thirds (65.1%, 95% CI [63.0, 67.2]) experienced no difficulties, and 8.8% (95% CI [7.7, 10.0]) selected the response option “not applicable—no dental care needed.” The most frequently reported barrier to dental care was the lack of coverage for

service under Health Canada’s NIHB program (10.4%, 95% CI [9.4, 11.4]), albeit the equivalent proportion for this type of barrier in the RHS Phase 2 was reportedly higher (17.4%, 95% CI [15.8, 19.2]) (See *Figure 5.6*). In fact, the prevalence estimates for all the reported barriers to accessing dental services have noticeably decreased since the RHS Phase 1 (see *Figure 5.6*).

Figure 5.6: Barriers accessing dental care reported by First Nations adults in the three phases of the RHS



Note: Respondents could choose more than one response.

Access to Dental Care among First Nations Youth

Nearly three-quarters (74.6%, 95% CI [72.4, 76.6]) of First Nations youth reported accessing dental care in the year before the survey: 41.3% (95% CI [38.8, 43.8]) received dental care less than 6 months prior and 33.3% (95% CI [30.8, 35.8]) between 6 months and one year before the survey (see *Table 5.5*). *Table 5.5* presents the patterns of dental care utilization

as a function of gender and age. Compared to males, females (regardless of their age) were more likely to have received dental care less than 6 months prior to the survey (44.6% of females, 95% CI [41.2, 48.1] and 38.0% of males 95% CI [34.9, 41.2]). Male youth, on the other hand, were more likely to have utilized dental services between one and two years before taking part in the survey (21.3%, 95% CI [18.7, 24.1]).



Table 5.5: Last time dental care was obtained for any reason prior to the survey among First Nations youth, overall and by gender and age group

	Last time dental care was obtained					
	Less than 6 months ago	Between 6 months & 1 year ago	Between 1 & 2 years ago	Between 2 & 5 years ago	More than 5 years ago	Never
	% [95%CI]	% [95%CI]	% [95%CI]	% [95%CI]	% [95%CI]	% [95%CI]
All	41.3 [38.8, 43.8]	33.3 [30.8, 35.8]	18.7 [16.9, 20.7]	4.6 [3.7, 5.7]	1.0 [0.8, 1.4]	1.1 ^E [0.7, 1.8]
GENDER						
Male	38.0 [34.9, 41.2]	32.4 [29.1, 36.0]	21.3 [18.7, 24.1]	5.7 [4.1, 7.9]	1.4 ^E [1.0, 2.0]	1.2 ^E [0.7, 2.0]
Female	44.6 [41.2, 48.1]	34.1 [31.3, 37.1]	16.1 [14.1, 18.3]	3.5 [2.5, 4.8]	0.7 ^E [0.4, 1.1]	1.0 ^E [0.5, 1.9]
AGE (years)						
12-14	41.1 [37.9, 44.3]	35.9 [32.5, 39.6]	16.2 [13.7, 19.0]	4.3 ^E [2.8, 6.4]	0.9 ^E [0.6, 1.4]	1.5 ^E [0.9, 2.6]
15-17	41.4 [38.3, 44.6]	31.0 [28.2, 34.0]	20.8 [18.5, 23.2]	4.8 [3.8, 6.1]	1.1 ^E [0.8, 1.6]	0.8 ^E [0.4, 1.4]
GENDER & AGE (years)						
Male 12-14	37.4 [32.4, 42.6]	34.9 [28.7, 41.6]	18.5 [15.1, 22.5]	6.1 ^E [3.3, 11.1]	1.3 ^E [0.8, 2.3]	1.8 ^E [0.9, 3.5]
Male 15-17	38.5 [34.5, 42.6]	30.4 [26.9, 34.2]	23.6 [19.8, 27.7]	5.3 [4.1, 6.9]	1.5 ^E [1.0, 2.3]	0.7 ^E [0.4, 1.3]
Female 12-14	44.9 [39.6, 50.3]	37.0 [32.9, 41.3]	13.9 [11.4, 16.8]	2.5 ^E [1.4, 4.3]	F	F
Female 15-17	44.5 [40.1, 49.0]	31.7 [27.5, 36.1]	17.9 [15.0, 21.2]	4.3 ^E [2.9, 6.4]	0.8 ^E [0.4, 1.4]	F

Notes: E High sampling variability, interpret with caution.

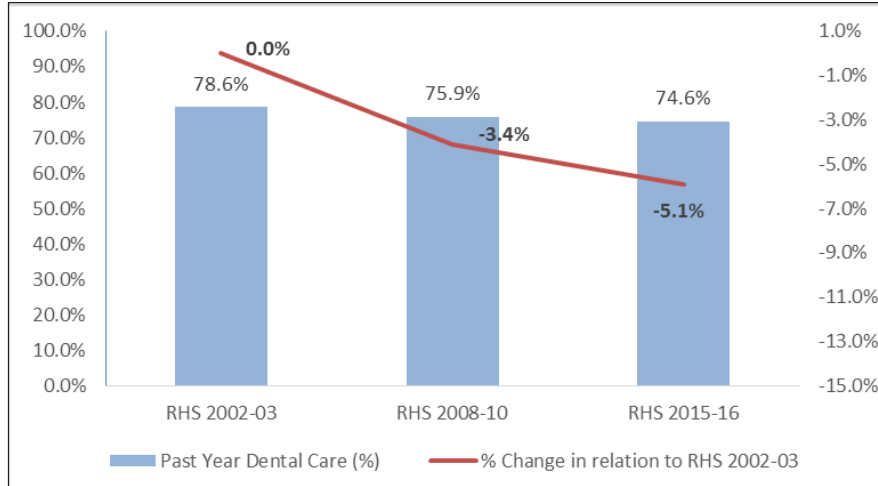
F Suppressed due to low cell count or very high sampling variability.

Dental care access, defined as receipt of dental care in the year prior to the survey, has declined slightly since the RHS Phase 1 among First Nations youth (see *Figure 5.7*). The decline was from 78.6% (95% CI

not reported) in RHS Phase 1 to 75.9% (95% CI [73.8, 77.9]) in RHS Phase 2 and to 74.6% (95% CI [72.4, 76.6]) in RHS Phase 3.



Figure 5.7: First Nations youth who received dental care in the year prior to the survey and the percentage of change in relation to the RHS Phase I

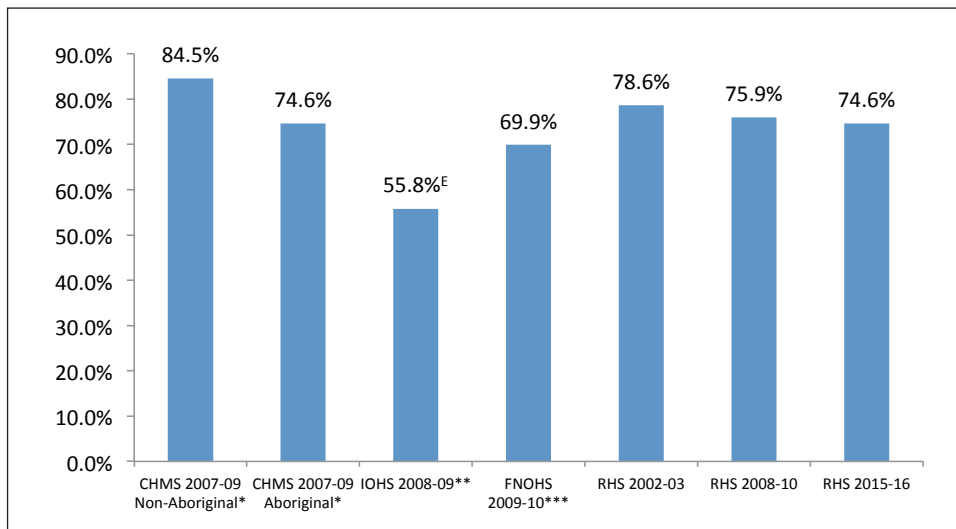


Note: Percentage change in relation to the RHS 2002/03 was calculated for the RHS 2008/10 by using the formula: $[(75.9 - 78.6)/78.6] * 100 = -3.4\%$. The same formula was applied to the RHS 2015/16.

When the current estimate of First Nations youth with access to dental care is weighed against estimates from other national surveys, it falls behind

the 84.5% (95% CI [78.8, 88.8]) of non-Indigenous youth ages 12–19 in the general population in 2007–2009 (Figure 5.8).

Figure 5.8: Youth reporting receipt of dental care in the year prior to national health surveys conducted in Canada



Notes: E High sampling variability, interpret with caution.
 * Youth aged 12-19 years in the general population, including Indigenous youth living off-reserve, but excluding First Nations youth living on reserve.
 ** Inuit youth aged 12-19 years.
 *** First Nations youth aged 12-19 years living on reserve.



Access to Dental Care among First Nations Children

Nearly three-quarters (71.4%, 95% CI [69.3, 73.3]) of First Nations children received dental care the year prior to the RHS Phase 3 (as reported by parents and caregivers). Overall, 15.5% (95% CI [14.1, 17.0]) of children never had dental care (see Table 5.6).

Of those never receiving care, 63.3% (95% CI [58.4, 67.9]) were aged 0–2, 15.8% (95% CI [13.6, 18.4])

were 3–5 years old and 2.2%^E (95% CI [1.6, 3.2]) were 6–8 years old. Access to dental care increased with the child’s age and was highest for 6–8 years old—50.3% (95% CI [46.7, 53.8]) had dental care less than 6 months before the survey. Similarly, a higher proportion of girls (46.5%, 95% CI [43.9, 49.1]) received dental care less than 6 months before the survey when compared to boys (39.9%, 95% CI [37.1, 42.8]).

Table 5.6: Last time First Nations children had any dental care prior to the survey as reported by parents/caregivers, overall and by gender and age group

	Last time dental care was obtained					
	Less than 6 months ago	Between 6 months & 1 year ago	Between 1 & 2 years ago	Between 2 & 5 years ago	More than 5 years ago	Never
	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]
All	43.1 [41.0, 45.3]	28.2 [26.4, 30.2]	11.3 [10.1, 12.6]	1.7 ^E [1.1, 2.7]	^F	15.5 [14.1, 17.0]
GENDER						
Male	39.9 [37.1, 42.8]	29.0 [26.6, 31.6]	13.0 [11.1, 15.1]	2.5 ^E [1.3, 4.4]	^F	15.6 [13.8, 17.6]
Female	46.5 [43.9, 49.1]	27.5 [25.1, 30.0]	9.6 [8.2, 11.1]	1.0 ^E [0.7, 1.5]	^F	15.4 [13.7, 17.3]
AGE (years)						
0-2	25.1 [21.2, 29.4]	9.4 [7.1, 12.4]	2.2 ^E [1.2, 4.0]	^F	N/A	63.3 [58.4, 67.9]
3-5	42.4 [38.4, 46.5]	27.7 [24.5, 31.1]	13.2 [10.4, 16.6]	0.8 ^E [0.4, 1.4]	^F	15.8 [13.6, 18.4]
6-8	50.3 [46.7, 53.8]	34.8 [31.6, 38.1]	9.3 [7.6, 11.3]	^F	^F	2.2 ^E [1.6, 3.2]
9-11	47.6 [44.4, 50.8]	33.5 [30.2, 36.9]	16.4 [14.1, 19.0]	2.1 ^E [1.2, 3.7]	^F	^F

Notes: ^E High sampling variability, interpret with caution.

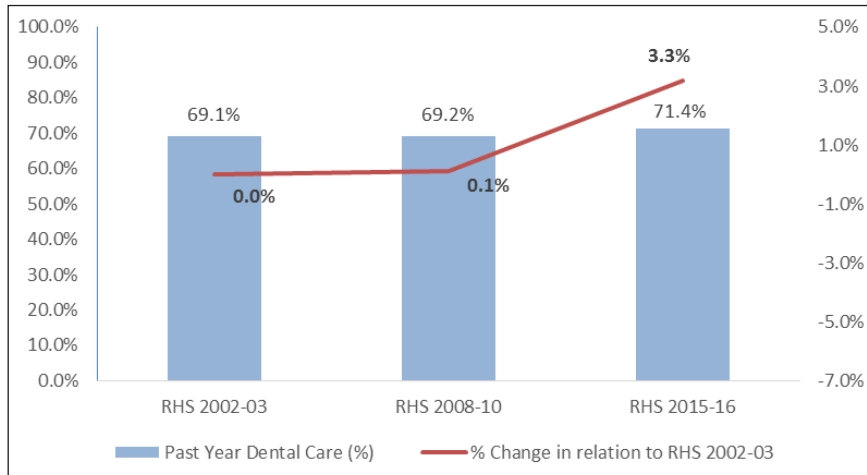
^F Suppressed due to low cell count or very high sampling variability.

In the period since the RHS Phase 1 access to oral health care has increased only 3.3% for First Nations

children from birth to 11 years of age; from 69.1% to 71.4% (see Figure 5.9).



Figure 5.9: First Nations children ages 0-11 who received dental care in the year prior to the survey and the percentage of change in relation to the RHS Phase 1

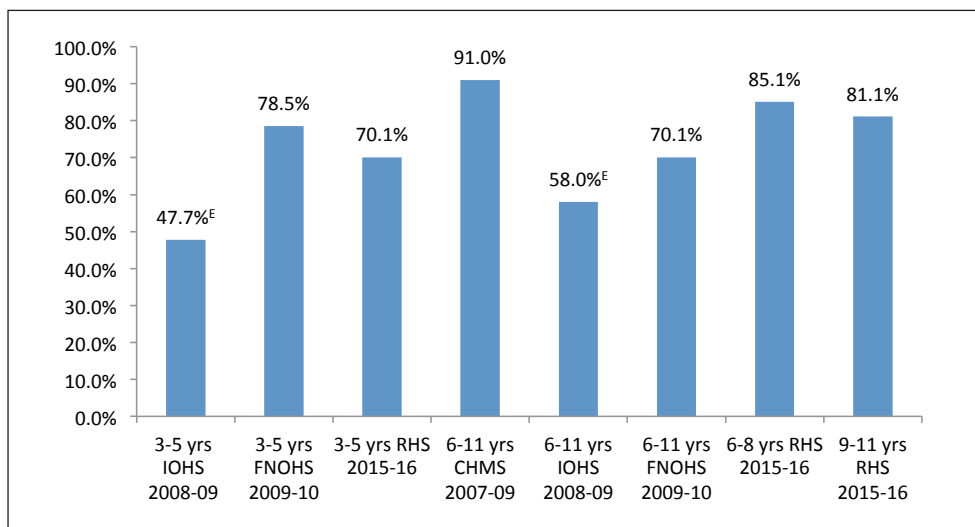


Note: Percentage change in relation to the RHS 2002/03 was calculated for the RHS 2008/10 by using the formula: $[(69.2\% - 69.1\%)/69.1\%] * 100 = 0.1\%$. The same formula was applied to the RHS 2015/16.

Within Canada, only two previous reports attempted to provide national estimates for the oral health care of children ages 3–5, and these survey reports suggest that First Nations preschool children have greater access to dental care than Inuit children of the same age (see Figure 5.10). Among children ages 6–11,

dental care access is highest for those in the general population (91.0%, 95% CI [88.1, 93.3]), followed by First Nations children 6–8 years old (85.1%, 95% CI [82.0, 87.7]) and 9–11 years old (81.1%, 95% CI [78.3, 83.6]) in the RHS Phase 3 (see Figure 5.10).

Figure 5.10: Children receiving dental care in the year prior to national health surveys conducted in Canada, by age group



Notes: E High sampling variability, interpret with caution.



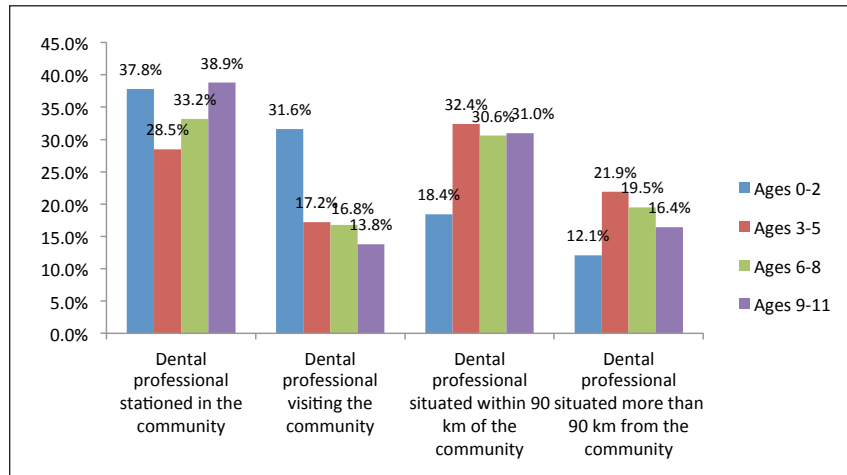
The lack of available dental services in First Nations communities continues to act as a barrier to dental care. One-third (or more) parents and caregivers reported that the most recent dental care for their infants ages 0–2 (37.8%, 95% CI [30.6, 45.6]), as well as their children ages 6–8 (33.2%, 95% CI [28.6, 38.1]) and 9–11 (38.9%, 95% CI [34.8, 43.2]), was provided by a dental professional stationed in the community (see *Figure 5.11*).

Among parents or caregivers of children 3–5 years old, less than one-third (32.4%, 95% CI [26.4, 39.2]) reported that their child’s dental care was provided by a dental professional situated within 90 km of the community. More than 1 in 5 (21.9%, 95% CI [18.3,

25.9]) First Nations children 3–5 years old were reported to have received their most recent dental care from a dental professional situated more than 90 km from their community.

Overall, 18.4% (95% CI [16.4, 20.5]) of parents or caregivers reported that the most recent care their children received was provided by a dental professional situated more than 90 km from their community, and 16.8% (95% CI [14.3, 19.7]) reported that their children received dental care delivered by a dental professional visiting the community. Visiting dental professionals were also responsible for the dental care of 31.6% (95% CI [23.7, 40.9]) of First Nations infants aged 0–2 (see *Figure 5.11*).

Figure 5.11: Location where First Nations children received their most recent dental care, by age group



Dental Treatment Needs among First Nations Adults

According to the RHS Phase 3, more than half (51.4%, 95% CI [49.4, 53.4]) of First Nations adults reported needing a dental checkup or teeth cleaning, and 5.9% (95% CI [5.0, 6.9]) reported needing periodontal (gum) work such as scaling (see *Figure 5.12*). More than one-third (35.3%, 95% CI [33.6, 37.1]) reported needing fillings, crowns, or bridges, and 14.2% (95% CI [13.0, 15.6]), 11.1% (95% CI [9.7, 12.6]), 10.2% (95% CI [9.4,

11.2]) and 4.3% (95% CI [3.6, 5.0]) of adults reported that they needed extractions, fluoride treatment, prosthodontics (e.g., dentures, including repairs and maintenance) and orthodontics (e.g., braces), respectively.

Only 1.9% (95% CI [1.6, 2.3]) required other types of dental treatment, and 28.3% (95% CI [26.7, 29.8]) reported “none” when asked “Do you currently need

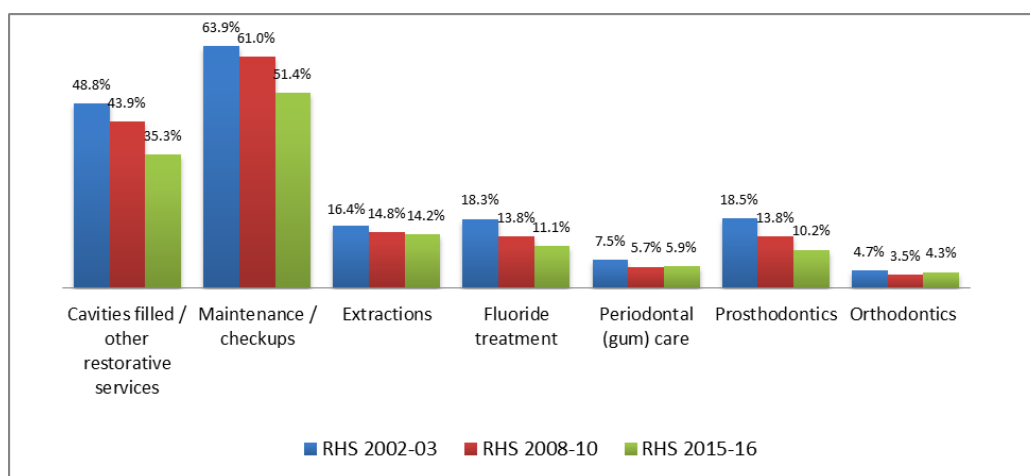


any of the following dental treatments?” There was no statistically significant difference between men and women in perceived needs for dental care.

The perceived need for dental care among First Nations adults has decreased over time, i.e., across the three RHS surveys. The proportions of adults reporting that they needed cavities filled or other

restorative services and those requiring maintenance, extractions, fluoride treatment, periodontal care or prosthetics were lower in the RHS Phase 3 when compared with RHS Phase 1 (see proportions in *Figure 5.12*). The proportions reporting orthodontic needs, however, have remained stable since RHS Phase 1.

Figure 5.12: Type of dental treatment needs reported by First Nations adults in the three phases of the RHS



Note: Respondents could choose more than one response.

Adults aged 60 and older were less likely than adults in the younger age groups to report needing restorative care, maintenance, extractions, fluoride treatment and orthodontics (see proportions in *Table 5.7*). They were also less likely to report a need for gum treatment compared to adults aged 30–59,

but more likely than younger age cohorts to report needing dentures or other types of tooth replacement therapies (22.7% compared with 14.1% or less, see *Table 5.7*). The highest proportion reporting orthodontic needs was among those aged 18–29 (8.6%, 95% CI [7.2, 10.2]).



Table 5.7: First Nations adults reporting dental treatment needs, by type of treatment required and age group

DENTAL TREATMENT NEED	AGE (years)				
	18-29	30-39	40-49	50-59	60+
	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]
None	27.7 [24.6, 30.9]	23.9 [21.1, 27.0]	25.8 [22.9, 28.9]	26.1 [23.6, 28.7]	41.0 [38.0, 44.1]
Restorative	38.7 [35.1, 42.5]	44.9 [41.3, 48.6]	37.9 [34.6, 41.4]	31.5 [28.5, 34.6]	16.5 [14.5, 18.7]
Maintenance	52.2 [48.5, 55.9]	58.0 [54.3, 61.6]	52.5 [48.8, 56.1]	52.6 [49.4, 55.8]	38.2 [35.2, 41.3]
Extractions	14.2 [12.3, 16.4]	15.2 [12.3, 18.7]	16.7 [14.4, 19.5]	14.5 [12.4, 16.8]	9.3 [7.8, 11.1]
Fluoride	11.1 [9.4, 13.1]	15.1 [12.1, 18.6]	12.4 [9.8, 15.4]	10.1 [8.3, 12.2]	4.7 [3.8, 5.9]
Periodontics	4.8 [3.6, 6.4]	8.0 [6.0, 10.6]	6.3 [4.6, 8.7]	5.9 [4.6, 7.6]	4.0 [3.0, 5.3]
Prosthodontics	2.7 [2.1, 3.6]	7.1 ^E [5.0, 9.9]	10.9 [8.9, 13.2]	14.1 [12.1, 16.2]	22.7 [20.5, 25.2]
Orthodontics	8.6 [7.2, 10.2]	5.7 ^E [4.0, 7.9]	2.5 ^E [1.7, 3.6]	^F	0.4 ^E [0.2, 0.6]

Notes: Respondents could choose more than one response.
 E High sampling variability, interpret with caution.
 F Suppressed due to low cell count or very high sampling variability.

Dental Treatment Needs among First Nations Youth

According to the RHS Phase 3, nearly one-quarter (24.9%, 95% [22.8, 27.1]) of First Nations youth reported needing no dental treatment (see *Table 5.8*). The percentage with no treatment needs was highest among males ages 15–17 (29.2%, 95% CI [25.8, 32.8]) and lowest among age-matched females (20.2%, 95% CI [17.8, 22.9]).

Periodontal (gum) work and prosthetic needs were experienced by less than 2.0% of youth, and only 0.9% (95% CI [0.7, 1.3]) reported “other” dental treatment needs. Overall, the needs ranged from tooth extractions (8.2%, 95% CI [7.1, 9.5]) to fluoride therapies (10.3%, 95% CI [8.3, 12.6]), orthodontics (16.0%, 95% CI [13.8, 18.6]), restorations (30.7%, 95% CI [28.4, 33.1]) and regular maintenance (51.9%, 95% CI [48.9, 54.9]).



Table 5.8: First Nations youth reporting dental treatment needs, by type of treatment required, gender and age group

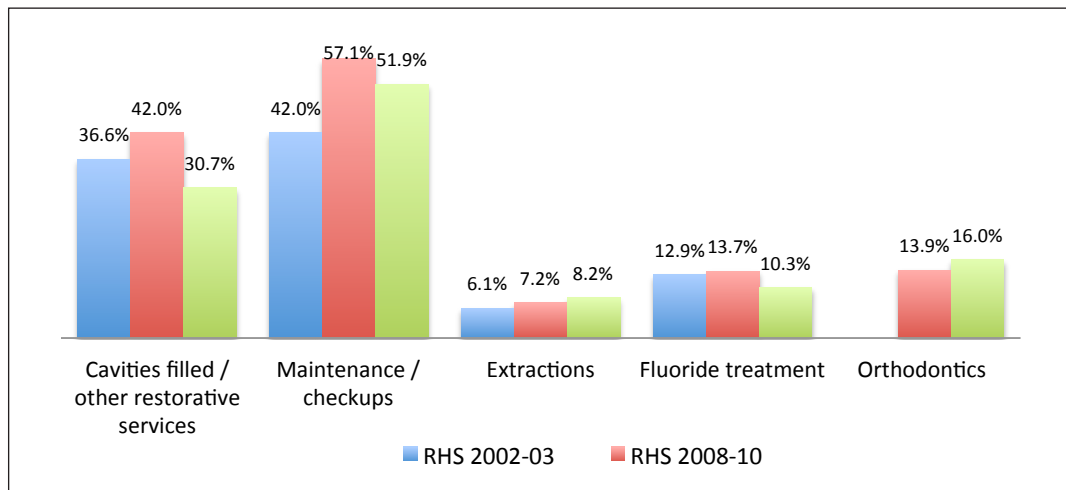
DENTAL TREATMENT NEED	GENDER & AGE (years)				
	Male 12-14	Male 15-17	Female 12-14	Female 15-17	All
	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]
None	24.3 [19.9, 29.4]	29.2 [25.8, 32.8]	25.6 [21.6, 30.1]	20.2 [17.8, 22.9]	24.9 [22.8, 27.1]
Restorative	31.1 [25.1, 37.8]	26.8 [23.3, 30.5]	28.6 [24.1, 33.5]	36.2 [31.7, 41.0]	30.7 [28.4, 33.1]
Maintenance	60.3 [53.3, 66.9]	49.4 [45.4, 53.3]	48.0 [43.0, 53.0]	50.8 [46.6, 55.1]	51.9 [48.9, 54.9]
Extractions	5.7 [4.1, 7.9]	7.3 [5.9, 9.1]	6.3 [4.9, 8.2]	12.7 [9.9, 16.1]	8.2 [7.1, 9.5]
Fluoride	14.8 ^E [8.6, 24.2]	7.5 [6.0, 9.3]	10.5 [7.9, 14.0]	9.1 [6.9, 11.9]	10.3 [8.3, 12.6]
Periodontics	F	1.7 ^E [1.1, 2.8]	F	F	1.7 ^E [1.0, 2.8]
Prosthodontics	F	F	0.6 ^E [0.4, 1.1]	F	1.0 ^E [0.7, 1.6]
Orthodontics	14.9 ^E [8.7, 24.3]	12.1 [9.4, 15.5]	18.9 [14.7, 24.1]	18.6 [15.6, 21.9]	16.0 [13.8, 18.6]

Notes: Respondents could choose more than one response.
 E High sampling variability, interpret with caution.
 F Suppressed due to low cell count or very high sampling variability.

Compared to the RHS Phase 1, self-reported dental treatment needs of First Nations youth have declined for restorative (e.g., dental fillings) and preventive care (fluorides); but have increased for regular maintenance and surgery (see *Figure 5.13*). The self-

perceived need for orthodontic treatment among youth was not reported in the RHS Phase 1, but it has increased when compared with the findings in the RHS Phase 2 (see *Figure 5.13*).

Figure 5.13: Type of dental treatment needs reported by First Nations youth in the three phases of the RHS



Note: Respondents could choose more than one response.

Dental Treatment Needs among First Nations Children

According to the RHS Phase 3, more than half (51.4%, 95% [48.9, 53.9]) of parents and caregivers reported that their children required regular checkups or maintenance, followed by restorative care: such as fillings (28.8%, 95% CI [26.2, 31.5]), fluoride treatment (17.0%, 95% CI [15.2, 18.9]) and extractions (10.7%, 95% CI [9.3, 12.4]) (See Table 5.9). In general, the need for care increased as the child's age increased, except for extractions and fluoride treatments, where the proportions were higher among the 3–5 and 6–8 years age groups than for the other two age groups. Periodontics and prosthodontic needs were rare

among children, and only 1.4% (95% CI [0.9, 2.0]) of parents/caregivers reported the need for any other type of care.

Less than one-third (31.8%, 95% CI [29.4, 34.3]) of children had no treatment needs. There was no difference between the genders in reported treatment needs, except for orthodontics, with a higher proportion of girls needing braces (4.9%, 95% CI [4.0, 6.0]) compared to boys (2.9%, 95% [2.3, 3.8]). It should be noted, however, that less than 4% (3.9%, 95% CI [3.3, 4.6]) of parents or caregivers perceived the need for orthodontic treatment for their children at the time of the survey.



Table 5.9: First Nations children’s dental treatment needs, by type of treatment required and age group

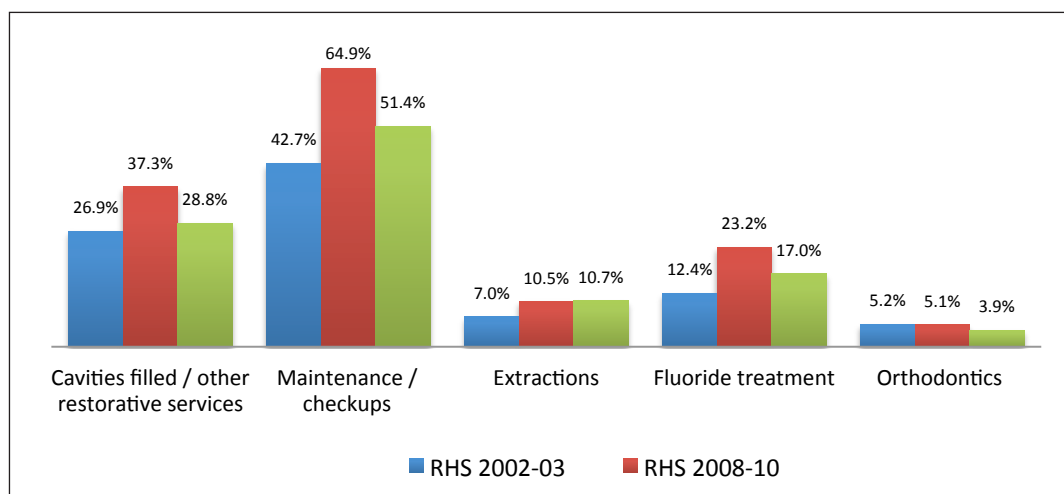
DENTAL TREATMENT NEED	AGE GROUP (years)				
	0-2	3-5	6-8	9-11	0-11 (All)
	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]
None	61.5 [55.7, 67.0]	33.1 [28.8, 37.7]	24.5 [21.1, 28.2]	21.3 [18.6, 24.2]	31.8 [29.4, 34.3]
Restorative	8.5 ^E [5.9, 12.2]	27.2 [23.3, 31.5]	34.5 [30.6, 38.7]	35.8 [31.9, 39.9]	28.8 [26.2, 31.5]
Maintenance	29.4 [24.3, 35.0]	49.9 [45.3, 54.5]	58.7 [55.0, 62.3]	57.9 [54.3, 61.4]	51.4 [48.9, 53.9]
Extractions	5.4 ^E [3.1, 9.3]	12.2 [9.5, 15.6]	11.9 [9.8, 14.4]	11.4 [9.3, 13.9]	10.7 [9.3, 12.4]
Fluoride	12.0 [8.7, 16.2]	17.3 [14.3, 20.7]	21.0 [18.1, 24.3]	15.9 [13.6, 18.6]	17.0 [15.2, 18.9]
Periodontics	F	F	F	F	0.6 ^E [0.3, 0.9]
Prosthodontics	F	F	F	F	0.4 ^E [0.2, 0.7]
Orthodontics	F	F	3.6 ^E [2.5, 5.2]	9.2 [7.7, 11.0]	3.9 [3.3, 4.6]

Notes: Parents/caregiver could choose more than one response.
 E High sampling variability, interpret with caution.
 F Suppressed due to low cell count or very high sampling variability.

Figure 5.14 shows the distribution of needs, according to the three phases of the RHS, for children from birth to age 11. The trend observed is that treatment needs were lowest in the RHS Phase 1, with the proportions increasing in RHS Phase 2 (except for orthodontics),

only for them to fall again in RHS Phase 3 (except for extractions). Yet, in RHS Phase 3 more than a quarter of the children (28.8%, 95% CI [26.2, 31.5]) were still in need of cavities to be filled.

Figure 5.14: Dental treatment needs of First Nations children ages 0-11, as reported by parents/ caregivers in the three phases of the RHS



Note: Parent/caregiver could choose more than none response.

Edentulism and Denture Use among First Nations Adults

According to the RHS Phase, a total of 11.0% (95% CI [10.2, 11.9]) of all First Nations adults reported being edentulous, i.e., they had no natural teeth (see Table 5.10). There was no significant difference between

males and females with respect to the prevalence of self-reported edentulism. The greatest difference occurred between the age groups, with edentulism highest at 33.8% (95% CI [31.2, 36.6]) for the oldest age group (60 and older) when compared to 4.2% (95% CI [3.3, 5.3]) among the age 18–29 years.

Table 5.10: Prevalence of self-reported edentulism (complete tooth loss) among First Nations adults, by age group and gender

AGE (years)	Edentulous					
	Male		Female		Both Genders	
	%	95% CI	%	95% CI	%	95% CI
18-29	4.0 ^E	[2.9, 5.6]	4.4	[3.1, 6.0]	4.2	[3.3, 5.3]
30-39	4.3 ^E	[3.0, 6.1]	5.7 ^E	[3.2, 10.0]	5.0 ^E	[3.5, 7.3]
40-49	8.8	[6.5, 11.8]	8.8	[6.6, 11.6]	8.8	[7.0, 11.0]
50-59	13.3	[10.9, 16.2]	10.7	[9.0, 12.8]	12.1	[10.4, 13.9]
≥ 60	34.9	[31.4, 38.7]	32.8	[29.2, 36.7]	33.8	[31.2, 36.6]
≥ 18 (All)	11.0	[10.0, 12.1]	11.1	[9.9, 12.4]	11.0	[10.2, 11.9]

Note: ^E High sampling variability, interpret with caution.

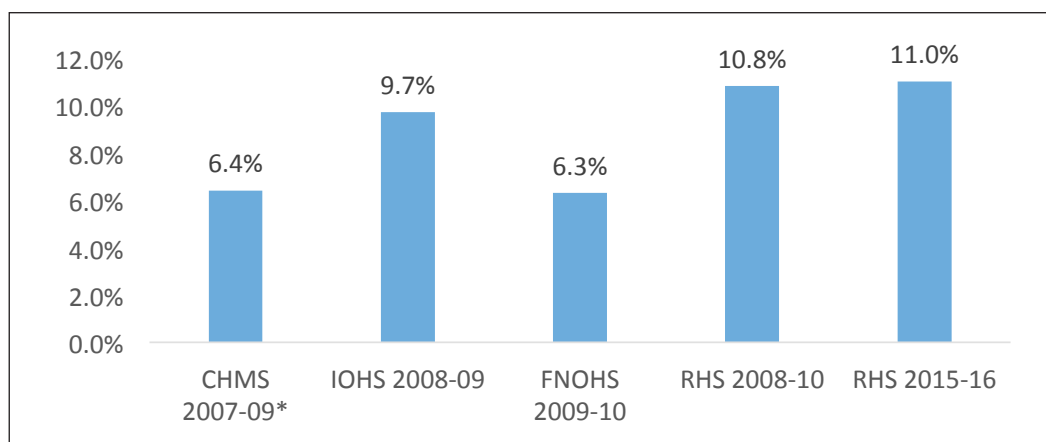


Comparisons of the RHS Phase 3 findings can be made with previous nationwide, clinical examination survey results for adults and those of the RHS Phase 2. In 2007-2009, the CHMS found that 6.4% (95% CI [4.9, 8.4]) of non-Indigenous adults aged 20 and older were edentulous (had lost all their natural teeth) compared to the RHS Phase 3 finding of 11.0% (95% CI [10.2, 11.9]) (See *Figure 5.15*).

The FNOHS (2009-2010) found that 6.3% (95% CI not reported) of First Nations adults aged 20 and older

were edentulous, whereas Inuit adults had a higher prevalence of edentulism (9.7%, 95% CI [4.6, 14.8] reported in the IOHS 2008-09) than First Nations adults and the general population of the same age group. Self-reported edentulism was found to be more prevalent among First Nations adults aged 18 and older in the RHS Phase 2 at 10.8% (95% CI [10.0, 11.7]); a proportion equivalent to that found in the RHS Phase 3 (11.0%, 95% CI [10.2, 11.9]).

Figure 5.15: Prevalence of edentulism (complete tooth loss) among the adult population in Canada in national health surveys



Note: *Non-Indigenous people in Canada aged 20 years and over.

Nearly 1 in 4 (23.6%, 95% CI [22.7, 24.5]) First Nations adults reported wearing full or partial dentures, false teeth, bridges or dental plates to replace missing permanent teeth (see *Table 5.11*). Use of dentures has declined since the RHS Phase 2 when dentures were worn by 28.0% (95% CI [26.7, 29.3]) of First Nations adults. Among the edentulous, 74.7% (95% CI [70.8,

78.2]) wore a removable denture in the RHS Phase 2 compared to 67.7% (95% CI [63.9, 71.3]) of edentate adults in the RHS Phase 3. Denture wearing, either fixed or removable, continues to be more common among females than males (26.8%, 95% CI [25.3, 28.3] vs. 20.5%, 95% CI [19.2, 21.9], respectively).



Table 5.11: First Nations adults wearing full or partial dentures, overall and by dentate status and gender, RHS Phase 3 (2015-2016) and RHS Phase 3 (2008-2010)

	Wearing full or partial dentures*			
	RHS 2015/16		RHS 2008/10	
	%	95% CI	%	95% CI
All	23.6	[22.7, 24.5]	28.0	[26.7, 29.3]
DENTATE STATUS				
Dentate	18.2	[17.3, 19.2]	22.3	[21.0, 23.6]
Edentulous	67.7	[63.9, 71.3]	74.7	[70.8, 78.2]
GENDER				
Male	20.5	[19.2, 21.9]	25.4	[23.7, 27.2]
Female	26.8	[25.3, 28.3]	30.6	[29.0, 32.3]

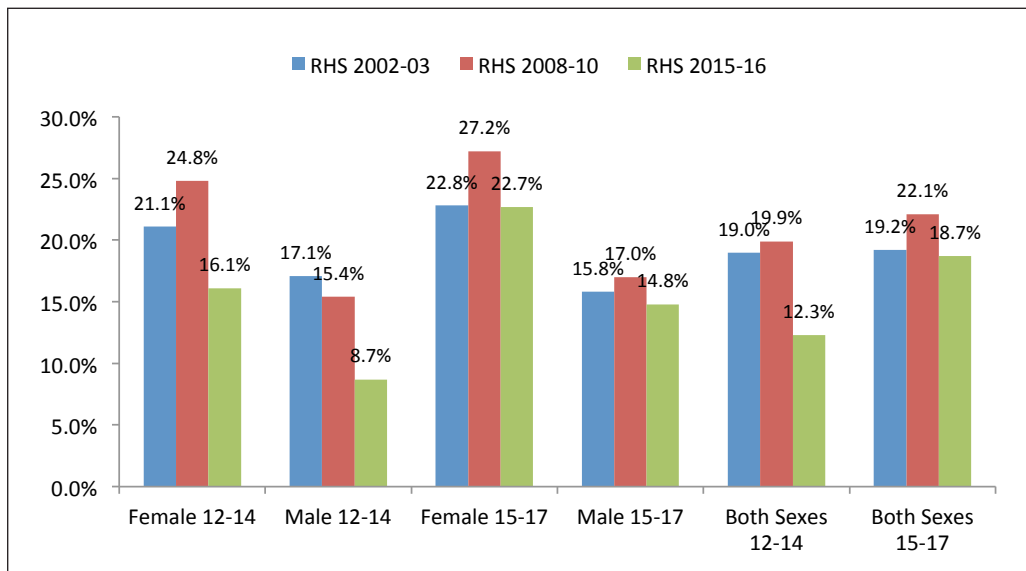
Note:*Dentures = full or partial denture, false teeth, bridges or dental plates to replace missing permanent teeth.

Dental Pain among First Nations Youth

Overall, 15.8% (95% CI [14.0, 17.7]) of First Nations youth experienced problems with their teeth or any dental pain in the month prior to the RHS Phase 3 survey. As seen in Figure 5.16, dental problems or pain were more frequently reported by females and

by youth ages 15–17. There was a trend towards lower prevalence of dental problems or pain in all gender and age groups for youth in the RHS Phase 3 when compared with the previous surveys.

Figure 5.16: Prevalence of dental problems or pain in the month prior to the survey among First Nations youth, by gender and age group, in the three phases of the RHS

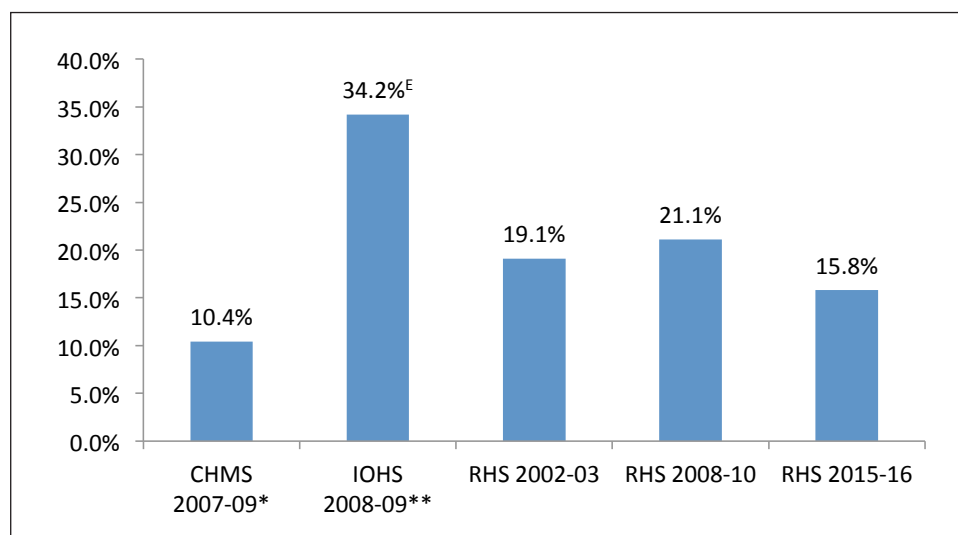




Compared to Inuit youth, First Nations youth have a lower prevalence of dental problems or pain (see Figure 5.17). Conversely, and in comparison with

youth in the general population, First Nations youth have a higher prevalence of dental problems or pain.

Figure 5.17: Prevalence of dental problems or pain among the youth population in Canada in national health surveys



Notes: * Youth aged 12-19 years in the general population, including Indigenous youth living off reserve, but excluding First Nations youth living on reserve.

** Inuit adolescents aged 12-19 years.

^E High sampling variability, interpret with caution.

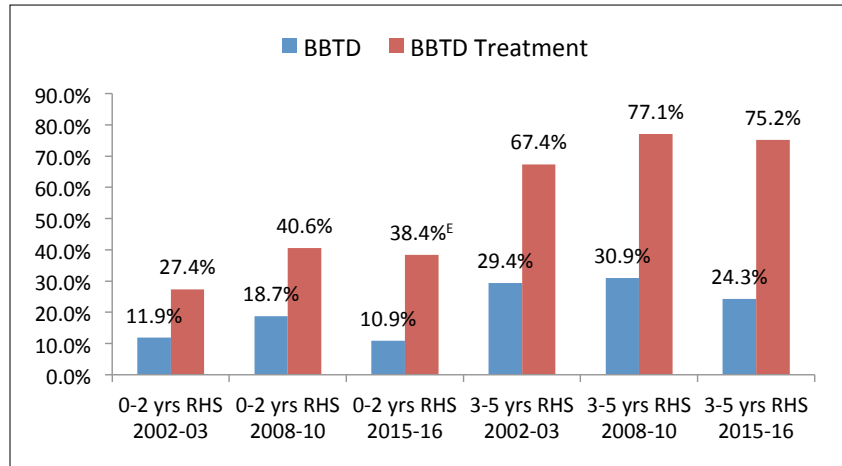
Baby Bottle Tooth Decay and Early Childhood Caries among First Nations Children

According to the RHS Phase 3, the prevalence of BBTD/ECC in deciduous teeth was lower in infants and toddlers ages 0-2 (10.9% (95% CI [8.2, 14.4]) compared to preschoolers ages 3-5 (24.3% (95% CI [20.7, 28.4])) (See Figure 5.18). Among infants affected by BBTD/ECC, 38.4%^E (95% CI [25.3, 53.4])

have been treated for the disease, whereas three-quarters (75.2%, 95% CI [68.1, 81.2]) of preschoolers have received treatment for BBTD/ECC. When examined in light of the two previous phases of the RHS, the prevalence of BBTD/ECC has declined more noticeably for those in the 3-5 years age cohort (see Figure 5.18).



Figure 5.18: First Nations children ages 0-2 and 3-5 affected by, and treated for, baby bottle tooth decay (early childhood caries) (BBTD/ECC) in the three phases of the RHS



Overall, 1 in 5 (20.0%, 95% CI [18.3, 21.8]) First Nations children ages 0–11 were reported to have or had BBTD/ECC, and 80.8% (95% CI [76.3, 84.6]) of these children underwent some dental treatment. Increased prevalence of parent and caregiver-reported BBTD/ECC was significantly associated with those mothers who breastfed, on average, fewer months than mothers of children with no BBTD/ECC experience (see *Table 5.12*).

BBTD/ECC prevalence was also significantly associated with bottle-feeding, i.e., 21.3% (95% CI [19.5, 23.3]) of children who were bottle-fed were affected by BBTD/ECC when compared to 6.7%^E [1.4, 4.5] of children who were not bottle-fed. At the same time, the contents of the baby bottle were risk indicators of BBTD/ECC experience. Children who were bottle-fed Kool-Aid, other powdered drinks, fruit juices, teas, herbal mixtures, or soft drinks were 2.2 to 2.6 times as likely as those who were not fed these liquids to have BBTD/ECC.



Table 5.12 First Nations children ages 0-11 affected by baby bottle tooth decay (early childhood caries) (BBTD/ECC), by selected risk indicators

RISK INDICATOR	BBTD (ECC)	
	%	95% CI
All	20.0	[18.3, 21.8]
Age group (years)		
0-2	10.9	[8.2, 14.4]
3-5	24.3	[20.7, 28.4]
6-8	22.3	[19.0, 25.9]
9-11	19.4	[17.0, 22.2]
GENDER		
Male	20.1	[17.9, 22.5]
Female	19.8	[17.7, 22.0]
Breast-fed		
No	20.3	[17.5, 23.5]
Yes*	20.0	[17.6, 22.7]
*Duration of breastfeeding If BBTD, mean duration of breastfeeding = 8.0 months (95% CI 7.0, 9.0) vs. 9.4 months (95% CI 8.9, 10.0) if no BBTD experience.		
*Exclusively breast-fed If BBTD, mean duration of exclusive breastfeeding = 2.9 months (95% CI 1.6, 4.1) vs. 3.7 months (95% CI 2.9, 4.4) if no BBTD experience.		
Bottle-fed		
Never	6.7 ^E	[4.5, 10.0]
Yes	21.3	[19.5, 23.3]
Content of baby bottle**		
Breast milk	19.6	[16.9, 22.7]
Formula	21.5	[19.3, 23.7]
Milk	23.0	[20.7, 25.6]
Milk alternative (soy, almond, rice, potato, oat, coconut milk, etc.)	22.3 ^E	[15.7, 30.7]
Canned milk	22.3	[16.7, 29.1]
Powdered milk (other than formula)	32.1 ^E	[22.3, 43.8]
Water	25.7	[23.2, 28.4]
Kool-Aid and other powdered drinks	44.4 ^{***}	[37.8, 51.2]
Fruit juices/drinks	36.6 ^{***}	[32.7, 40.7]
Tea	45.9 ^{***}	[35.9, 56.2]
Herbal mixtures	44.7 ^{E***}	[23.4, 68.2]
Soft drinks	45.1 ^{***}	[33.6, 57.1]
Coffee whitener	F	

Notes: E High sampling variability, interpret with caution.

F Suppressed due to low cell count or very high sampling variability.

**Parent/caregiver could choose more than one response.

***2.2 to 2.6 times higher risk of BBTD/ECC compared to children not fed these liquids.



Treatment of BBTD/ECC increased significantly with the child's age and was not related to gender (see Table 5.13). Among children who were treated for BBTD/ECC, almost equal proportions received their most recent care from a dental professional stationed in the community (32.5%, 95% CI [27.4, 38.1]) or by a

dental professional situated more than 90 km from the community (32.0%, 95% CI [27.1, 37.2]). For the remainder, dental care was provided by a dental professional situated within 90 km of the community (23.6%, 95% CI [19.0, 28.8]) or by a visiting dental professional (12.0%, 95% CI [8.9, 15.9]).

Table 5.13 First Nations children treated for baby bottle tooth decay (early childhood caries) (BBTD/ECC), by age group, gender and location where most recent dental care was received

	BBTD (ECC) Treated	
	%	95% CI
All	80.8	[76.3, 84.6]
Age group (years)		
0-2	38.4 ^E	[25.3, 53.4]
3-5	75.2	[68.1, 81.2]
6-8	89.6	[83.1, 93.8]
9-11	91.7	[87.8, 94.4]
Gender		
Male	82.1	[76.6, 86.5]
Female	79.4	[73.2, 84.4]
Among children treated for BBTD, the most recent dental care was carried out by:		
Dental professional stationed in the community	32.5	[27.4, 38.1]
Dental professional visiting the community	12.0	[8.9, 15.9]
Dental professional situated within 90 km of the community	23.6	[19.0, 28.8]
Dental professional situated more than 90 km from the community	32.0	[27.1, 37.2]

Dental Injuries among First Nations Adults, Youth and Children

Among First Nations adults, the prevalence of self-reported dental injuries, which occurred in the past 12 months and were serious enough to limit normal activities the day after the injury, changed from 3.9% (95% CI not reported) in the RHS Phase 1 to 5.4% (95% CI [4.1, 7.1]) in the RHS Phase 2, before dropping to 1.9%^E (95% CI [1.2, 3.2]) in the present survey. The very low prevalence estimate observed in RHS Phase 3 prevented the examination of age and gender patterns in the distribution of dental injuries among adults.

Although comparisons must be made cautiously due to changes in the wording of the question between the

phases of the RHS, the prevalence estimates of dental injury among First Nations youth and children were also lower than those reported in previous surveys. In the RHS Phase 1, 4.3% (95% CI not reported) of youth and 2.5% (95% CI not reported) of children had experienced at least one dental injury serious enough to need medical attention in the year prior to the survey. In the RHS Phase 2, 5.3% (95% CI [4.1, 6.8]) of First Nations youth and 2.7%^E (95% CI [1.7, 4.3]) of First Nations children under age 12 suffered trauma to the oral region in the 12 months prior to the survey. In the RHS Phase 3, the estimates for the proportion of youth and children who sustained a serious dental injury in the year prior to the survey could not be reported due to high sampling variability.



DISCUSSION

The analysis of the Dental Care section of the RHS Phase 3 revealed some disparities in self-reported oral health between First Nations and the general population in Canada. The overall prevalence of fair/poor self-rated oral health for First Nations adults was 34%, and at least twice as many of these adults rated their oral health as fair/poor when compared to age-matched participants in the CHMS (2007-2009) (Health Canada, 2010).

Similarly, the majority of First Nations youth reported their oral health to be good to excellent as did the parents/caregivers of First Nations children. However, the proportions reporting good to excellent oral health were lower than their non-Indigenous peers in the general population. The analysis also revealed that over the 14 years between the phases of the RHS, access to dental care—a critical determinant of oral health—has slightly declined for most First Nations but has modestly increased for seniors aged 65 and older and for children ages 0–11. Data were not collected on whether the care obtained was for dental emergencies or simply for dental checkups. However, information derived from the FNOHS suggests that nearly one-third (32.3%) of First Nations aged 12 years and older only use dental services for emergency care (FNIGC, 2012b).

While this figure is troubling enough, it might explain the comparatively high prevalence of self-reported edentulism found among First Nations adults (11.0%) in the survey; a figure that has not changed since the RHS Phase 2 (10.8%) and is higher than the estimates reported in other national oral health surveys conducted in Canada. Problem-based dental care, which often leads to tooth extractions rather than rehabilitative care, which preserves the dentition, may be responsible for this comparatively high level of edentulism. In a similar vein, use of dentures (fixed or removable) has declined since the RHS 2008/10,

when dentures were worn by 28.0% of First Nations adults, to 23.6% in the present RHS.

On a positive note, the barriers to accessing services, as reported by First Nations adults, have markedly declined since the RHS Phase 1. Still, some type of dental care was felt to be needed by large proportions of adults (71.7%, 95% CI [70.2, 73.3]), youth (75.1%, 95% CI [72.9, 77.2]) and the parents/caregivers of children (68.2%, 95% CI [65.7, 70.6]). Across the three phases of the RHS, the perceived need for dental care has decreased over time among adults. Among First Nations youth and children, the general trend observed is that treatment needs were lowest in RHS Phase 1, with the proportions increasing in RHS Phase 2, only for them to fall again in RHS Phase 3 to levels comparable to those of the first survey year. The reason for this fluctuation may well be the result of oral health policies and programs introduced to increase access and dental care utilization for First Nations that were a product of the evidence revealed by the RHS and the other national health surveys of Indigenous peoples in Canada conducted over the last two decades. Unfortunately, at this time, cause and effect cannot be inferred from cross-sectional surveys.

Although the RHS Phase 3 findings provide some reasons for being optimistic, there is still a range of unmet oral health needs—not only among First Nations on reserve and in northern First Nations communities, but also among those living in large Canadian cities—that must be addressed. Indigenous people are increasingly migrating to major urban centres across the country.

In Calgary the increased number of adults with acute dental infections arriving for emergency department care prompted dental public health officials to evaluate and compare the referrals of acute dental infection cases to a regional Outpatient



Parenteral Antibiotic Therapy (OPAT) program with hospitalizations (Connors et al., 2017). This quality improvement study found cost savings with the OPAT program when compared to the costs of hospitalization. However, because antibiotic therapy is only a bridge to a permanent solution for dental problems, other interventions and programs must also be considered.

Specifically, among youth in the current RHS, tooth pain in the month prior to the survey was reported by 15.8% of First Nations youth ages 12–17. While the prevalence of dental problems or pain has noticeably declined when compared with the previous phases of the RHS, there are some concerns, in light of a recent study of residents in British Columbia, which showed that prescription opioids were more likely to be used by those who had experienced a toothache in the past month than those who did not report experiencing recent tooth pain (Moeller, Farmer & Quiñonez, 2017).

The study suggested that adverse socio-economic conditions may influence the need for opioid analgesics to relieve dental pain. While dental pain is declining, it is also important for dentists to be very wary of providing prescription opioids to treat tooth pain among this cohort.

With respect to First Nations children, 1 in 5 were reported to have or had BBTD/ECC, and the majority (80.8%) of these children underwent dental treatment for the disease, with nearly a third having their most recent dental care provided by a dental professional situated more than 90 km from the community. When examined in light of the two previous cycles of the RHS, the prevalence of BBTD/ECC declined mainly for those in the 3–5 years age cohort.

While this finding was a welcome surprise, it was not surprising that breastfed children were less likely to have BBTD/ECC, whereas those who consumed Kool-Aid, other powdered drinks, fruit juices, teas, herbal mixtures or soft drinks in baby bottles had an increased risk of the disease. Similar results were reported for Manitoba First Nations children in the RHS 2008/10 (Schroth, Halchuk & Star, 2013).

The Truth and Reconciliation Commission (TRC) of Canada's Call to Action Number 19 points out the troubling gaps in health outcomes between Indigenous and non-Indigenous communities, of which oral health is not an exception, and calls for preventive solutions to closing these gaps (TRC, 2015). Among a long list of health indicators, the report calls for efforts to be focused on maternal, infant and child health issues. Oral health preventive and clinical care for young infants and pregnant women have been identified as keys to reducing Indigenous oral health disparities due to, in part, to ECC's high hospitalization rates and costs and impact on childhood nutrition, and on ECC's effects on socialization and schooling (Lawrence et al., 2004; Schroth, Harrison & Moffatt, 2009; Irvine et al., 2011). Preventive dental care is needed to catch ECC in its early stages or to prevent its onset altogether.

This could best be accomplished through preconception interventions, which incorporate traditional practices integrated into primary health care programs that address common risk factors (Lawrence, 2010). At least five published studies reported the success of preventive, behavioural and cultural interventions conducted in Indigenous communities in Canada that aimed to improve the oral health of young children by targeting parents/caregivers (Lawrence et al., 2004; Lawrence et al., 2008; Harrison, Veronneau & Leroux, 2012; Schroth et al., 2015; Cidro et al., 2014; 2015).



There is only one federally funded preventive program in First Nations and Inuit communities designed to improve the oral health of First Nations living on reserve and children living in Inuit communities (Mathu-Muju et al., 2016). Introduced in 2004, the Children's Oral Health Initiative (COHI) is an ECC prevention program. The client group includes children aged 0–7, their parents/caregivers and pregnant women. COHI services include annual screening, fluoride varnish applications, sealants and temporary fillings. A dental professional, either a dental therapist or dental hygienist, delivers the program in the community, with the assistance of a COHI aide, who is also a community member hired and trained to assist the dental professional.

The COHI initiative is heavily supported by Dental Therapy, another federally funded program, which occurs in all Health Canada regions except those in Ontario and Quebec, where no dental therapists are allowed to practice due to provincial legislation. While dental therapists are used in other countries to address access-to-care issues, there is a shortage of dental therapists in Canada. Further exacerbating this shortage was the closure in 2011 of the National School of Dental Therapy (NSDT) training program in Saskatchewan. The program was designed to produce graduates who would provide oral health services—such as extractions, fillings and preventive care—in rural and remote communities, particularly in First Nations and Inuit communities, where there is a lack of dental care providers. The closure of the NSDT training program, and the failure to introduce a replacement, has the potential to further reduce access to dental care in some First Nations and Inuit communities which will, in turn, worsen the existing oral health inequalities (Leck & Randall, 2017).

The 2017 report of the Auditor General of Canada focused on whether Health Canada had reasonable assurance that its oral health programs for eligible First Nations and Inuit people had a positive effect on

their oral health (OAGC, 2017). The main programs audited were the Non-Insured Health Benefits (NIHB) Program and the COHI. Between the 2011–12 and the 2015–16 fiscal years, Health Canada spent more than \$200-million per year to provide services through these two programs, though the report concluded that Health Canada needed to better demonstrate how the programs are helping to maintain and improve the overall oral health of First Nations and Inuit people at the national level.

The COHI is presently being evaluated, and preliminary findings demonstrate its beneficial effect on the oral health knowledge and behaviours of children and their caregivers living in geographically isolated Indigenous communities (Mathu-Muju et al., 2017a; 2017b; 2016). In the Nunavut territory, the COHI program was incorporated into the Nunavut Children's Oral Health Project in 2013, and this oral health preventive program has been evaluated twice since then.

There exist some other possible solutions to the challenges of reducing the inequitable access to dental care by Indigenous persons that is repeatedly evidenced in the 20 years of RHS data. A worthy starting point is to diversify the pool of dentists in First Nations communities. For instance, the University of Saskatchewan College of Dentistry began the Indigenous Equity Access Program in 1996 to recruit, retain and graduate more Indigenous students (Teplitsky & Uswak, 2014). The program was built on the idea of increasing the diversity of its student body by increasing the number of dental students and graduates of Indigenous ancestry. The expectation was that graduates from Indigenous backgrounds would be more likely to practice in rural, remote or primarily Indigenous-populated communities.



From 1998 to 2011, the Saskatchewan College of Dentistry admitted 22 students of Indigenous ancestry who benefitted from the preferential assistance afforded by the program. They have all successfully completed the dental program and passed the National Dental Examining Board licensure examination, but only a few went on to practice in environments that primarily serve First Nations and Inuit patients.

Further efforts to modify and improve dental education to respond to oral health disparities found in the present survey must also include the teaching of cultural competency in the busy dental curricula, particularly through community-service learning, so that dentists can be better prepared to understand the perspectives of culturally diverse populations and to communicate effectively with people from various cultures, which will, in turn, serve as a stepping stone to culturally safe dental care.

Regrettably, institutional racism is one of the barriers to accessing health services, including oral health services, which is likely under-reported by Indigenous people in Canada. Among 541 First Nations and Métis women enrolled in an early childhood caries preventive trial conducted in urban and on-reserve communities in Ontario and Manitoba, one-third reported being treated unfairly in the past year because they were First Nations or Métis (Lawrence et al., 2016). Outcomes significantly associated with incidents of racism included: wearing dentures, going off reserve for dental care, being asked to pay for dental services upfront, perceiving the need for preventive care, flossing more than once daily, having fewer than 21 natural teeth, having a fear of going to the dentist, having never received orthodontic treatment and perceiving the impact of oral conditions on quality of life.

Only two recent intervention studies were found that aimed to improve the oral health of Indigenous adults, and these were conducted in Australia. One of the studies was a randomized controlled trial to evaluate oral health effects of single-visit, non-surgical periodontal therapy (full-mouth periodontal scaling and root planing) and compared these to no treatment among a sample of Indigenous Australians aged 18 years or older with periodontitis (Kapellas et al., 2013). The simplified periodontal therapy produced clinically significant improvements in shallow periodontal pockets and gingival bleeding scores.

The results of the RHS Phase 3 2015/16 point to less than 6% of adults reporting the need for periodontal (gum) care, so this is a type of intervention that probably does not need to be replicated and tested in Canada. The other study reviewed used a randomized controlled trial design to evaluate the effect of five interactive, contextually relevant oral health literacy workshops on oral health literacy-related outcomes among rural-dwelling Indigenous Australian adults (Ju et al., 2017). Although the intervention was developed with Indigenous research officers and pilot tested in an Indigenous population, the intervention was moderately successful in improving oral health literacy and related outcomes in the study population.

In Canada, there is increasing recognition that Indigenous culturally based health promotion and preventive interventions are keys to responding to the challenges related to the adoption and maintenance of healthy behaviours (Murdoch-Flowers et al., 2017). But, in dentistry, the role of social and cultural determinants in oral disease development and progression has just begun to be taken seriously. Qualitative, community-based participatory research methodologies are now being used to assist in the creation of more sustainable community-based oral health promotion and prevention programs,



particularly for Indigenous children and their families (Naidu et al., 2014; Salehyar et al., 2015; Cidro et al., 2017).

Finally, the RHS is not without its limitations. The survey was not designed to measure clinically determined disease (only self-reported data were collected), although the results are fairly consistent with previous findings on oral health reported in the First Nations Oral Health Survey (FNIGC, 2012b). The addition of more questions addressing risk factors and indicators influencing oral health and access to services would have provided a more nuanced understanding of the factors related to oral health and service utilization in First Nations communities. However, the stance taken for the analytical strategy for this chapter was to provide descriptive prevalence estimates and to take advantage of the three survey phases of the RHS to examine trends across time. Strengths of the analysis are the large size and random nature of the sample, the high quality of the information gathered and a review process that ensured that the views of First Nations on reserve and in northern communities are truly represented on the pages of this report.

CONCLUSIONS

To conclude, the RHS Phase 3, the third phase of a First Nations-led survey, shows that First Nations on reserve and Northern communities are more likely to report their oral health as being fair or poor and to present higher prevalence estimates of edentulism, dental pain, baby bottle tooth decay (early childhood caries) and perceived dental treatment needs than their counterparts in the general population.

Poor oral health among First Nations most often starts in childhood and continues throughout the life course. Thus, it is encouraging that access to dental care has increased among children and seniors. One in four First Nations adults reported difficulties accessing dental care, but the reported barriers to accessing services have markedly declined since the RHS Phase 1. Similarly, the perceived need for the most common types of dental treatment, such as fillings and maintenance, has also declined among First Nations adults since the first RHS.

However, for youth and children, the decline in treatment needs started in RHS Phase 2. Gaps still remain, and future research should address the social and cultural determinants of oral health that are fundamental to a First Nations holistic approach to health and well-being. The oral health determinants found in the survey that are associated with the risk of BBTD/ECC were child-feeding practices and a lack of dental services available in the community. These determinants were the same in the RHS Phase 2 as they were in the RHS Phase 3. Consequently, steps should be taken to create culturally based oral health promotion and prevention programs—not only for children, but also for First Nations of all ages—that target the problems highlighted by this phase of the RHS. Where treatment is concerned, promotion and prevention programs need to be paired with broad-based, upstream and strategic solutions to deliver oral health care services to Indigenous populations living in remote communities. This will ensure that inequalities and inequities in First Nations oral health can be reduced to manageable levels.



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CHAPTER SIX: INDIAN RESIDENTIAL SCHOOLS

EXECUTIVE SUMMARY

This chapter presents the results from analyses of the First Nations adult, youth and child populations from the 2015-2016 First Nations Regional Health Survey (RHS) Phase 3 exploring personal and familial attendance at Indian Residential Schools (IRS) and how these experiences are linked with various indicators of health and wellness.

While it is often incorrectly assumed that Residential Schools are a problem of the distant past with no bearing upon today's health inequities, analyses reveal that nearly three-quarters (74.4%) of adults living in First Nations communities reported attending themselves or had a parent or grandparent who attended. Likewise, more than two-thirds of First Nations youth (68.3%) and children (63.2%) had a parent or grandparent who attended. Moreover, there is a significant number of Residential School Survivors still alive (nearly 15% adults, which represent approximately 40,900 Survivors living in First Nations on-reserve communities) suggesting that the direct negative health effects of Residential Schools on those who attended are still being felt in communities.

In addition, the intergenerational negative effects of Residential Schools on those who did not attend, but who had a parent or grandparent attend, were found in relation to self-rated general and mental health, suicidal thoughts and substance use. Thus, the effects on those affected by Residential Schools varied across the health and social indicators examined, with the effects being particularly evident among those with a parent who attended.

Speaking to their resilience, a higher proportion of those directly and intergenerationally affected by Residential Schools reported more frequent participation in community cultural events and greater feelings of belonging in their community. This is in line with previous research in which those affected by Residential Schools have described engagement with Traditional culture as an important part of their healing journey (Brant Castellano, 2006). Together, these findings highlight that Residential School Survivors and their families have been negatively affected by Residential Schools in relation to overall health and wellness, and that there is a significant need for continued healing. At the same time, the results also speak to the incredible resiliency and ability of First Nations people to preserve their Traditional cultures and practices, which are foundational for wellness and continued healing in First Nations communities.

KEY FINDINGS

Proportion Directly or Intergenerationally Affected by IRS

- More than 1 in 6 (14.9%) of First Nations adults reported that they had personally attended Residential Schools. The proportion of adults who attended increased with age, and when considering those aged 60 years and older more than 2 in 5 (42.3%) adults reported having attended Residential Schools.
- Of those who attended Residential Schools, more than half (57.7%) first attended between ages 5 and 9, and nearly half (45.4%) reported attending for five or more years.
- Nearly half (48.6%) of First Nations adults had at least one parent who attended Residential



School, and more than half (54.3%) reported that at least one grandparent attended. Among First Nations youth, nearly 1 in 5 (18.0%) had a parent who attended Residential School, and nearly two-thirds (65.4%) had at least one grandparent who attended. Among children, more than 1 in 10 (11.3%) had a parent who attended, and nearly two-thirds (61.8%) had at least one grandparent who attended.

- Among the First Nations adult population, nearly three quarters (74.4%) reported being directly or intergenerationally affected by their parents' or grandparents' attendance, leaving only 25.6% of adults who were not affected (note these are mutually exclusive categories). Likewise, more than two thirds (68.3%) of youth and less than two thirds (63.2%) of children had a parent or grandparent who attended.

IRS Experiences and Associated Long-Term and Intergenerational Effects

- Nearly two thirds (62.5%) of First Nations adults who attended Residential School reported that their attendance had a negative effect on their overall health and well-being. More than one-quarter (26.0%) of IRS Survivors reported that they did not perceive any impacts, and more than 1 in 10 (11.5%) reported a positive impact.
- Survivors reported that isolation from their family, verbal or emotional abuse, loss of cultural identity, physical abuse and harsh discipline were the top factors that contributed to the negative effects of IRS attendance on their overall health and well-being.
- Fewer adults who attended Residential School (65.7%) and who had at least one parent who attended (74.8%) reported that their health was good, very good or excellent compared to those who were not directly or intergenerationally affected (81.3%). Among the youth with a parent (90.4%) who attended, a lower proportion

reported good, very good or excellent health compared to those not affected by Residential Schools (95.4%).

- More First Nations adults and youth who had at least one parent, and adults with at least one or grandparent attend Residential Schools, compared to those not affected by IRS, reported having seriously considered suicide at some point in their lives and having higher rates of binge drinking and use of cannabis and non-prescription drugs (other than cannabis). Similarly, a higher proportion of First Nations adults and youth who had at least one parent attend Residential School reported using opioids compared to those not affected by residential school. The same was true of both statements for Residential School Survivors.
- A higher proportion of First Nations adults who attended Residential School reported that they had “somewhat strong” or “very strong” feelings of belonging in their home community and that they participated in community cultural events “sometimes” or “always/almost always” compared to those not affected by IRS. The same was found among First Nations youth with a parent or grandparent who attended. First Nations adults with at least one parent that attended and children with a parent or grandparent that attended reported that they more often participate in community cultural events “sometimes” or “always/almost always” compared to those not affected by IRS.



INTRODUCTION

The history of the Indian Residential School (IRS) System was officially acknowledged as an attempt at cultural genocide by the Truth and Reconciliation Commission of Canada (TRC) in their final report released in 2015. The stories shared throughout the TRC process echoed those shared in various contexts over the past several decades by individuals who attended Residential School, often referred to as Residential School Survivors (Knockwood, 1992; RCAP, 1996; TRC, 2015).

It is accepted that inadequate funding and an indifference toward the welfare of students resulted in pervasive abuse and neglect towards generations of Indigenous children, conditions well known to the government at the time (Furniss, 2002; Knockwood, 1992; Milloy, 1999; TRC, 2015; Woolford, 2013). The IRS system is often thought of as something in Canada's distant past; however, the last school did not close until 1996 (TRC, 2015). In total, 139 federally run Residential Schools were included under the Indian Residential Schools Settlement Agreement (IRSSA) that was signed by Indigenous organizations and the federal government in 2007.

As well, students who attended federal Residential Schools as day students or provincially run schools were not included in the IRSSA, but these individuals encountered similar detrimental experiences. Inconsistent and destroyed records make it difficult to provide an accurate count of how many Indigenous peoples were affected by schools targeting Indigenous children, including those covered under the IRSSA and those that were left out (Brant Castellano, 2006; TRC, 2015). It has been estimated that three-quarters of First Nations children between the ages of seven and 15 attended Residential School when enrollment was at its peak in 1930, with children as young as three years old being taken from their parents (Brant Castellano, 2006; Dion Stout & Kipling, 2003; Fournier & Crey, 1997).

Parents were threatened with imprisonment if they tried to keep their children at home, which many tried to do (Furniss, 1995; TRC, 2015). When the federal government assumed control over educating Indigenous students from the churches in 1969, the number of students attending residential school began to decrease, with the last schools closing in the 1990s.

Because the Regional Health Survey (RHS) asks about personal and familial attendance at Residential School, this allows for estimates on how many Survivors are living on reserve today, with nearly 1 in 5 (20.3%) adults who reported having personally attended in the RHS Phase 1 (2002-2003) (First Nations Centre, 2005) and 19.7% in the RHS Phase 2 (2008-2010) (FNIGC, 2012). Further RHS analyses that link personal or familial Residential School attendance in relation to various health and social outcomes suggest that the long-term effects of residential school are still being felt by those who attended.

Indeed, Residential School Survivors are reported to have a greater risk for depressive symptoms, alcohol and other drug use problems and physical, mental and social health challenges (Corrado & Cohen, 2003; Elias et al., 2012; Menzies, 2009; Wilk, Maltby & Cooke, 2017). Not only are those who attended at greater risk, but those who have a parent or grandparent who attended are also at a greater risk for these negative health and social outcomes compared to those whose parents or grandparents never attended Residential School.

Results from the RHS Phase 1 and RHS Phase 2 are consistent with evidence at the national, regional and community levels. Those with a parent or grandparent who attended Residential School are at greater risk for poorer self-rated health; have an increased risk for certain chronic and infectious diseases; have elevated rates of psychological distress, suicidal thoughts and behaviours; and have a variety



of other health and social challenges (Bombay, Matheson & Anisman, 2014a; Corrado & Cohen, 2003; Elias et al., 2012; Hackett, Feeny & Tompa, 2016; Menzies, 2009; Rottenberg, 2012; Wilk et al., 2017).

At the same time, stories of how Survivors managed to retain their Traditional cultures and languages during Residential School and then to pass down to the next generations speak to the strength and resilience of Indigenous peoples and the importance of culture as a protective factor (Matheson et al., 2018; Assembly of First Nations and Health Canada, 2015).

Although the current healing movement that involves a reclamation of Traditional knowledge and approaches to well-being have contributed to positive outcomes, other ongoing systemic inequities make it difficult for healing to occur. For example, in 2011, nearly half (48%) of children under age 14 in the child welfare system were Indigenous (Aboriginal Children in Care Working Group, 2015, p. 7; Turner, 2016), which reflect continued paternalistic attitudes and policies that perpetuate and interact with the long-term consequences of the residential school system and of the large-scale removal of Indigenous children into the child welfare system during the Sixties Scoop (1950s to 1990s) (Kirmayer, Tait & Simpson, 2009).

The Residential School system and the Sixties Scoop together have resulted in the mass removal of Indigenous children from their familial homes and communities, with long-term consequences for the well-being of children as well as the wider family and community (Alston-O'Connor, 2010; Sinclair, 2007). Thus, there are many lessons to be learned from the experiences of the Sixties Scoop and Residential School Survivors and the activities of the TRC.

The Aboriginal Healing Foundation (AHF) and grassroots initiatives have resulted in increased dialogue around the impacts of the IRS system within communities. Research around healing over

the past 20 years has emphasized the importance of dialogue and culture in the healing process (Assembly of First Nations & Health Canada, 2015; Spear, 2014) as well as approaches that focus on the strengths and resilience of Indigenous peoples. These have been echoed by First Nations communities and organizations across the country (Dion Stout & Kipling, 2003; Muckle & Dion, 2008; Assembly of First Nations & Health Canada, 2015). Understanding the legacy of historical trauma and the formation of cultural connections are important in developing a strong sense of personal and cultural identity (Assembly of First Nations & Health Canada, 2015; Fast & Collin-Vézina, 2010; Wexler, 2009; 2014), which is, in turn, associated with various aspects of resilience, well-being and other positive health outcomes (Armstrong, Birnie-Lefcovitch & Ungar, 2005; Lerner et al., 2002) that are important for healing (Carr, Chartier & Dadgostari, 2017).

In general, recent research provides evidence that Survivors, their families and communities remain negatively impacted by the residential school experience (Bombay, Matheson & Anisman, 2014a; 2014b; Wilk et al., 2017), and that efforts to recover and heal through culture-based approaches for subsequent generations is greatly needed and desired (Carr, Chartier & Dadgostari, 2017; Spear, 2014). It is critical that research continues to investigate the truths of the IRS system so that we can better understand the long-term impacts in order to promote the physical, mental, emotional and spiritual healing of Indigenous people.

This chapter contributes to this research and seeks to assess four main research objectives:

1. Assess the proportion of First Nations people affected directly or intergenerationally by Residential Schools ;
2. Assess the experiences of Residential School Survivors alive today;



3. Assess the long-term effects of residential school attendance on those who attended;
4. Assess the intergenerational effects of Residential Schools on those whose parents or grandparents attended.

METHODS

Analyses of the First Nations adult, youth and child populations living on reserve and in northern communities were carried out using SPSS Complex samples. The proportion of those affected by Residential Schools was calculated, and cross-tabulations examining bivariate relationships between variables assessing exposure to the residential school experience and various categorical indicators of health and wellness (listed below) were performed.

Personal and Familial IRS Attendance

Personal attendance (adult)

First Nations adults were asked if they had attended Indian Residential School (yes or no).

Parental attendance (adult, youth, child)

First Nations adults, youth and parents/caregivers on behalf of their children were asked if their mother/female guardian or father/male guardian attended Residential School (yes vs. no). A variable that reflected having at least one parent who attended (yes vs. no) was calculated based on their responses in relation to their mother/female guardian's and father/male guardian's attendance.

Grandparent attendance (adult, youth, child)

First Nations adults, youth and parents/caregivers on behalf of their children were asked if at least one of their grandparent(s) attended residential school (yes vs. no).

Mutually exclusive categories reflecting degree of personal or intergenerational exposure (adult)

In the adult survey, mutually exclusive categories reflecting the degree of exposure to personal or intergenerational Residential School attendance was computed. Specifically, individuals who attended IRS were classified as Survivors (even if they also had a parent or grandparent who attended), those with at least one parent who attended were classified as children of Survivors (even if they also had a grandparent who attended), those with at least one grandparent were classified as grandchildren of Survivors (none had a parent who attended) and those with no parent/grandparent who attended represented the non-affected group (no familial attendance).

It should be noted that some did not answer at least one of the questions regarding parent or grandparent attendance (either did not respond to the question or indicated they did not know). Therefore, comparisons between groups among these four groups only included those who were able to answer all of the related questions.

Mutually exclusive categories reflecting degree of intergenerational exposure (youth, child)

Mutually exclusive categories reflecting the degree of intergenerational exposure to parent or grandparent attendance at IRS were created. Those with at least one parent who attended were classified as children of Survivors (even if they also had a grandparent who attended), and those with at least one grandparent were classified as grandchildren of Survivors (none had a parent who attended) and those with no parents/grandparents who attended were grouped as non-affected (no familial attendance).

It should be noted that some respondents did not answer at least one of the questions regarding parent or grandparent attendance (either did not respond to the question or indicated they did not know).



Therefore, comparisons among these three groups only included those who were able to answer all of the related questions.

Age started and age left Residential School (adult)

First Nations adults who attended Residential School were asked at what age they started attending and at what age they left.

Length of time attended (adult)

In the adult survey, the length of time spent at IRS was calculated by subtracting the age they left by the age they first attended.

Perceptions of effects of Residential School attendance (adult)

First Nations adults who attended IRS were asked if they believe that their “overall health and well-being have been affected by your attendance at Residential School?” Response options were “Yes, negatively impacted,” “No impact” or “Yes, positively impacted.”

Indicators of Health and Wellness

Self-rated general health (adult, youth, child)

First Nations adults, youth and parents/caregivers on behalf of their children were asked to rate their general health on a scale ranging from 1 (excellent), 2 (very good), 3 (good), 4 (fair) and 5 (poor). A categorical variable was calculated comparing those with excellent, very good or good health to those with fair or poor health.

Self-rated balance (adult, youth)

First Nations adults and youth were asked to indicate how often they felt balanced in their physical, emotional, mental and spiritual lives on a scale ranging from 0 (none of the time), 1 (almost none of the time), 2 (some of the time), 3 (most of the time) to 4 (all of the time). For each of the above aspects, a

categorical variable was calculated comparing those who reported feeling balanced most or all of the time with those who reported feeling balanced some, almost none or none of the time.

Self-rated mental health (adult, youth)

First Nations adults and youth were asked to rate their mental health on a scale ranging from 1 (excellent), 2 (very good), 3 (good), 4 (fair) and 5 (poor). A categorical variable was calculated comparing those who said their self-rated mental health was excellent, very good or good with those who said it was fair or poor.

Suicidal thoughts (adult, youth)

First Nations adults and youth were asked whether they have ever thought about committing suicide (yes or no).

Binge drinking (adult, youth)

First Nations adults and youth were asked whether they had a drink in the past year (yes or no). Those who said yes were asked to indicate how often they had “4+ (for females) or 5+ (for males) alcoholic drinks on one occasion” during the past 12 months based on the following response options: never, less than once-a-month, once-per-month, 2–3 times per month, once-per-week, more than once-per-week or every day. These variables were used to calculate a categorical variable comparing those who reported binge drinking at least once per month in the past year to those who reported binge drinking less than once a month or never.

Cannabis use in the past year (adult, youth)

First Nations adults and youth were asked about the frequency of cannabis use in the past 12 months and given the following response options: never, once or twice, monthly, weekly, daily or almost daily. A variable was calculated to reflect whether (yes or no) they had ever used cannabis in the past 12 months.



Non-prescription drug use (other than cannabis) in the past year (adult, youth)

First Nations adults and youth were asked about their frequency of use of other non-prescription drugs in the past 12 months, such as cocaine, amphetamines, methamphetamine (i.e., crystal meth), ecstasy, hallucinogens, inhalants, heroin, salvia or any other non-prescription drug. Response options included never, once or twice, monthly, weekly, daily or almost daily. A variable was calculated to reflect whether (yes or no) they had ever tried any one of these non-prescription recreational drugs.

Prescription opioid use in the past year (adult, youth)

First Nations adults and youth were asked about the frequency of prescription opioid use in the past 12 months, regardless if it was prescribed to them. Response options included never, once or twice, monthly, weekly, daily or almost daily. A variable was calculated to reflect whether (yes or no) they had ever tried prescription opioids in the past 12 months.

Smoking (adult, youth)

First Nations adults and youth were asked if they currently smoke cigarettes, and responses were categorized as daily, occasionally or not at all.

Breastfeeding (child)

First Nations parents/caregivers were asked if their child had ever been breastfed (yes or no).

Lives with at least one biological parent (youth, child)

First Nations youth and parents/caregivers on behalf of their children were asked if they currently live with their biological mother or biological father (yes or no). A variable was calculated to reflect whether (yes or no) they live with at least one of their biological parents.

Ability to understand and/or speak their First Nations language (adult and youth)

First Nations adults and youth were asked whether (yes or no) they “have any knowledge of a First Nations language (even if only a few words).” Those who said yes were subsequently asked how well they could understand their First Nations language on the following scale: 1 (cannot), 2 (a few words), 3 (basic), 4 (intermediate) or 5 (fluent). Similarly, they were asked how well they could speak their First Nations language. These response options were grouped into two categories: one reflecting those who could understand/speak at a fluent or intermediate level and those who could understand/speak at a lower level or not at all.

Sense of community belonging (adult, youth)

First Nations adults and youth were asked how they would describe their “sense of belonging to your local community” on the following scale: 1 (very strong), 2 (somewhat strong), 3 (somewhat weak) or 4 (very weak). A categorical variable was calculated comparing those who said their feelings of belonging were very or somewhat strong with those who said they were somewhat or very weak.

Engagement in community cultural events (adult, youth)

First Nations adults and youth were asked, “Do you take part in your local community’s cultural events 1 (always/almost always), 2 (sometimes), 3 (rarely), 4 (never)?” A categorical variable was calculated comparing those who said they took part always/almost always or sometimes with those who said they rarely or never attend.



Highest education completed (adult)

First Nations adults were asked about the highest level of formal education they have attained through a series of variables. These variables were combined to calculate a categorical variable to reflect the highest level of education in the following categories: under high school, high school or more than high school.

Food security index (adult)

First Nations adults were asked to assess their food security. The sum of affirmative answers is the person’s raw score on food security, with a raw score of 1 to 4 indicating moderate food insecurity and 5 to 6 indicating severe food insecurity. This classification is consistent with the Health Canada Standards in Canadian Community Health Survey (CCHS; Nord, 2011).

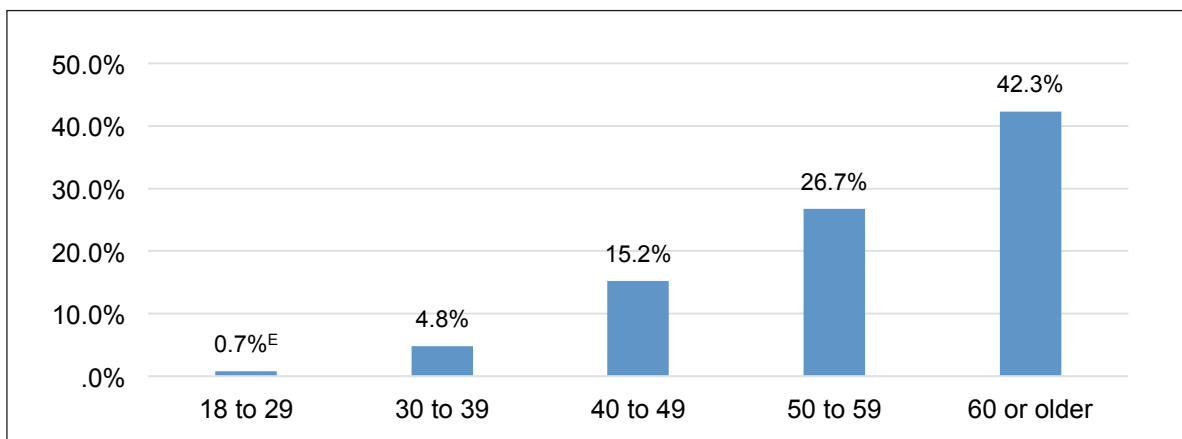
RESULTS

Proportion Directly or Intergenerationally Affected by IRS

Among First Nations adults living in reserve and Northern communities, 14.9% (95% CI [13.4, 16.6]) of First Nations adults 18 years and older reported that they had personally attended Residential School, down by nearly 5% from the RHS Phase 2 (19.7%) (FNIGC, 2012); and RHS Phase 1 (20.3%) (First Nations Centre, 2005). As shown in Figure 6.1, the proportion of adults who attended IRS increased with age, a reflection of the gradual closure of Residential Schools between the 1950s and 1990s.

Therefore, it should be emphasized that a significant proportion of the adult population were Residential School Survivors, particularly in the older age groups. In this regard, among those 60 years and older, nearly 2 of 5 (42.3%, 95% CI [38.8, 45.9]) adults reported attending IRS (see *Figure 6.1*).

Figure 6.1: Proportion of First Nations adults who attended Residential School, by age



Note: E High sampling variability, interpret with caution.



Among First Nations adults that attended IRS (14.9% of adults), more than half (57.7%) first attended between ages 5 and 9 years (95% CI [52.6, 62.6]), 26.2% attended between ages 10 and 14 years (95% CI [22.4, 30.3]), 11.3% were 15 years or older (95% CI [8.8, 14.5]) and 4.8% (95% CI [3.5, 6.5]) first attended at age 4 or younger (see Table 6.1).

The proportion of those who first attended IRS between the ages of 5 and 9 years was highest among those in the 55 years and older age group. On the opposite end, the proportion of those who started to attend IRS at age 15 or older was low among those 55 years and older.

Table 6.1: Age First Nations adults first attended IRS, by age

	Age group (years)					
	18-34		35-54		55 and older	
Age when first attended	%	95% CI	%	95% CI	%	95% CI
0-4	F	F	4.8 ^E	2.9, 7.9	4.1 ^E	2.6, 6.3
5-9	46.8	32.3, 61.9	46.1	37.4, 55.1	66.8	61.8, 71.3
10-14	22.7	13.2, 36.2	29.8	23.6, 36.9	23.8	19.5, 28.6
15 or older	F	F	19.2	13.4, 26.8	5.4	4.2, 7.0

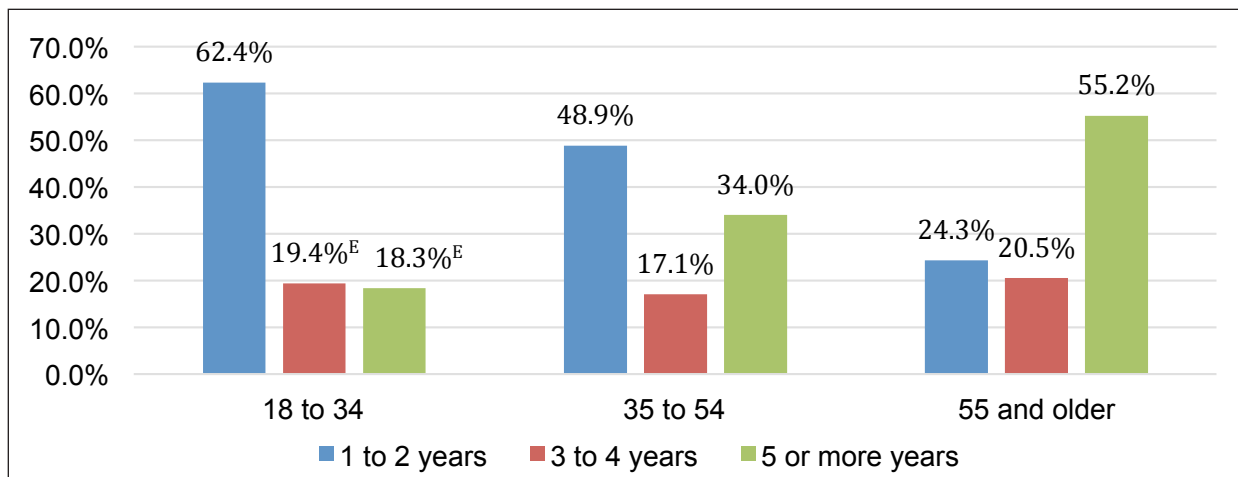
Note: E High sampling variability, interpret with caution.

F Suppressed due to low cell count or very high sampling variability.

More than one-third (35.5%, 95% CI [31.6, 39.7]) of IRS Survivors reported spending between one and two years at Residential School, 19.1% (95% CI [16.1, 22.4]) attended between three and four years and 45.4% (95% CI [40.5, 50.3]) attended for five or more

years. A higher proportion of those who were 55 years or older spent five or more years at residential school compared to the younger age cohorts (see Figure 6.2).

Figure 6.2: Number of years spent at IRS among First Nations adults, by age



Note: E High sampling variability, interpret with caution.



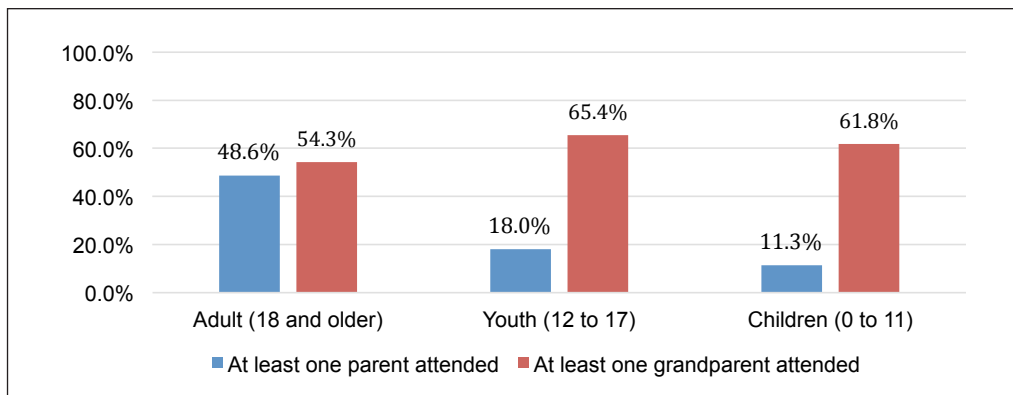
Familial and intergenerational IRS attendance

Among First Nations adults living in reserve and Northern communities (including those who attended residential school personally), 38.5% (95% CI [35.8, 41.3]) reported that their mother or female guardian attended, and 36.4% (95% CI [33.6, 39.3]) reported that their father or male guardian attended IRS. When considering maternal or paternal attendance, nearly half (48.6%; 95% CI [45.9, 51.4]) of adults had at least one parent who attended IRS, and more than half (54.3%, 95% CI [51.7, 56.8]) reported

that at least one grandparent attended (see *Figure 6.3*).

Among First Nations youth between the ages of 12 and 17 years, 18.0% (95% CI [15.5, 20.9]) reported that at least one of their parents attended IRS, and 65.4% (95% CI [62.8, 68.0]) reported that at least one grandparent attended. Among First Nations children ages 11 years and younger, 11.3% had at least one parent who attended IRS (95% CI [9.6, 13.4]), and 61.8% had at least one grandparent who attended Residential School (95% CI [58.4, 65.1]).

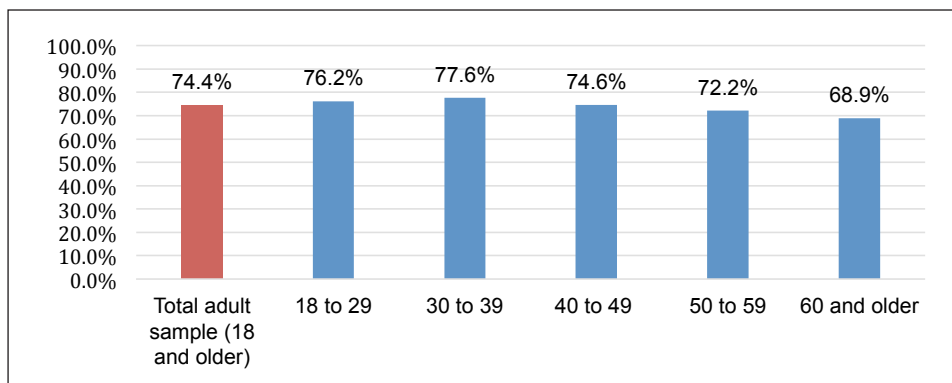
Figure 6.3: Parent and grandparent IRS attendance among First Nations adult, youth and child populations (non-mutually exclusive categories that include those who personally attended IRS)



In the First Nations adult population, nearly three-quarters (74.4%, 95% CI [72.1, 76.5]) had been directly (personal attendance) or intergenerationally (parent or grandparent attendance) affected, which did not vary significantly across age cohorts (*Figure 6.4*).

Likewise, more than two thirds (68.3%, 95% CI [65.6, 70.9]) of youth and less than two thirds (63.2%, 95% CI [59.7, 66.5]) of children had a parent or grandparent who attended.

Figure 6.4: First Nations adults' direct or intergenerational IRS experience, by age





As shown in Figure 6.5, when categorized into mutually exclusive categories reflecting the degree of exposure to personal, parent and grandparent attendance in the adult population, 26.3% (95% CI [24.1, 28.6])¹ reported not being affected, 17.5% (95% CI [16.1, 18.9]) had at least one grandparent but no parent who attended, 39.4% (95% CI [37.8, 41.0]) had at least one parent who attended (who may have also had a grandparent who attended) and 16.8% (95% CI [15.1, 18.7]) personally attended (and may have also had a parent or grandparent who attended).

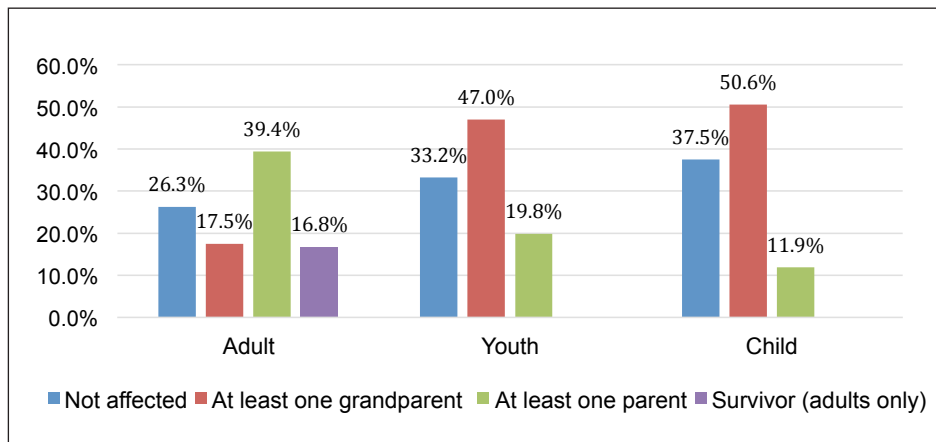
The cross-tabulations with various health and socio-cultural indicators presented in the remainder of the chapter compare these four groups in the adult population. It should be noted that the residential school system ran for more than a century, and some communities and families were affected over several generations that are not accounted for in these analyses. In this regard, most (75.5%, 95% CI [71.0, 79.5]) Survivors also had a parent or grandparent who attended, and most (71.4%, 95% CI [68.7%,

74%]) adults with a parent who attended also had a grandparent who attended.

Among First Nations youth, nearly one-fifth (19.8%, 95% CI [17.1, 22.8]) had a parent who attended IRS, 47.0% (95% CI [44.1, 49.9]) had a grandparent but no parent who attended and 33.2% (95% CI [30.5% 36.0]) had no parents or grandparents who attended (see Figure 6.5).

Similarly, among First Nations children, more than 1 in 10 (11.9%, 95% CI [10.1, 14.0]) had at least one parent who attended, 50.6% (95% CI [48.0, 53.2]) had at least one grandparent but no parents who attended and 37.5% (95% CI [34.2, 40.9]) were not intergenerationally affected in this regard (see Figure 6.5). The cross-tabulations assessed among First Nations youth and children in relation to the health and social indicators of interest were made across these three groups. As with First Nations adults, it should be considered that most youth/children who had a parent who attended IRS also had a grandparent who attended: 87.7% (95% CI [38.0, 91.3]) for youth and 91.1% (95% CI [88.4, 93.2]) for children.

Figure 6.5: Proportion of First Nations adults who personally attended IRS (adults only) had at least one parent who attended, had at least one grandparent who attended (but no parent) or were not intergenerationally affected (mutually exclusive categories)



¹ Those not affected by IRS made up 26.3% of the adult population in this analysis, which differs slightly from 25.6% presented earlier in the non-mutually exclusive categories because some First Nations adults were excluded due to missing responses (these differences are non-significant).

Please note that Survivors made up 16.8% of the total of First Nations adults in this analysis, which differs from the 14.9% presented earlier in the non-mutually exclusive categories due to the number of First Nations adults who were excluded due to missing responses about parent/grandparent attendance (this difference is non-significant).



Long-term and Intergenerational Effects of IRS

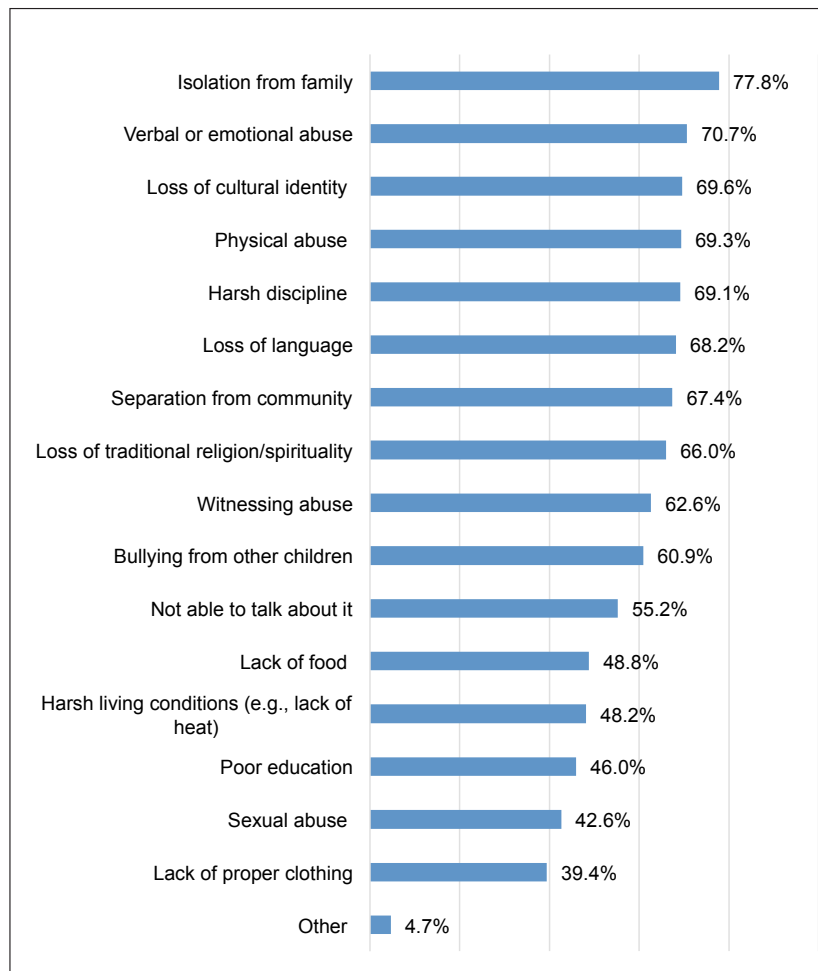
Perceived impacts associated with IRS attendance among Survivors

According to the RHS Phase 3, nearly two-thirds (62.5%, 95% CI [58.6, 66.2]) of First Nations adults 18 years and older who attended IRS reported that their overall health and well-being had been negatively affected by their attendance, leaving nearly one-quarter (26.0%, 95% CI [22.9, 29.4]) of former attendees who reported that they did not perceive

any impacts and 11.5% (95% CI [9.4, 14.0]) who felt they were positively impacted.

Among those who reported that they were negatively impacted, isolation from family (77.8%, 95% CI [72.2, 82.5]), verbal or emotional abuse (70.7%, 95% CI [64.2, 76.3]), loss of cultural identity (69.6%, 95% CI [65.1, 73.6]), physical abuse (69.3%, 95% CI [63.0, 75.0]) and harsh discipline (69.1%, 95% CI [64.4, 73.4]) were the five most commonly reported factors contributing to the negative effects of their IRS attendance on their overall health and well-being (see *Figure 6.6*).

Figure 6.6: Proportion of IRS Survivors that perceived the following negative impacts as a result of attending



Note: Respondents could choose more than one response.



Self-rated balance

Table 6.2 and Table 6.3 present the proportion of First Nations adults and youth who felt physical, emotional, mental or spiritual balance “most” or “all of the time” according to their degree of exposure to personal or parent/grandparent attendance at IRS. There were no significant differences by IRS exposure of adults in relation to self-rated mental or spiritual balance. However, there was a significant difference

in the physical and emotional balance between adults not affected and adults with at least one parent that attended Residential School (see *Table 6.2*).

Fewer youth who were affected by IRS reported that they felt in balance physically, emotionally and mentally compared to those not affected; however, there were no significant differences by IRS exposure in relation to self-rated spiritual balance (see *Table 6.3*).

Table 6.2: Proportion of First Nations adults feeling in balance “most” or “all” of the time, by personal and parent/grandparent IRS attendance (mutually exclusive categories)

	Parent and/or grandparent attendance at IRS							
	Not affected		At least one grandparent		At least one parent		Attended (Survivor)	
Type of balance	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Physical	72.2	69.5, 74.7	70.1	66.2, 73.8	66.3	64.1, 68.4	66.7	63.6, 69.6
Emotional	71.7	69.0, 74.2	65.6	60.8, 70.1	65.7	63.3, 67.9	69.2	66.0, 72.2
Mental	71.8	69.0, 74.4	68.2	63.3, 72.7	68.5	66.3, 70.6	70.6	67.4, 73.6
Spiritual	70.9	67.9, 73.8	64.4	59.6, 69.0	67.0	64.8, 69.1	72.8	69.6, 75.8

Table 6.3: Proportion of First Nations youth feeling in balance “most” or “all” of the time, by parent/grandparent IRS attendance (mutually exclusive categories)

	Parent and/or grandparent attendance at Residential School					
	Not affected		At least one grandparent		At least one parent	
Type of balance	%	95% CI	%	95% CI	%	95% CI
Physical	81.0	77.9, 83.7	69.9	65.6, 73.8	71.7	66.6, 76.4
Emotional	73.0	69.4, 76.4	62.6	58.0, 67.0	62.2	57.6, 66.7
Mental	71.7	67.8, 75.3	63.1	58.2, 67.7	61.9	57.0, 66.5
Spiritual	68.4	64.3, 72.3	61.3	56.7, 65.7	62.0	57.0, 66.8

Self-rated general health

Fewer adults who attended IRS (65.7%, 95% CI [62.5, 68.7]) and who had at least one parent who attended (74.8%, 95% CI [72.8, 76.7]) reported that their health was good, very good or excellent compared to those who were not directly or intergenerationally affected (81.3%, 95% CI [78.8, 83.5]). There were no differences in self-rated health between those not at all affected by IRS and those who had at least one grandparent

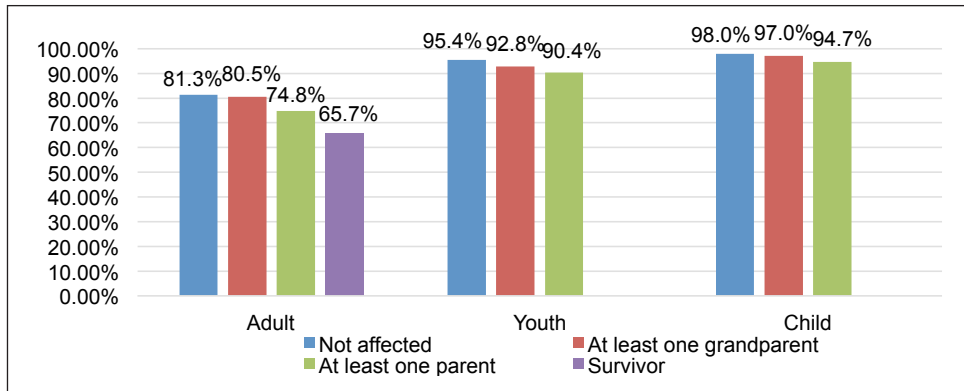
who attended (80.5%, 95% CI [75.5, 84.7]) (Figure 6.7). Among the youth with a parent (90.4%, 95% CI [86.7, 93.2]) who attended, a lower proportion reported good, very good or excellent health compared to those not affected by IRS (95.4%, 95% CI [93.5, 96.7]). However, those with a grandparent (and no parent) (92.8%, 95% CI [91.1, 94.2]) who attended did not differ from those not affected (see *Figure 6.7*).



Similarly, among First Nations children a significantly lower proportion of those with a parent who attended IRS (94.7%, 95% CI [91.9, 96.6]) rated their health as good, very good or excellent by their caregiver who filled out the survey compared to those not affected

intergenerationally (98.0%, 95% CI [97.0, 98.7]). However, those with a grandparent who attended (97.0%, 95%CI [96.0, 97.8]) did not differ from those not affected (94.7%, 95% CI [91.9, 96.6]).

Figure 6.7: General health ratings of good, very good or excellent among First Nations adults, youth and children, according to mutually exclusive categories of personal (only for adult population) or parent/grandparent IRS attendance



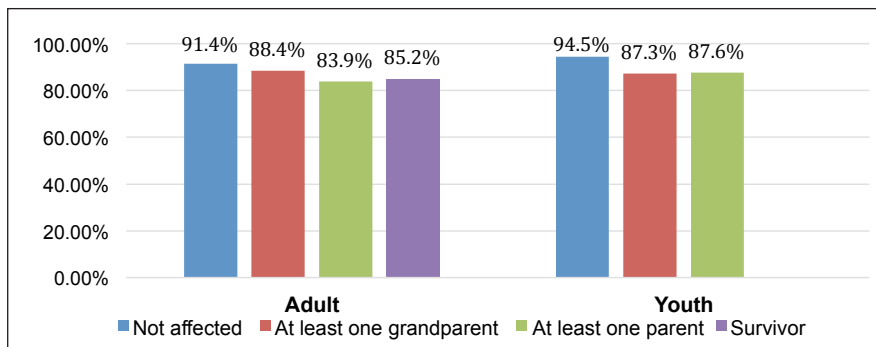
Self-rated mental health

Fewer adults who had attended IRS (85.2%, 95% CI [82.8, 87.2]) and those with a parent who attended (16.1%, 95% CI [14.3, 18.0]) rated their mental health as good, very good or excellent compared with those who were not directly or intergenerationally affected (91.4%, 95% CI [89.6, 92.9]). Those with a grandparent who attended Residential School (88.4%, 95% CI [85.2, 91.0]) did not differ significantly from those not affected by Residential Schools, nor did it differ

between Survivors and those with a parent who attended (see *Figure 6.8*).

Among the youth, 94.5% (95% CI [92.8, 95.8]) of those who were not affected by Residential Schools said they had good, very good or excellent health, which was significantly less frequent compared with those with a grandparent (87.3%, 95% CI [84.7, 89.4]) and those with a parent who attended (87.6%, 95% CI [83.8, 90.6]).

Figure 6.8: Mental health ratings as good, very good or excellent among First Nations adults and youth, according to mutually exclusive categories of personal (only for adult population) or parent/grandparent IRS attendance





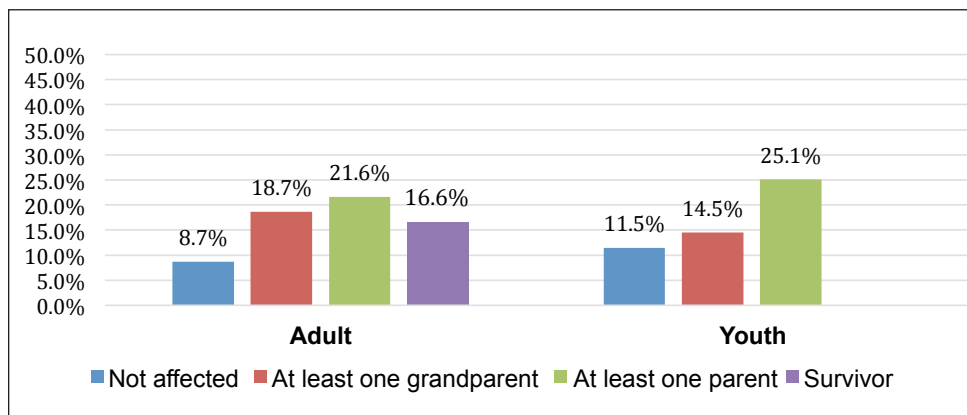
Suicidal thoughts

For those First Nations adults who reported that they had seriously considered suicide at some point in their life, those who attended Residential School (Survivors) (16.6%, 95% CI [13.8, 19.8]), those who had at least a parent attend (children of Survivors) (21.6%, 95% CI [19.7, 23.8]) and those who had at least a grandparent attend (grandchildren of Survivors) (18.7%, 95% CI [16.1, 21.6]) were at greater risk for having seriously considered suicide compared with

those who were not directly or intergenerationally affected (8.7%, 95% CI [7.3, 10.4]) (see *Figure 6.9*).

In the First Nations youth population, 11.5% (95% CI [8.8, 15.0]) of those not affected by IRS reported that they had considered suicide, which was significantly lower compared to those with at least one parent who attended (25.1%, 95% CI [19.5, 31.7]); however, this is not significantly lower compared to those with a grandparent who attended (14.5%, 95% CI [12.4, 16.8]) (see *Figure 6.9*).

Figure 6.9: Proportion of First Nations adults and youth who seriously considered suicide at some point in their lifetime, according to mutually exclusive categories personal (only for adult population) or parent/grandparent IRS attendance



Substance use

Fewer adults who had attended IRS (25.0%, 95% CI [22.3, 27.9]) reported binge drinking in the past year compared with those who had a parent who attended (39.0%, 95% CI [36.7, 41.3]) and those with a grandparent who attended (44.4%, 95% CI [40.1, 48.8]) (See *Figure 6.10*). Those with a parent and grandparent who attended also reported higher rates of binge drinking in the past year compared to those not affected (29.9%, 95% CI [27.4, 32.5]).

In terms of cannabis use, 21.3% (95% CI [18.5, 24.5]) who attended Residential Schools had used cannabis in the past 12 months, which was similar to those who were not directly or intergenerationally

affected (23.9%, 95% CI [21.7, 26.2]) (see *Figure 6.10*). Significantly more adults with at least one parent (32.6%, 95% CI [30.3, 35.1]) and those with at least one grandparent who attended (43.4%, 95% CI [38.7, 48.1]) reported using cannabis in the past 12 months compared to those not affected (23.9%, 95% CI [21.7, 26.2]).

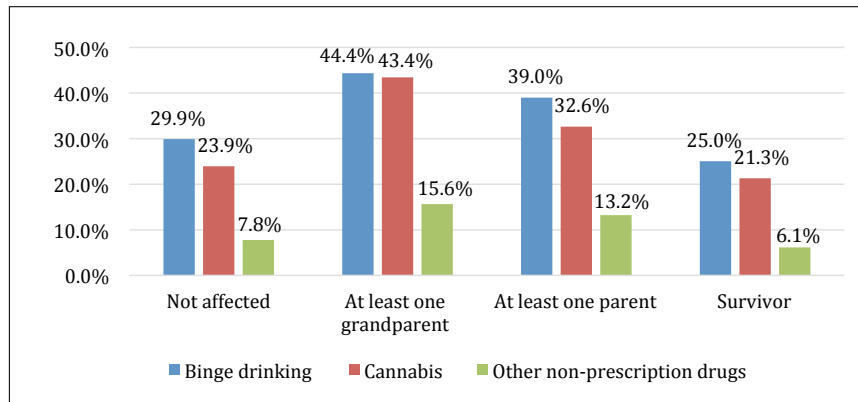
With respect to ever having tried a non-prescription drug, which included cocaine, amphetamine, methamphetamine, ecstasy, hallucinogen, inhalant, heroin, salvia or any other non-prescription drug (excluding cannabis), there was no significant difference between Residential School Survivors (6.1%, 95% CI [4.6, 7.9]) and those not affected by



them (7.8%, 95% CI [6.4, 9.4]) (Figure 6.11). Similar to binge drinking and cannabis use, more adults with a parent (13.2%, 95% CI [11.6, 14.9]) and with a

grandparent (15.6%, 95% CI [11.7, 20.5]) who attended IRS reported using such drugs in the past 12 months compared with Survivors and those not affected.

Figure 6.10: Proportion of First Nations adults reporting binge drinking at least once per month in the past year and cannabis or other non-prescription drug use at least once in the past year, according to mutually exclusive categories of IRS attendance

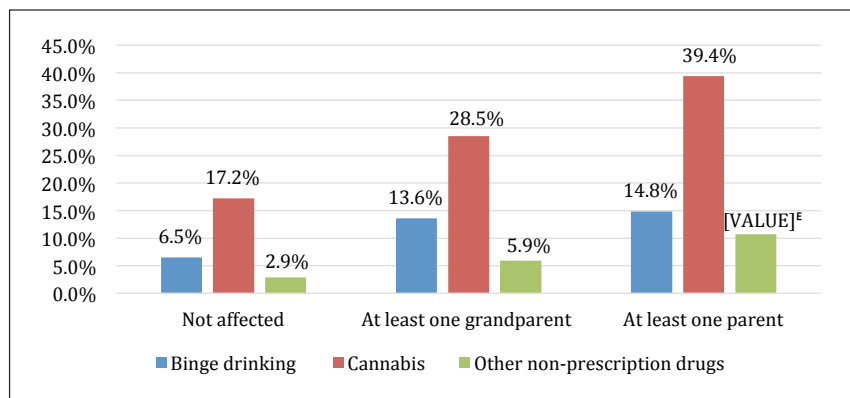


Among the youth population not affected by Residential Schools (6.5%, 95% CI [5.1, 8.2]), a significantly lower proportion reported that they met the criteria for binge drinking at least once-per-month in the past year compared with those with a grandparent (13.6%, 95% CI [11.0, 16.7]) and those with a parent (14.8%, 95% CI [10.7, 20.1]) who attended. Likewise, among youth not affected (17.2%, 95% CI [14.3, 20.5]), a significantly lower proportion reported that they had used cannabis in the past 12

months compared with those with a grandparent (28.5%, 95% CI [25.2, 32.1]) and those with a parent who attended (39.4%, 95% CI [33.6, 45.4]) (See Figure 6.11).

Similarly, more youth with a parent (10.7E%, 95% CI [7.4, 15.2]) or grandparent (5.9%, 95% CI [4.7, 7.2]) who attended IRS reported trying at least one type of non-prescription drug in the past 12 months compared to those not affected by Residential Schools (2.9%, 95% CI [2.1, 3.9]) (See Figure 6.11).

Figure 6.11: Proportion of First Nations youth reporting binge drinking at least once per month and cannabis or other non-prescription drug use at least once in the past year, according to mutually exclusive categories of Residential School attendance





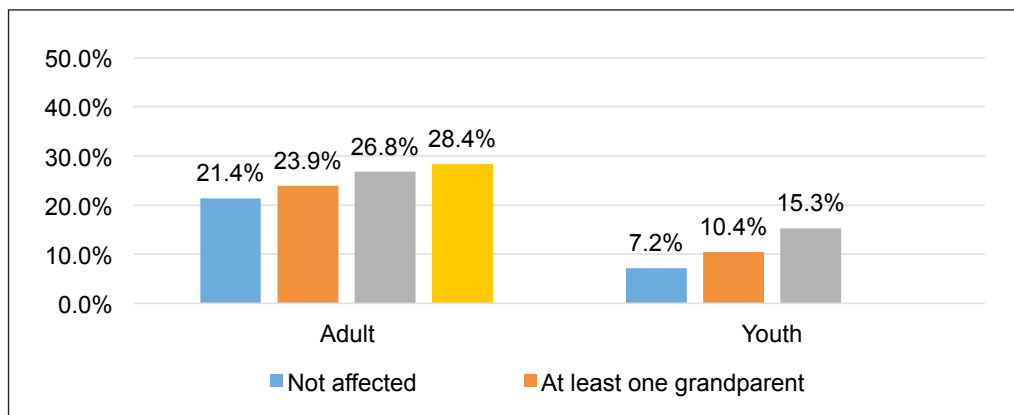
In contrast to the patterns seen with the use of other substances among First Nations adults, more Survivors reported having taken opioids (prescribed to them or not) in the past 12 months (28.4%, 95% CI [23.9, 33.4]), but this did not differ significantly from those with a parent who attended (26.8%, 95% CI [23.9, 29.9]) or those with at least one grandparent who attended (23.9%, 95% CI [19.5, 29.0]) (see *Figure 6.12*).

Those who were not affected by Residential Schools (21.4%, 95% CI [19.4, 23.6]) had a lower proportion who reported having taken opioids in the past 12 months compared with Survivors (28.4%, 95% CI [23.9, 33.4]) and those with a parent who attended

(26.8%, 95% CI [23.9, 29.9]), but did not differ significantly from those with at least a grandparent who attended (23.9%, 95% CI [19.5, 29.0]).

Among First Nations youth, those with a parent who attended (15.3%, 95% [CI 11.7, 19.8]) had a significantly higher proportion who reported using prescription opioids at least once in the past year compared to those who were not affected by Residential Schools (7.2%, 95% CI [5.7, 9.0]); however, there were no differences between those with a grandparent (10.4%, 95% CI [8.8, 12.3]) who attended residential school and those not affected (see *Figure 6.12*).

Figure 6.12: Proportion of First Nations adults and youth reporting prescription opioids use in the past 12 months (with or without a prescription), according to mutually exclusive categories of personal (only for adult population) or parent/grandparent Residential School attendance



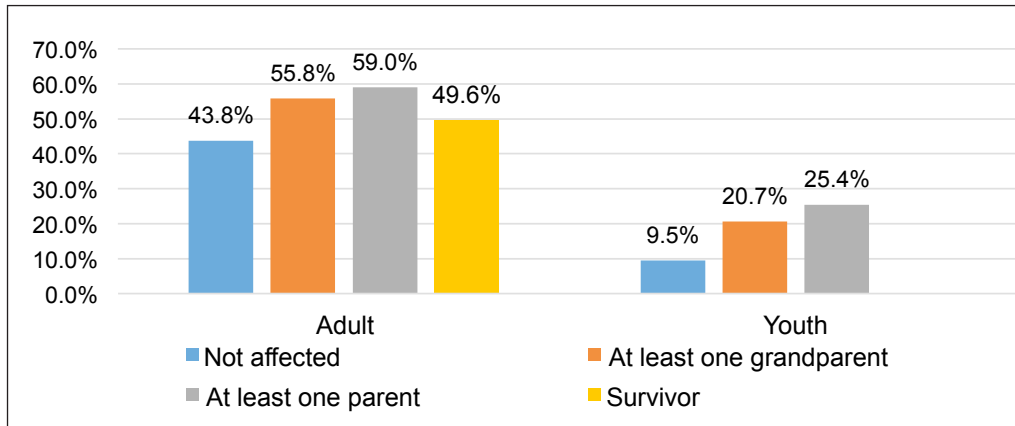
Smoking

According to the RHS Phase 3, nearly half (49.6%, 95% CI [45.2, 54.0]) of First Nations adults who attended Residential School reported being a current occasional or daily smoker. This did not differ significantly from those not affected by Residential School (43.8%, [41.1, 46.6]), but more of those with a parent (59.0%, 95% CI [56.4, 61.5]) and with a grandparent (55.8%, 95% CI [51.9, 59.6]) who attended reported being a current occasional or daily smoker compared to those not affected (see *Figure 6.13*).

In the First Nations youth population, more than one-quarter (25.4%, 95% CI [21.4, 29.9]) of those with at least one parent who attended Residential School and more than one-fifth (20.7%, 95% CI [17.5, 24.3]) of those with at least one grandparent who attended reported significantly greater rates of currently smoking cigarettes compared to the proportion of those not affected by Residential Schools (9.5%, 95% CI [7.8, 11.5]) (See *Figure 6.13*).



Figure 6.13: Proportion of First Nations adults and youth reporting currently smoking cigarettes, according to mutually exclusive categories of personal (only for adult population) or parent/ grandparent IRS attendance

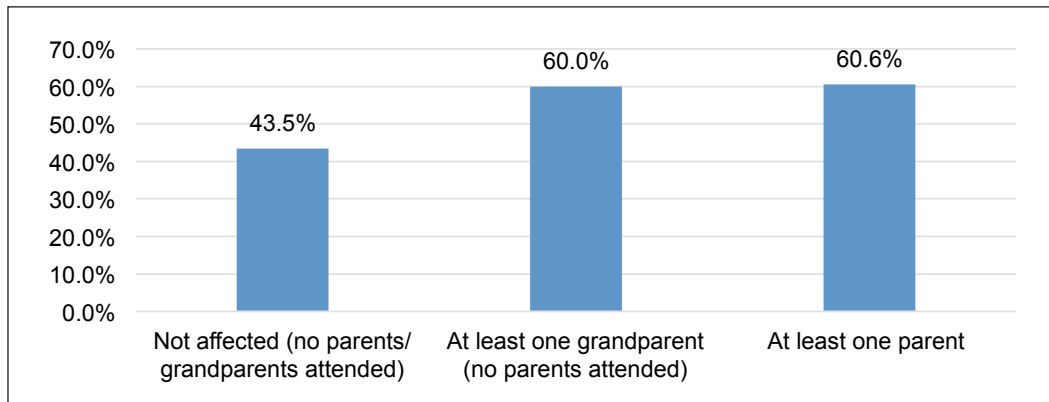


Breastfed during infancy

In the First Nations child population, among those who had at least one parent (60.6%, 95% CI [52.4, 68.2]) and at least one grandparent who attended

IRS (60.0%, 95% CI [57.1, 62.7]), a significantly higher proportion reported that their child was breastfed as a baby compared to those not affected by Residential Schools (43.5%, 95% CI [40.2; 46.9]) (See Figure 6.14).

Figure 6.14: Proportion of First Nations children breastfed, according to mutually exclusive categories of IRS attendance

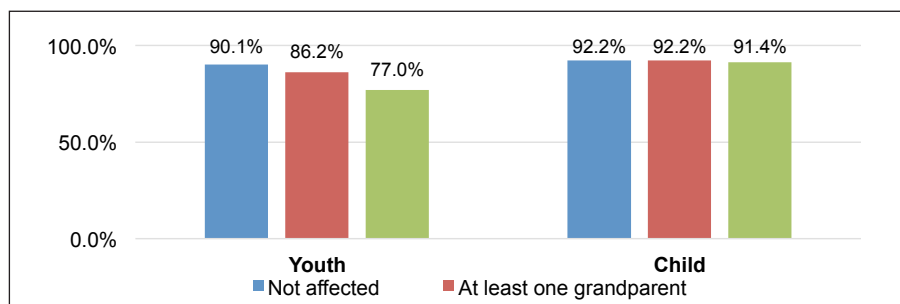


Lives with biological parent

Significantly fewer First Nations youth with a parent who attended IRS (77.0%, 95% CI [73.0, 80.6]) reported living with at least one of their biological parents compared with youth who had only a grandparent who attended (86.2%, 95% CI [83.1, 88.9]) and youth who were not intergenerationally affected (90.1%, 95% CI [87.5, 92.2]) (See Figure 6.15).

Among First Nations children, there were no significant differences between those with a parent (8.6%E, 95% CI [6.2, 11.9]) or grandparent (7.8%E, 95% CI [5.3, 11.2]) who attended Residential School with those not affected (7.8%, 95% CI [6.4, 9.5]) (See Figure 6.15), although two of these estimates have a high sampling variability and should be interpreted with caution.

Figure 6.15: Proportion of First Nations youth and children who lived with at least one of their biological parents, according to mutually exclusive categories of IRS attendance



First Nations language ability

Overall, 64.6% (95% CI [60.3, 68.6]) of First Nations adults who attended IRS reported that they could understand a First Nations language at an intermediate or fluent level compared to 43.5% (95% CI [40.3, 46.8]) who were not intergenerationally affected. More than one-third (36.8%, 95% CI [34.4, 39.4]) of those with a parent who attended and more than one-fifth (21.5%, 95% CI [18.7, 24.7]) of those with a grandparent who attended reported understanding their language at this level. Similarly, 60.4% (95% CI [56.7, 63.9]) of adults who attended Residential School reported that they could speak a First Nations language at an intermediate or fluent

level, which was higher than those not affected, 41.0% (95% CI [37.8, 44.3]).

Among First Nations youth, no differences existed in relation to the proportion of those who could understand their First Nations language at an intermediate or fluent level across any of the IRS categories. However, as shown in Table 6.4, a significantly higher proportion of youth with at least one parent who attended reported that they could speak at an intermediate/fluent level (14.2%, 95% CI [10.7, 18.5]) compared to those not affected (7.4%, 95% CI [6.0, 9.1]). There were no significant differences according to parent/grandparent IRS attendance in relation to First Nations language ability in the child population (see Table 6.4).

Table 6.4: First Nations language ability of adults, youth and children, according to mutually exclusive categories of personal (only for adult population) or parent/grandparent IRS attendance

	Parent or grandparent attendance at Residential School								
	Not affected		At least one grandparent		At least one parent		Attended		
Intermediate or Fluent language level	%	95% CI	%	95% CI	%	95% CI	%	95% CI	
Adult									
Understand	43.5	40.3, 46.8	21.5	18.7, 24.7	36.8	34.3, 39.4	64.6	60.3, 68.6	
Speak	41.0	37.8, 44.3	19.9	16.9, 23.3	31.2	29.0, 33.6	60.4	56.7, 63.9	
Youth									
Understand	9.7	7.9, 11.9	10.9	8.9, 13.3	14.6	11.1, 19.0	-	-	
Speak	7.4	6.0, 9.1	10.0	8.1, 12.3	14.2	10.7, 18.5	-	-	
Child									
Understand	9.5	7.2, 12.4	8.4	7.1, 9.8	9.2 ^E	6.1, 13.7	-	-	
Speak	5.4	4.1, 7.0	5.9	4.9, 7.2	6.5 ^E	3.8, 10.8	-	-	

Note: ^E High sampling variability, interpret with caution.



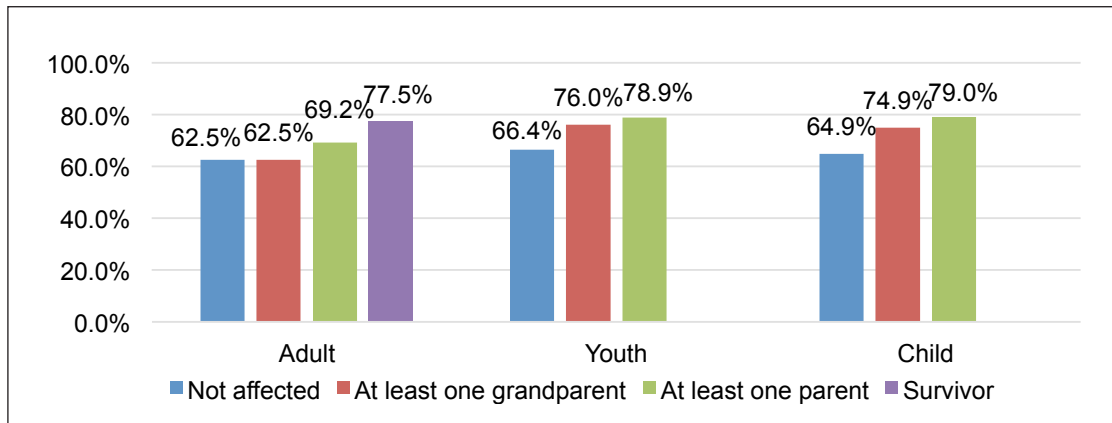
Participation In Community Cultural Events

According to the RHS Phase 3, more than three quarters (77.5%, 95% CI [74.3, 80.3]) of First Nations adults who attended Residential School reported that they “sometimes” or “always or almost always” participated in their local community’s cultural events. While a significantly higher proportion of those who attended and those with a parent who attended (69.2%, 95% CI [66.9, 71.4]) participated in cultural events “sometimes” or “always or almost always” compared to those not affected (62.5%, 95%

CI [59.5, 65.4]), this was not the case for those with a grandparent who attended (62.5%, 95% CI [58.1, 66.6]) (see *Figure 6.16*).

Among First Nations youth and children, a significantly lower proportion of those who were not affected by IRS (66.4%, 95% CI [62.0, 70.5]) reported that they participated in community cultural events “sometimes” or “always or almost always” compared to those with at least one parent (76.0%, 95% CI [73.1, 78.7]) or one grandparent who attended (78.9%, 95% CI [74.4, 82.8]).

Figure 6.16: Proportion of First Nations adults, youth and children who reported taking part in community cultural events “sometimes” or “always or almost always,” according to mutually exclusive categories of personal (only for adult population) or parent/grandparent IRS attendance



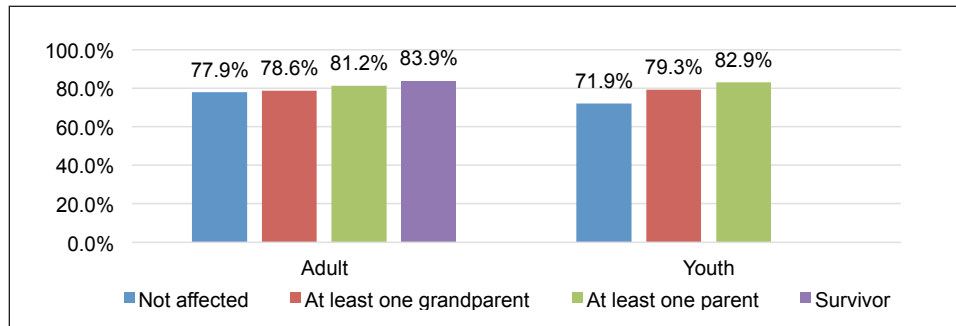
Feelings of Belonging in Home Community

Among First Nations adults, Residential School Survivors (83.9%, 95% CI [81.0, 86.5]) were most likely to report that they had a “very” or “somewhat” strong sense of belonging to their local community, although this difference was only significant in relation to those not at all affected (77.9%, 95% CI [75.0, 80.6]) (see *Figure 6.17*). There were no significant differences between adults not affected and those with a parent (81.2%, 95% CI [79.2, 83.0]) or grandparent (78.6%, 95% CI [74.6, 82.1]) who attended.

In the First Nations youth population, a significantly higher proportion of those with a parent (82.9%, 95% CI [78.1, 86.9]) and with a grandparent (79.3%, 95% CI [75.9, 82.3]) who attended IRS reported that they had strong or very strong feelings of belonging compared to those not affected by Residential Schools (71.9%, 95% CI [67.8, 75.7]).



Figure 6.17: Proportion of First Nations adults and youth who reported feeling strong or very strong feelings of belonging to their home community, according to mutually exclusive categories of personal (only for adult population) or parent/grandparent IRS attendance



Highest Education Completed

Adults who attended Residential School (69.0%, 95% CI [64.7, 73.0]) did not differ significantly in the completion of high school from those with a parent who attended (68.2%, 95% CI [65.7, 70.7]), a grandparent who attended (67.4%, 95% CI [62.5, 71.9]) and those not affected (66.0%, 95% CI [63.0, 68.8]).

Food Security Index

Adults who were not affected by Residential Schools had a significantly lower proportion (6.9%, 95% CI [5.6, 8.4]) of those rated as “severely” food insecure, categorized according to the food security index, compared with those who attended residential school (16.4%, 95% CI [13.7, 19.5]) and those with a parent (16.2%, 95% CI [14.5, 18.2]) or grandparent (12.1%, 95% CI [9.1, 15.9]) who attended.

DISCUSSION

The RHS Phase 3 reveals that there are a significant number of Residential School Survivors living today who are of various ages, although most are age 60 and older. The majority of Survivors in the current survey started attending between the ages of 5 and 9, and most felt that their overall health and well-being were negatively affected by their attendance.

The most common experiences reported by Survivors as contributing to these negative effects include: isolation from their family, verbal or emotional abuse, loss of cultural identity, physical abuse and harsh discipline. Compared to those who were not directly or intergenerationally affected by Residential Schools, a lower proportion of Survivors reported both their general health and mental health as good, very good or excellent (vs. fair or poor). A higher proportion also reported to have seriously considered suicide at some point in their lives, which is in line with previous national and regional analyses of the RHS that found a higher proportion of Survivors reported experiencing a variety of mental and physical health problems compared to First Nations adults who did not attend (Elias et al., 2012) First Nations Centre, 2005; FNIGC, 2012).

However, Survivors did not differ significantly from those not affected in relation to self-reported physical, mental, emotional or spiritual balance. A lower proportion of those who attended residential school reported binge drinking at least once per month in the past year and using cannabis or other non-prescription drugs compared with individuals with at least a parent or a grandparent that attended residential school. Without a full understanding of the past history of alcohol use, it appears that many Survivors today are choosing to find alternative



coping and healing mechanisms despite their ongoing increased risk for certain mental and physical health issues. However, a higher proportion of Survivors reported using opioids (prescribed or not) in the past year compared to those not affected by Residential Schools.

In addition to the effects on those who attended Residential School, analyses of the RHS Phase 3 data are consistent with other research assessing the intergenerational effects of having a parent or grandparent who attended (Bombay, Matheson & Anisman, 2014a; Wilk et al., 2017). Although Survivors and those with a grandparent who attended IRS were not at a greater risk in relation to a perceived balance in life, a lower proportion of adults with a parent who attended reported feeling in balance physically and emotionally compared to those not affected.

Likewise, adults with a grandparent who attended Residential School did not differ from those not affected in relation to self-rated general and mental health, although a lower proportion of those with a parent who attended reported good, very good and excellent self-rated general and mental health. As well, a higher proportion of First Nations adults with a parent and a grandparent who attended reported having considered suicide at some point in their lifetime, as well as binge drinking or using cannabis or any non-prescription drug in the past 12 months, compared to those not affected. Only those with a parent that attended residential school had a higher proportion reporting opioid use in the past 12 months compared to those not affected. It appears that adults with a parent who attended residential school are at particularly greater risk for a variety of negative outcomes compared to those who were not directly or intergenerationally affected. As well, those with a grandparent who attended exhibit similar risks compared to those not affected with respect to some of the assessed outcomes.

The analyses carried out with the First Nations youth and child population revealed that these intergenerational effects can manifest early in life and that significant proportions of young people living on reserve are also still dealing with the legacy of the Residential School system. A significantly lower proportion of First Nations youth with a parent or grandparent who attended IRS reported that they were in balance physically, mentally and emotionally compared to those not affected. Likewise, a lower proportion of First Nations youth with a parent who attended rated their general and mental health as good, very good or excellent (vs. fair/poor) compared to those not affected. Among First Nations children, a lower proportion of caregivers reported that their child had good, very good or excellent health if they had a parent who attended IRS, but this was not the case for children with a grandparent who attended.

In considering substance use among First Nations youth, similar to the adult population, those with a parent were also at greater risk for use of all substances compared to those not affected, and those with a grandparent who attended were at greater risk for binge drinking, using cannabis or other non-prescription drugs and smoking. While a higher proportion of youth with a parent who attended reported that they have used prescription opioids compared to those not affected, those with a grandparent who attended were not at greater risk.

A selection of additional variables was assessed in relation to familial IRS attendance to explore the links with some important determinants of health. Food insecurity has been described as an urgent public health issue for some First Nations communities (Skinner, Hanning & Tsuji, 2014; Socha et al. 2012) and is associated with various negative outcomes throughout the lifespan (Cook & Frank, 2008; Lee et al., 2012). In the First Nations adult population, a significantly lower proportion of those not affected by Residential Schools were categorized according



to the food security index as “severely” food insecure compared to Survivors and those intergenerationally affected.

Another important and ongoing issue that is negatively affecting the lives of many First Nations children and youth relates to the continued high rate of separation from biological parents. In this regard, Indigenous children account for nearly half (48%) of all children and nearly one-third (30%) of youth in foster care (Turner, 2016), which has been suggested to be partially associated with the consequences of the IRS system. In support of this suggestion, a lower proportion of First Nations youth with a parent who attended Residential School reported living with at least one of their biological parents compared to those not affected in this regard. This was not the case in the children population.

While the IRS experience is associated with various risk factors, analysis revealed that having a familial residential school background is also associated with certain protective factors that can buffer against the risk associated with parent or grandparent attendance. For example, although the reasons are not entirely clear, a higher proportion of children who had a parent or grandparent who attended Residential School have been breastfed as an infant compared to those not affected. The reasons behind these findings need to be explored further, as these may be related to greater adherence to Traditional teachings around breastfeeding.

This would be consistent with other findings in the chapter suggesting that Survivors and those intergenerationally affected are particularly more likely to report engagement with their Traditional cultures as part of their healing journey or as a way to promote wellness. In this regard, more First Nations Survivors and adults with at least one parent who attended Residential School reported taking part in community cultural events than those not affected. This was similarly found among youth and children with a parent or grandparent who attended. More

Survivors who attended also reported strong feelings of belonging in their home communities compared to those not affected.

This was similarly found among youth with a parent or grandparent who attended. Engagement in Traditional cultural practices has been linked with positive health outcomes among First Nations (Laframboise et al., 2006), and belonging is a key wellness outcome among First Nations peoples that also serves as a protective factor (Assembly of First Nations and Health Canada, 2015). As well, other research has shown that the process of healing among many Residential School Survivors occurred through engagement and connection with cultural, spiritual or religious practices (Brant Castellano, 2006; Carr, Chartier & Dadgostari, 2017; Gone, 2013).

Despite the attempts of the IRS system to “take the Indian out of the child,” a higher proportion of those who attended reported to be able to understand and speak their First Nations language at an intermediate or fluent level compared to those not affected, which was previously reported in the RHS Phase 1 (2002-2003) (First Nations Centre, 2005, p. 38). In considering potential explanations, it was suggested that Survivors disproportionately resided in isolated communities where language skills are stronger, most may not have lost their abilities due to their defiance and efforts to hold on to their language, or they were more likely to seek out opportunities to learn or relearn their languages and other aspects of their Traditional culture as part of their healing after their attendance (First Nations Centre, 2005, p. 38).

Indeed, speaking a First Nations language has been linked with various positive outcomes, including enhanced academic performance among children (Bear Nicolas, 2010), resilience (Christian et al., 2015) and strong cultural identity (Christian et al., 2015; Reyhner, 2010). Still, fewer First Nations adults with a parent or a grandparent who attended reported that they could speak at this level in the current RHS. However, this was not the case among youth. In this



regard, there were no significant differences in the ability to understand their First Nations language among the groups, and more youth with a parent who attended reported that they could speak their language at an intermediate or fluent level. This may reflect a growing interest in the young population living on reserve to relearn their culture and language. This may also reflect the result of explicit efforts to preserve traditional languages, which may, in part, be the case among those affected by Residential Schools and other collective traumas that specifically aimed to destroy Indigenous cultures.

CONCLUSIONS

The current findings highlight a number of the long-term negative consequences of the IRS legacy on physical and mental health as well as social outcomes, while also highlighting the strengths of the First Nations peoples despite Residential Schools and other aspects of colonization.

Considering the large proportion of the Indigenous population that has been affected by Residential Schools and colonization, combined with insufficient healing and wellness resources and ongoing inequities, it should not be surprising that many of the health inequities faced by Indigenous peoples documented twenty years ago are still present today (Gracey & King, 2009; RCAP, 1996; TRC, 2015).

Survivors and their family members have faced increased risks in relation to various aspects of health and well-being, in which intergenerational exposure has, in some instances, resulted in effects more consequential than the direct effects observed among those who attended themselves. These analyses also emphasize how the effects of Residential School influence First Nations peoples across the lifespan and that prevention and intervention strategies need to be implemented at each stage of life, particularly in early development when environmental exposures

can have the most enduring consequences (Assembly of First Nations & Health Canada, 2015).

Strengths inherent in First Nations cultures and communities can act as protective factors and pathways for healing among those whose cultures were attacked by the IRS system and other aspects of historical trauma. There is a clear need for continued healing and wellness services for those directly and intergenerationally affected by Residential Schools, the Sixties Scoop and other aspects of historical trauma that are rooted in local traditional cultures.

The lack of culturally appropriate healing and mental wellness services in First Nations communities, currently and in the past (Assembly of First Nations & Health Canada, 2015; Spear, 2014), for those affected by Residential Schools is inconsistent with evidence summarized in the TRC report, the findings reported in the current chapter, and with the government's commitment to work "in partnership with Indigenous communities, the provinces, territories, and other vital partners, to fully implement the Calls to Action of the Truth and Reconciliation Commission..." (Prime Minister of Canada, 2015, para. 9).

In its final report, the TRC included a call to action for the federal government to recommit to the healing needs of Indigenous peoples: "[Calls] upon the federal government to provide sustainable funding for existing and new Aboriginal healing centres to address the physical, mental, emotional, and spiritual harms caused by the Residential Schools ..." (TRC, 2015, p. 3). It is clear that sustainable resources need to be put in place to allow communities to continue to heal and promote wellness through locally driven approaches rooted in culture, echoing conclusions made over the last twenty years (Assembly of First Nations & Health Canada, 2015; Brant Castellano, 2006; Spear, 2014; RCAP, 1996).



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APPENDIX 1

RHS PHASE 3 REPORT AUTHORS

Kyla Marcoux, Fei Xu and Fan Zhang (Chapter 1: Introduction)

Kyla Marcoux joined FNIGC in the summer of 2013. Her previous role at FNIGC involved providing oversight, technical guidance, and analytical support for the First Nations Early Childhood, Education and Employment Survey (FNREEES). She is currently working with the Survey Management team at FNIGC as Program Manager of Survey Management overseeing the production of all FNIGC survey initiatives including the production of the RHS 3 National Report.

Fei Xu, FNIGC's Senior Manager of Methodology and Statistics, had the opportunity to grow up with the organization since its inception in 2010. Fei has been working on the survey methodology and sampling design for all FNIGC surveys. She also reviews and oversees reports and publications to ensure data quality. Fei is proud to see how the survey results have impacted First Nations communities across Canada.

Fan Zhang joined FNIGC in April, 2017. She is currently working as the Statistical Data Analyst with the Methodology and Statistics team. Her role at FNIGC involves statistical support for the Regional Health Survey (RHS) Phase 3 to ensure data accuracy and integrity. Prior to joining FNIGC, Fan's experience was with public health surveillance overseeing communicable disease databases and disease control reports.

Drew Pihlainen (Chapter 2: Socioeconomic Conditions)

Drew Pihlainen, MA Economics, is a Senior Researcher with Academica Group. Previously he spent five years at the University of British Columbia's Okanagan Campus, where he had the opportunity to help build and grow a relatively new institutional research office. While there, he supported a variety of projects related to student surveys, strategic enrolment management, institutional reporting, and key performance metrics. Prior to working in higher education, Drew spent time as an economic development officer with the Canadian International Development Agency in Peru, where he conducted community consultation and research on grassroots entrepreneurship support programs. He has previously been involved with BC institutional research and planning (BCIRP) and served as Vice-President and President of the Pacific Northwest Association for Institutional Research and Planning (PNAIRP).

Marcie Snyder (Chapter 3: Chronic Health Conditions)

For more than a decade, Dr. Snyder has been involved in community-based health research that focuses on Indigenous, urban, and rural health, as well as service delivery. Her work examines the relationship between our health and environment, mobility, and access to care. She has worked extensively in partnership with Indigenous and non-Indigenous communities in efforts to support service needs, stakeholder perspectives, and policy development. She is the owner of Meeting Ground Consulting and holds a PhD in Health Geography and the Collaborative Program in Indigenous Health from the University of Toronto.



Jeff D'Hondt (Chapter 4: Mental Health and Substance Abuse)

Jeff is a member of the Lenape nation at the Six Nations of the Grand River with additional Belgian-Canadian ancestry. He has over two decades of experience working in mental health and substance abuse treatment services as a clinician, program manager and policy analyst, which he gained through positions in the Ministry of Health and Long-Term Care, the Centre for Addiction and Mental Health and homeless shelters (Native Men's Residence). He graduated from the University of Toronto with an Honours Bachelor of Arts in History (with minors in Aboriginal Studies and the History of Science), from Ryerson University with a Bachelor of Social Work (where he was also part of the contract teaching faculty), and from York University with a Masters of Social Work (where his research on using theatre to give voice to homeless Indigenous youth was awarded the Gerry Erickson Book Prize for Best Practice Research Paper). He has also written a novel and had two plays produced and is a 2018 KM Hunter Award nominee.

Herenia P. Lawrence (Chapter 5: Oral Health)

Dr. Herenia P. Lawrence, Associate Professor of Dental Public Health at the Faculty of Dentistry at the University of Toronto has extensive experience as a principal investigator on both intervention (RCTs) and observational epidemiologic studies in the field of Indigenous oral health. She is recognized as a leading authority in this field, both nationally and internationally. Her research focuses on the oral health of Canadian Indigenous children and preventive and behavioural interventions that address early childhood caries (ECC). Dr. Lawrence has directed a number of large community-based oral health intervention studies among Aboriginal populations in Canada over the last two decades and has written extensively on ECC preventive interventions for high-risk populations.

Amy Bombay, Robyn McQuaid and Nicole Doria (Chapter 6: Indian Residential Schools)

Amy Bombay is an Assistant Professor in the Department of Psychiatry and the School of Nursing at Dalhousie University. Amy is a member of Rainy River First Nation and completed her MSc and PhD in Psychology and Neuroscience. Her primary areas of inquiry have focused on exploring the relationships between historical trauma, contemporary stressor exposure, and mental health and wellness among Indigenous peoples in Canada. Her research exploring the different pathways by which Indian Residential School experiences are transmitted across generations has garnered extensive media interest and has been influential in educating the public about the long-term effects of colonization and in influencing policy and practice related to Indigenous health.

Dr. Robyn McQuaid is a Scientist at the Royal's Institute of Mental Health Research, affiliated with the University of Ottawa. She completed her MSc and PhD in Neuroscience from Carleton University in Ottawa Canada. Her research examines the biological (e.g. genetic, hormone and inflammatory factors) and psychosocial factors (e.g. childhood adversity, stressors, substance use) involved in depression and suicide. Together with Dr. Amy Bombay, her research program involves examining the impacts of stressors and trauma, such as the residential schools, on the mental health and wellness of First Nations peoples in Canada.

Ms. Nicole Doria holds a BA in Political Science from the University of Guelph, a BSc (Hons) in Health Promotion from Dalhousie University, and a MA in Health Promotion from Dalhousie University. Much of Nicole's research has focused on Indigenous Health and Wellness, which she conducts out of Dr. Amy Bombay's Indigenous Wellness Lab at Dalhousie University. Nicole also currently works in patient-oriented research at the Maritime SPOR Support Unit.



Appendix 2

RHS 3 PARTICIPATING COMMUNITIES (NATIONAL SAMPLE)

The First Nations Information Governance Centre would like to thank the following First Nations communities for participating in the RHS Phase 3.

Alberta Communities

Alexander First Nation
 Beaver Lake Cree Nation
 Bigstone Cree Nation
 Blood Tribe
 Cold Lake First Nation
 Dene Tha' First Nation
 Duncan's First Nation

Enoch Cree Nation
 Horse Lake First Nation
 Kapawe'no First Nation
 Kehewin Cree Nation
 Loon River First Nation
 O'Chiese First Nation
 Piikani Nation

Samson Cree Nation
 Siksika Nation
 Sturgeon Lake Cree Nation
 Sucker Creek First Nation
 Sunchild First Nation
 Swan River First Nation
 Tallcree First Nation

British Columbia Communities

Alexis Creek
 Blueberry River First Nations
 Campbell River
 Canim Lake
 Cape Mudge
 Cheslatta Carrier Nation
 Cowichan
 Esk'etemc
 Gitsegukla
 Gitwangak
 Gitxaala Nation
 Gwa'Sala-Nakwaxda'xw
 Heiltsuk
 Iskut
 Katzie
 Kispiox
 Kitasoo
 Lake Babine Nation
 Lax Kw'alaams
 Lower Kootenay
 Lower Nicola
 Lower Similkameen

Malahat First Nation
 Matsqui
 McLeod Lake
 Metlakatla
 Moricetown
 Mount Currie
 Musqueam
 Nak'azdli
 Namgis First Nation
 Nisga'a Village of Laxgalt'sap
 Nisga'a Village of New Aiyansh
 N'Quatqua
 Okanagan
 Old Massett Village Council
 Osoyoos
 Penelakut
 Penticton
 Quatsino
 Saik'uz First Nation
 Saulteau First Nations
 Sechelt
 Seton Lake

Simpcw First Nation
 Sliammon
 Soowahlie
 Squamish
 Sts'ailes
 Stz'uminus First Nation
 Takla Lake First Nation
 Tk'emlúps te Secwépemc
 Tla-o-qui-aht First Nations
 Tl'etinqox-t'in Government Office
 Tobacco Plains
 Tsartlip
 Tsawout First Nation
 Tseycum
 Tsleil-Waututh Nation
 Ucluelet First Nation
 Ulkatcho
 Upper Nicola
 Wet'suwet'en First Nation
 Williams Lake
 Yekooche First Nation
 Yunesit'in Government



Manitoba Communities

Birdtail Sioux Dakota Nation
Bloodvein First Nation
Bunibonibee Cree Nation
Canupawakpa Dakota First Nation
Ebb and Flow First Nation
Fisher River Cree Nation
Fox Lake Cree Nation
Garden Hill First Nation
Hollow Water First Nation
Keeseekoowenin First Nation
Kinsonjeoshtegon First Nation
Long Plain First Nation

Manto Sipi Cree Nation
Mathias Colomb Cree Nation
Misipawistik Cree Nation
Mosakahiken Cree Nation
Nisichawayasihk Cree Nation
Northlands Denesuline First Nation
Norway House Cree Nation
O-Chi-Chak-Ko-Sipi First Nation
Opaskwayak Cree Nation
O-Pipon-Na-Piwin Cree Nation
Peguis First Nation
Pimicikamak Cree Nation (Cross Lake)

Pinaymootang First Nation
Roseau River Anishinabe First Nation
Sagkeeng First Nation (Fort Alexander)
Sapotaweyak Cree Nation
Sandy Bay First Nation
St. Theresa Point First Nation
Swan Lake First Nation
Wasagamack First Nation
Waywayseecappo First Nation
Wuskwi Sipiik First Nation
York Factory First Nation

New Brunswick

Eel Ground First Nation
Eel River Bar First Nation
Elsipogtog (Big Cove) First Nation

Esgenoopetitj First Nation
Kingsclear First Nation
Madawaska Maliseet First Nation

Metepenagiag Mi'kmaq First Nation
Saint Mary's First Nation

Newfoundland Communities

Maiwpukek First Nation

Nova Scotia Communities

Acadia First Nation
Annapolis Valley
Bear River
Eskasoni First Nation
Glooscap First Nation

Membertou First Nation
Millbrook First Nation
Paqtnkek First Nation
Pictou Landing
Potlotek First Nation

Sipekne'katik First Nation
Wagmatcook First Nation
We'koqma'q First Nation

Ontario Communities

Alderville First Nation
Beausoleil First Nation
Biinjitiwaabik Zaaging Anishinaabek
(Rocky Bay)
Bkejwanong Territory (Walpole Island)
Chippewas of Kettle & Stony Point
Curve Lake First Nation
Fort William First Nation
Hiawatha First Nation
Kasabonika Lake First Nation

Kee-Way-Win First Nation
Kitchenuhmaykoosib Inninuwig
M'Chigeeng First Nation
Mississaugas of the New Credit First
Nation
Mohawks of Akwesasne
Mohawks of the Bay of Quinte
Moose Cree First Nation
Moravian of the Thames (Delaware
Nation)

Naotkamegwaning First Nation
Oneida Nation of the Thames
Pic Moberg First Nation
Red Rock First Nation
Sagamok Anishnawbek First Nation
Serpent River First Nation
Sheshegwaning First Nation
Shoal Lake No.40 First Nation
Wikwemikong Unceded Indian Reserve



Prince Edward Island Communities

Lennox Island First Nation

Quebec Communities

Essipit

Gesgapegiag

Kahnawá:ke

Kanesatake

Kawawachikamach

Kebaowek

Kitigan Zibi

Lac Simon

Listuguj

Manawan

Mashteuiatsh

Matimekush-Lac John

Nutashkuan

Odanak

Opitciwan

Pessamit

Pikogan

Timiskaming

Uashat mak Mani-Utenam

Wemotaci

Wendake

Saskatchewan Communities

Ahtahkakoop

Birch Narrows First Nation

Canoe Lake Cree Nation

Cote First Nation

Day Star

Fishing Lake First Nation

George Gordon First nation

Hatchet Lake

James Smith

Kawacatoose

Keeseekoose

Lac La Ronge

Mistawasis

Montreal Lake

Moosomin

Muskeg Lake

Nekaneet

Ocean Man

Ochapowace

Okanese

One Arrow

Onion Lake

Peepeekisis

Pheasant Rump Nakota

Piapot

Red Earth

Red Pheasant

Sakimay First Nations

Saulteaux

Sturgeon Lake First Nation

Wahpeton Dakota Nation

Waterhen Lake

Northwest Territories Communities

Acho Dene Koe First Nation (Fort Liard)

Behchoko

Behdzi Ahda First Nation (Colville Lake)

Dechi Laot'í First Nations

Deh Gah Got'ie Dene Council (Fort

Providence)

Deline

Gameti

Liidlíi Kue First Nation

Lutsel K'e

Sambaa K'e

Tetlit Gwich'in Council (Fort McPherson)

Tulita Band Council

Twichya Gwich'in Band Council

Whati

Yellowknives Dene First Nation

Yukon

Champagne & Aishihik First Nations

Carcross/Tagish First Nation

First Nation of Na-Cho Nyak Dun

Kluane First Nation

Kwanlin Dün 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



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