QUEBEC FIRST NATIONS REGIONAL HEALTH SURVEY - 2008

Chapter 15 Preventive health care

FIRST NATIONS OF QUEBEC AND LABRADOR
HEALTH AND SOCIAL SERVICES COMMISSION

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Thanks

We thank all those who helped prepare this portrait of the health status of First Nations of Quebec, especially all the respondents who participated within First Nations communities. We also thank all those who participated at all stages of the survey and in their realization.

Document also available in French titled: *Enquête régionale sur la santé des Premières Nations du Québec - 2008. Soins de santé préventifs*.

The masculine in this document is intended to lighten the text, and without prejudice against women.

ISBN: 978-1-926553-74-0

METHODOLOGICAL NOTE

Background

The First Nations Regional Health Survey (RHS) is a groundbreaking survey in the area of research by and for First Nations. Completely carried out by First Nations, it is an innovative endeavour with respect to the involvement of the communities in the process, ethics and cultural adaptation of research.

The RHS is the first research project to be carried out while completely respecting the principles of ownership, control, access and possession (OCAP). These principles aim to ensure the complete involvement of the First Nations communities in all of the steps of the research.

The governance and coordination of the RHS are ensured by the First Nations Information Governance Centre (FNIGC) at the national level and by the First Nations of Quebec and Labrador Health and Social Services Commission (FNQLHSSC) in Quebec.

This second wave of the RHS was preceded by the wave that took place in 2002 (first wave) as well as by a pilot project (1997). For the past 15 years, the RHS data has contributed to supporting the decision-makers and interveners while contributing to expanding the knowledge on the socio-sanitary situation of the First Nations. We plan on carrying out two phases following this one, which are phase 3 in 2013 and phase 4 in 2016.

1997	2002	2008	2013	2016
Pilot of the RHS	Phase 1 of the RHS	Phase 2 of the RHS	Phase 3 of the RHS	Phase 4 of the RHS
Completed	Completed	Completed		

Questionnaire

Three distinct questionnaires were created for three different age groups (children, youth, adults). These questionnaires were administered in person by 63 First Nations interviewers who were trained for this purpose. In order to prevent the error risks, data entry was performed by the interviewers during the interview using laptop computers. With respect to children less than 12 years of age, the questionnaire was administered to the parent or guardian. The following table summarises the themes addressed according to each age group.

Themes addressed in the 2008 RHS questionnaires

Themes	Children 0 – 11 years	Youth 12 – 17 years	Adults 18 years and up
Vaccination	√		
Child care services	√		√
Demographic characteristics	√	√	√
Household characteristics	√	√	√
Education	√	√	√
Language and culture	√	√	√
Chronic diseases	√	√	√
Injuries	√	√	√
Dental care	√	√	√
Diabetes	√	√	√
Physical activity	√	√	√
Nutrition and traditional foods	√	√	√
Indian residential schools	√	√	√
Mental health		√	√
Community well-being		√	√
Smoking		√	√
Alcohol and drugs		√	√
Sexual health		√	√
Access to health care		√	√
Traditional medicine		√	√
Preventive health care			√
Housing			√
Natural caregivers			√
Depression			√
Migration			√
Employment and income			√
Gambling			√
Food security			√
Home care and limitations			√
Violence			√
State of health index			√

A total of 2 691 individual interviews were carried out (87.3% of the sampling that was initially anticipated).

0-11 years: 727 respondents (94.4% of the sampling initially anticipated).
12-17 years: 600 respondents (77.9% of the sampling initially anticipated).
18 years and up: 1 364 respondents (88.6% of the sampling initially anticipated).

Data collection period

The data collection unfolded from September 2008 to February 2010 among the 21 selected communities in the Quebec region.

Sampling

The RHS was carried out using a two-stage stratified sampling.

First stage: Classification of the communities from each nation according to their sizes among one of the following strata: small (between 75 and 299 residents); medium (between 300 and 1499 residents); large (1500 residents and up). The communities required at least 75 residents in order to be eligible. A random selection of the communities was then performed among each of the stratums. With the goal of increasing statistical power, all of the large communities were invited to participate in the RHS. In the event that a stratum was represented by a single community of a given nation, it was automatically invited to participate in the survey.

Second stage: Breakdown of the populations of the selected communities according to eight stratums established according to age and gender:

Stratum 1: 0-11 years/male;
Stratum 2: 0-11 years/female;
Stratum 3: 12-17 years/male;
Stratum 4: 12-17 years/female;
Stratum 5: 18-54 years/male;
Stratum 6: 18-54 years/female;
Stratum 7: 55 years +/male;
Stratum 8: 55 years +/female.

The individuals in each of the stratums were randomly selected. This selection process was carried out using the band lists of each of the participating communities.

The number of respondents in the sampling was sufficient to allow for verifying the statistical significance of the results observed. As can be read among the survey's chapters, for the majority of the results observed, it is possible to apply the result observed in the sampling to the entire population with a margin of error of less than 5% or, depending on the case, less than 1%.

Communities participating in the 2008 RHS

Nation (8)	Size	Community (21)	Sampling	Population	% of the pop. interrogated
Abenaki	Medium	Odanak	50	309	16.2%
Algonquin	Large	Kitigan Zibi	122	1535	7.9%
	Medium	Lac Simon	174	1403	12.4%
		Pikogan	95	567	16.8%
		Timiskaming	86	604	14.2%
	Small	Eagle Village	55	261	21.1%
Atikamekw	Large	Manawan	167	2122	7.9%
		Opitciwan	183	2117	8.6%
	Medium	Wemotaci	118	1307	9.0%
Hurons-Wendat	Medium	Wendake	111	1332	8.3%
Innus	Large	Betsiamites	252	2848	8.8%
		Mashteuiatsh	183	2022	9.1%
		Uashat Mak Mani-Utenam	246	3080	8.0%
	Medium	Matimekush-Lac John	87	729	11.9%
		Natashquan	128	916	14.0%
		Pakua Shipi	50	314	15.9%
		Unamen Shipu	96	1016	9.4%
	Small	Essipit	38	177	21.5%
Mi'gmaqs	Large	Listuguj	220	2000	11.0%
	Medium	Gesgapegiag	72	608	11.8%
Mohawks	Medium	Kanesatake	94	1328	7.1%
Naskapis	Medium	Kawawachikamach	64	614	10.4%
Total			**2691**	**27209**	**9.9%**

Weighting

All of the data presented in the RHS was weighted in order to provide an estimate with respect to the total First Nations population of Quebec living in the communities.

Representation limits for the Mohawk Nation

Even though the Mohawk Nation in Quebec is made up of Kahnawake, Kanesatake and part of Akwesasne, the only community that participated in the RHS is Kanesatake. Regarding the community of Akwesasne, it was excluded from the sampling plan for the Quebec region because of the fact that the majority of its residents reside on the Ontario side of the provincial border. As for the community of Kahnawake where most of the Mohawk population of Quebec resides, it opted not to participate in the RHS. For these reasons, it is impossible to produce estimates that can be applied to the entire Mohawk Nation of Quebec.

Geographic zone

Some of the RHS data is presented according to geographic zone. This refers to the degree of isolation of the respondents' communities. The degree of geographic isolation is based on a zone system developed by Aboriginal Affairs and Northern Development Canada (AANDC).

Zone 1: The community is located less than 50 km from a service centre with year-round road access.

Zone 2: The community is located between 50 km and 350 km from a service centre with year-round road access.

Zone 3: The community is located over 350 km from a service centre with year-round road access.

Zone 4: The community has no year-round road access to a service centre.

Service centre: The nearest location where the community members must go in order to access service providers, banks and governmental services.

HIGHLIGHTS

- Based on the results of the Regional Survey on the Health of First Nations 2008 (RHS 2008), 42.3% of the youth and adult population said that they had done a cholesterol test over the 12 months before the survey, 41.8% a vision exam, 54.4% a blood pressure test, 45.8% a blood sugar test and 45.1% a complete physical examination. The comparison with the Quebec Region First Nations Regional Longitudinal Health Survey (RHS 2002) shows that the proportion of individuals who have taken these routine tests has increased between the two periods. It is the case for cholesterol tests, which have increased proportionally by 3.7% ($p = 0.08$) and complete physical examinations, with a proportional increase of 15.9% ($p < 0.0001$). However, among individuals who have taken vision exams and blood sugar exams, proportional decreases of 29.9% ($p < 0.0001$) and 1.7% ($p = 0.7$) were noted, respectively.
- Among youths, the proportions of individuals in the 12-14 age group who took a vision exam (32%), complete physical (23.1%) and blood sugar test (13.5%) are higher than the 15-17 age group. However, for cholesterol and blood pressure tests, youths aged 15-17 have higher proportions, with 8% and 26.3% respectively. That difference in proportions is not statistically significant for youths.
- Among adults, the proportion of individuals who have taken tests of exams increases with age. Elders have the highest proportion for all routine physical exams: 77.1% for cholesterol tests, 61.2% for vision exams, 88.6% for blood pressure tests, 81.4% for blood sugar tests and 74% for complete physicals. The proportion of adults who took medical tests or exams increases significantly with age ($p < 0.0001$ for all medical exams or tests).
- Based on gender, the proportion of women who declared taking medical tests or exams over the 12 months before the survey are: 55.7% for blood pressure test, 48% for blood sugar test, 46.8% for complete physical examination, 42.4% for cholesterol test and 41.4% for vision exam. Among men, 53.1% took a blood pressure test, 43.5% a blood sugar test, 43.4% a complete physical examination, 42.3% a cholesterol test and 42.2% a vision exam. The difference between gender for the proportion of individuals who took vision exam, complete physical examination and cholesterol test is not significant for the youth and adult population. However, blood pressure and blood sugar tests increase significantly among female youths only ($p = 0.006$).
- The proportions of individuals who declared having taken routine exams over the 12 months before the survey increase significantly with education level for the entire youth and adult population ($p < 0.0001$ for every medical test or exam).
- Among adults, the proportions of individuals who have taken routine exams over the 12 months before the survey increase significantly with household income (cholesterol test: $p < 0.0001$; vision exam: $p = 0.03$; blood pressure test: $p = 0.002$; blood sugar test: $p < 0.0005$; complete physical examination: $p = 0.04$).

- Among men aged 40 and up, the proportion of individuals who declared taking the prostate-specific antigen (PSA) blood test over the 12 months before the survey increases significantly with age ($p < 0.0001$). Elders aged 65 and up have the highest proportions, with 72.4%.
- More than a third (32.8%) of women aged 40 and up said that they have performed breast self-examinations at least once per month. The proportion of women who performed breast self-examinations on a certain frequency does not vary significantly based on age.
- More than half (56.9%) of women aged 40 and up had a mammogram over the 24 months before the survey. The proportion of women who had a mammogram increases significantly with age ($p < 0.0001$).
- Among women aged 12 and up, 56.6% said that they had passed the Papanicolaou test (PAP smear) over the three years before the survey. The strongest proportions are found in adults (67.1% of adults aged 18-34 and 68.3% for 35-54) rather than for youths (8.1% for youths aged 12-14 and 35.6% for 15-17). The proportions of women who passed the PAP smear are statistically different based on age group ($p < 0.0001$).
- Among female youths, 61% said that they were vaccinated against the human papilloma virus (HPV) over the 12 months before the survey. Youths aged 15-17 report the highest proportions (64.6%). HPV vaccination is not statistically related to age group.
- About 63.5% of youths consulted a physician or went to a community health centre over the past year, while 8.4% saw a psychologist or used a mental health service. Among the youth population, physician consultations increase significantly for women ($p = 0.02$).
- About children, 98% of the respondents said that their child had received routine vaccination. Receiving routine vaccination increases significantly with age ($p = 0.000$)[1].

[1] 25% of cells have an assumed absolute frequency inferior to 5. The khi-2 test may not be appropriate.

LIST OF DES ABBREVIATIONS AND ACRONYMS

BSE: Breast self-examination

PSA: Prostate-specific antigen (blood test)

FNQLHSSC: First Nations of Quebec and Labrador Health and Social Services Commission

CSE-PHC: Canadian Survey of Experiences with Primary Health Care

RHS: Regional Survey on the Health of First Nations

CTFPHC: Canadian Task Force on Preventive Health Care

CIHI: Canadian Institute for Health Information

NCIC: National Cancer Institute of Canada

INSPQ: *Institut national de santé publique du Québec*

CHA: Canada Health Act

MSSS: *Ministère de la Santé et des Services sociaux du Québec*

PAP: Papanicolaou (PAP smear test)

CHEP: Canadian Hypertension Education Program

CCS: Canadian Cancer Society

HPV: Human Papilloma Virus

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Prevention goes hand in hand with a traditional and healthy life style. When we live in balance with earth and nature, good health follows suit. All we need is given to us by our mother, the earth: healthy food, fresh water and clean air, remedies and the principles and knowledge which allow us to use them wisely. Joined with an active life style, a positive attitude and peaceful and harmonious relationships with others and the spiritual world, its benefits will make us healthy. [free translation]

Malloch, 1989

No one should be prevented from benefiting from rescue operations of health promotion for unfair reasons, including social and economic factors…

These are a few of the issues studied by the Commission on Social determinants of health...

When it comes to health, equity is really a matter of life or death... [free translation]

Chan, 2007

INTRODUCTION

According to the *Programme national de santé publique du Québec, 2003-2012* (MSSS, 2003), prevention "includes activities which aim mainly at reducing the risk factors associated to diseases, psychosocial issues and traumatisms, and detecting the early signs of health or psychosocial issues" [free translation].

The Epidemiology Dictionary (Last, 2004) contains another definition of prevention based on the following notions:

- *essential prevention*: features actions and measures which aim at avoiding social, economic and cultural ways of life and behaviours that are known to increase the risks of disease. It is based on the *public health and health promotion policy*.

- *primary prevention*: protection of health through personal and community efforts, such as improving the nutritional condition, vaccination against infectious diseases and elimination of environmental risks. That task falls onto the shoulders of *public health services*.

- *secondary prevention*: a series of services provided to individuals and communities for early detection and quick response in order to fight diseases and minimize incapacitation, for example through the use of screening programs. It is associated with *preventive medicine*.

- *tertiary prevention*: a series of actions aimed at minimizing the consequences of diseases and long-term incapacitation, by reducing or eliminating disabilities, incapacities and disadvantages, minimizing pain and maximizing potential years of active life. It is associated with *rehabilitation*.

In terms of health care in Canada, the Canada Health Act (CHS), a federal legislation, regulates health care insurance. The Act sets out the primary objective of Canadian health care policy, which is "to protect, promote and restore the physical and mental well-being of residents of Canada and to facilitate reasonable access to health services without financial or other barriers."

Preventive health measures include an array of health services provided to the population to prevent disease outbreak and onset. These services include complete physical examinations, cholesterol tests, blood pressure and sugar tests (diabetes), vision exam, breast (mammograms), prostate (PSA) and cervical (PAP smear) cancer screening tests, vaccination (against HPV, flu, etc.).

Problematics

Prevalence of chronic diseases among First Nations

For some diseases, First Nations are exposed to higher risks than the rest of the Canadian population. This established fact increases even more the existing differences in terms of health (Reading, 2009).

As for diabetes, in 1997, the rate of self-declared diabetes among Canadian First Nations men and women was respectively 3.6 and 5.3 times higher than their non-Aboriginal equivalents in terms of age and gender (First Nations Centre, 2004). Based on the First Nations Regional Health Survey, the standardized prevalence for diabetes based on age is approximately 19.7% (First Nations Centre at the National Aboriginal Health Organisation, 2005).

In the heart disease section, the results from the 1997 Regional Survey on the Health of First Nations suggested that heart diseases and hypertension were respectively 3 and 2.5 more common among First Nations and Inuits compared to the general Canadian population (First Nations Centre, 2004). The 2002-2003 Regional Health Survey, which gathered voluntary reports of cardiac problems among First Nations, highlighted a slightly higher prevalence compared to the Canadian population (7.6% compared to 5.6%) (First Nations Centre at the National Aboriginal Health Organisation, 2005). The prevalence of hypertension, calibrated according to age, is 22% for men and 25% for women, while the rest of the Canadian population has a prevalence of 8% for men and 10% for women (Health Canada, 1999).

For cancers, the mortality and incidence rates are lower for Aboriginal peoples than the rest of the Canadian population (Waldram et al., 2006). According to the national steering committee for the First Nations and Inuit Regional Health Survey, it is extremely difficult to determine the exact prevalence for certain forms of cancer among Aboriginal peoples, as the reliability and accuracy of current statistical data is limited. According to that same committee, most of the provincial records do not contain data on cancer based on ethnicity (national steering committee, First Nations and Inuit Regional Health Survey, 1999). In addition to those problems, the few Canadian studies published to this day are limited in terms of external validity

due to the very source of information. Although those lower rates are encouraging, the reviewed literature indicated that cancer rates are increasing among First Nations and are quickly getting closer to those of the general Canadian population (Marrett et al. 2003).

Use of preventive measures among First Nations

First Nations generally distinguish themselves by using preventive health care less frequently than the Canadian average. Based on the Quebec Region First Nations Regional Longitudinal Health Survey 2002 (RHS 2002), 40.8 % of the adult population thinks it has the same access to conventional health services as other Canadians. A number of obstacles could explain this, including remoteness, culture and language, as well as social and economic conditions specific to First Nations.

Prevention, screening tests through preventive health care services are a major challenge among First Nations. That's why, in The Quebec First Nations Health And Social Services Blueprint, 2007-2017, Closing the gaps... Accelerating change (FNQLHSSC, 2008), the promotion of those measures and access for communities and the population is paramount.

This chapter contains the data gathered in the First Nations Regional Health Survey (RHS 2008) on preventive health measures. The objective is to make a portrait of the preventive measures most commonly used by Quebec First Nations, by establishing the proportion of individuals who have take routine tests and exams. At the same time, we will compare, if possible, with other populations (Canadian, Quebec or First Nations of Canada) and compare the proportions of individuals who used preventive health care in both the 2002 and 2008 surveys. That should allow us to see how the proportions of First Nations individuals who have taken medical tests and exams have evolved through time. In addition, we will perform statistical tests to determine the significant differences between the proportions of individuals who took routine exams, based on socioeconomic and sociodemographic characteristics (education level, household income, geographic remoteness, etc.). The objective is to measure the possible relationships between those factors and the use of preventive care. Finally, we will prepare recommendations to explore the ways to increase the use of preventive measures among Quebec First Nations.

1. PREVENTION MEASURES, SCREENING AND TRADITIONAL MEDICINE USED AMONG FIRST NATIONS YOUTHS AND ADULTS

1.1 Medical tests and exams among youths and adults

Based on the results of the *First Nations Regional Health Survey 2008* (RHS 2008), the proportions of youths aged 12 and up who took a preventive medical test or exam over the 12 months before the survey vary between 41.8% and 54.4%, depending on the test. In fact, among that population, 42.3% have reported taking a cholesterol test, 41.8% a vision exam, 54.4% a blood pressure test, 45.8% a blood sugar test and 45.1% a physical examination (Table 1).

Compared to the results of the *Quebec Region First Nations Regional Longitudinal Health Survey 2002* (RHS 2002), the proportion of individuals who took a cholesterol test has increased proportionally by 3.7% between 2002 and 2008 (40.8% vs. 42.3%). For a complete physical examination, the proportion of individuals who did it went from 38.9% in 2002 to 45.1% in 2008, a proportional increase of 15.9%. However, for the same period, the proportion of individuals who took a vision exam decreased proportionally by 29.9% (59.6% vs. 41.8%), while that of individuals who took a blood sugar test decreased proportionally by 1.7% (46.6% vs. 45.8%). The differences in the proportions of individuals who took routine tests between the 2002 and 2008 surveys are statistically significant for vision exams ($p < 0.0001$) and complete physical examinations ($p < 0.0001$).

In the youth population in 2008, youths aged 12-14 have the highest proportion of individuals who took a vision exam, a complete physical examination or a blood sugar test, with 32%, 23.1% and 13.5% respectively, compared to 24.3%, 17.5% and 12% for youths aged 15-17. For cholesterol and blood pressure tests, youths aged 15-17 record the highest proportions with 8% and 26.3%, compared to 5.8% and 24.4% for youths aged 12-14. However, age has no relationship with taking medical tests or exams among youths (Table 1).

In 2002, the trend seen among that youth population varies based on age group. The results from that survey show that the proportions of youths who took those medical tests and exams are higher for the 15-17 age group than for the 12-14 age group. The fact of taking a medical test or exam is not statistically significant for youths in the 2002 survey.

Among adults in 2008, the proportions of individuals who took various types of medical tests and exams over the 12 months before the survey increase with age, from 24.1% (age 18-34) to 77.1% (age 65 and up) for cholesterol tests, 34.4% to 61.2% for vision exams, 38.5% to 88.6% for blood pressure tests, 31.1% to 81.4% for blood sugar tests and 34.6% to 74% for complete physical examinations. The proportions of individuals who take routine medical tests or exams increases significantly with age among the adult population ($p < 0.0001$ for each medical test or exam) (Table 1).

The RHS 2002 results show the same increasing trend for the proportions of individuals who took medical tests and exams as age increases, with the same statistical significance for the varying proportions ($p < 0.0001$ for each medical test or exam). Those proportions went from 26.4% (age 18-34) to 77.1% (age 65 and up) for cholesterol tests, 51.7% to 79.4% for vision exams, 33.5% to 82.2% for blood sugar tests and 29.3% to 69.4% for complete physical examinations.

Table 1: Number and percentage of individuals who took medical exams or tests over the 12 months before the survey, based on age group, First Nations of Quebec youth and adult population (N = 22,729)*

Medical tests and exams	Age group													
	Total		12-14		15-17		18-34†		35-54†		55-64†		65 and up†	
	N	%	n	%	n	%	n	%	n	%	n	%	n	%
Cholesterol	9,620	42.3	82	5.8	178	8.0	1,668	24.1	4,709	57.6	1,711	73.1	1,272	77.1
Vision exam	9,493	41.8	456	32.1	546	24.4	2,379	34.4	3,726	45.6	1,377	58.8	1,009	61.2
Blood pressure test	12,361	54.4	346	24.4	589	26.3	2,657	38.5	5,468	66.9	1,839	78.6	1,462	88.6
Blood sugar test	10,399	45.7	191	13.5	269	12.0	2,147	31.1	4,748	58.1	1,701	72.7	1,343	81.4
Complete physical examination	10,247	45.1	328	23.1	391	17.5	2,388	34.6	4,338	53.1	1,581	67.5	1,221	74.0

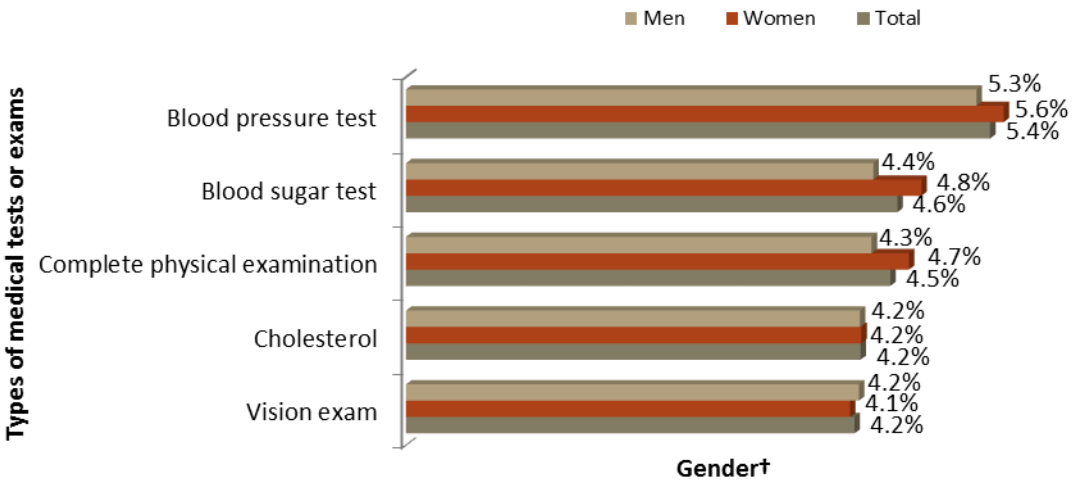
* Absolute frequencies were rounded for calculation purposes.

† Statistically significant difference between proportions of individuals who took medical tests or exams, based on age group, in the adult population (cholesterol test; vision exam; blood pressure test; blood sugar test and complete physical examination ($p < 0.0001$)).

Globally, the proportions of women who took medical tests or exams over the 12 months before the survey are slightly higher than men's. More than half of women (55.7%) and men (53.1%) took a blood pressure test. For blood sugar tests and complete physical examinations, women (48% and 46.8%) record higher proportions than men (43.5% and 43.4%), while for cholesterol tests and vision exams, proportions are similar for men (42.3% and 42.2%) and women (42.4% and 41.4%). The differences in proportions of men and women who took medical tests or exams are not statistically significant for adults. However, among youths, the proportions of individuals who took blood pressure tests and blood sugar tests increase significantly for girls ($p < 0.0006$ for each test) (Figure 1).

Comparing the 2002 and 2008 surveys with respect to the proportions of individuals who took the various tests and exams shows the same trends. In the 2002 survey, 54.4% of women took a blood sugar test, compared to 38.8% of men. For complete physical examinations, 42.3% of women did it compared to 35.5% of men; 46.7% of women took a cholesterol test compared to 35% of men; 62% had a vision exam compared to 57% of men. The proportions of women (42.3% and 46.8%) and men (35.5% and 43.4%) who had a complete physical examination have respectively increased between 2002 and 2008. The proportions of individuals who took a medical test or exam in 2002 and 2008 show a global increasing trend for men, and the opposite for women.

Figure 1: Proportions of individuals who took medical tests or exams over the 12 months before the survey, based on gender, First Nations of Quebec youth and adult population (N = 22,729)*



* Absolute frequencies were rounded for calculation purposes.

† Statistically significant difference between the proportions of individuals who took blood pressure tests and blood sugar tests, based on gender, in the youth population (p = 0.006).

1.2 Consultation with traditional healer among youths and adults

The existence of traditional healers is particular to the First Nations culture. Over the year before the survey, 9.7% of the First Nations of Quebec youth and adult population had consulted with a traditional healer. However, 9.5% of the respondents declare that their last consultation with a traditional healer happened over a year ago. A little over three fourths (76%) of the respondents say that they have never consulted one.

1.3 Prevention and screening measures used based on some of the First Nations population's characteristics

Medical tests and exams based on household income, among adults

The proportion of adults who took, over the 12 months before the survey, cholesterol or blood sugar tests and vision exams increases with household income. For blood pressure tests and complete physical examinations, those proportions follow the

same trend, except for individuals with an annual household income equal to or higher than $70,000. The increase in proportions of individuals who took tests or exams is statistically significant ($p < 0.05$) based on household income (Table 2).

Table 2: Proportion of adults aged 18 and up who took medical tests or exams over the 12 months before the survey, based on household income, First Nations of Quebec adult population (N =14,948)*

Medical tests and exams	Household income									
	Total		< $20,000		$20,000 - $39,999		$40,000 - $69,999		> $70,000	
	N	%	n	%	n	%	n	%	n	%
Cholesterol	7,954	53.2	2,200	43.1	2,841	53.6	1,828	63.7	1,085	64.8
Vision exam	6,947	46.5	2,034	39.8	2,600	49.1	1,437	50.1	876	52.3
Blood pressure test	9,634	64.5	2,908	56.9	3,421	64.6	2,097	73.1	1,208	72.2
Blood sugar test	8,296	55.5	2,402	47.0	3,027	57.2	1,797	62.6	1,070	63.9
Complete physical examination	7,873	53.7	2,399	47.0	2,822	53.3	1,744	60.8	908	54.2

* Absolute frequencies were rounded for calculation purposes. Variations in total absolute frequencies are due to missing values. The total absolute frequency contains a "other"category (individuals who answered "don't know" or "refused"). That category is not shown in the table.

† Statistically significant difference between proportions of individuals who took medical tests or exams, based on age group, in the adult population (cholesterol test)$p < 0.0001$); vision exam ($p = 0.03$); blood pressure test ($p = 0.02$); blood sugar test ($p < 0.0005$) and complete physical examination ($p = 0.04$)).

Medical tests and exams based on education level, adult and youth population

Within the adult and youth population, the proportion of individuals who took medical tests and exams over the 12 months before the survey increases with education level. That trend is found in individuals with primary, high-school and college education. For those with university education, the proportions of medical tests and exams are lower than for those with college education. The increase in proportions of adults who took tests or exams is statistically significant ($p < 0.0001$) based on education (Table 3).

Table 3: Proportions of individuals who took medical tests or exams over the 12 months before the survey, based on education, First Nations of Quebec youth and adult population (N = 21,603)*

Medical tests and exams	Education									
	Total		Primary		High school		College		University	
	n	%	n	%	n	%	n	%	n	%
Cholesterol	9,561	44.3	200	7.9	4,389	42.3	3,756	57.4	1,216	56.5
Vision exam	9,158	42.4	667	26.3	4,196	40.4	3,333	51.0	962	44.7
Blood pressure test	11,426	59.9	0	0.0	5,609	54.1	4,441	67.9	1,376	63.9
Blood sugar test	10,288	47.6	348	13.7	4,854	46.8	4,058	62.0	1,028	47.7
Complete physical examination	10,070	46.6	543	21.4	4,709	45.4	3,525	53.9	1,293	60.0

* Absolute frequencies were rounded for calculation purposes. Variations in total absolute frequencies are due to missing values. The total absolute frequency contains a "other"category (individuals who answered "don't know" or "refused"). That category is not shown in the table.

† Statistically significant difference for proportions of individuals who took medical tests and exams based on education among adults (cholesterol test, vision exam, blood pressure test, complete physical examination ($p < 0.0001$), blood pressure test ($p < 0.0001$) with 16% of data missing).

Medical tests and exams based on geographic zone, adult population

Table 4 shows the proportion of adults who report having taken medical tests or exams over the 12 months before the survey, based on geographic isolation. For each medical test or exam, zones 1 and 4 record the highest proportions, with zones 2 and 3 recording the lowest.

Zones 1, 2 and 4 have the same characteristics in terms of the variation of proportions for each medical test or exam. Zone 3, in addition to lower proportions, shows a different picture.

The proportion of individuals who took routine medical tests or exams decreases significantly from zone 1 to zone 3 ($p < 0.0001$ for each test) (Table 4).

Table 4: Proportion of adults aged 18 and up who took medical tests or exams over the 12 months before the survey, based on geographic isolation, First Nations of Quebec adult population*

Medical tests and exams	Geographic zone									
	Total		Zone 1		Zone 2		Zone 3		Zone 4	
	n	%	n	%	n	%	n	%	n	%
Cholesterol	684	51.2	492	56.9	98	43.8	29	22.8	65	54.2
Vision exam	601	45.1	432	49.8	82	37.6	34	26.8	53	44.2
Blood pressure test	823	61.4	588	67.2	117	53.2	36	28.6	82	67.8
Blood sugar test	721	54.2	520	60.2	96	43.4	32	25.2	73	61.9
Complete physical examination	687	51.7	503	57.9	86	39.8	40	31.5	58	49.2

* Absolute frequencies were rounded for calculation purposes. Variations in the sample's real size's absolute frequencies are due to missing values.

The total population for ever test or exam is divided as follows: N (cholesterol) = 1,335; N (vision exam) = 1,332; N (blood pressure test) = 1,341; N (blood sugar test and complete physical examination) = 1,330. The data on geographic isolation is missing for the youth population.

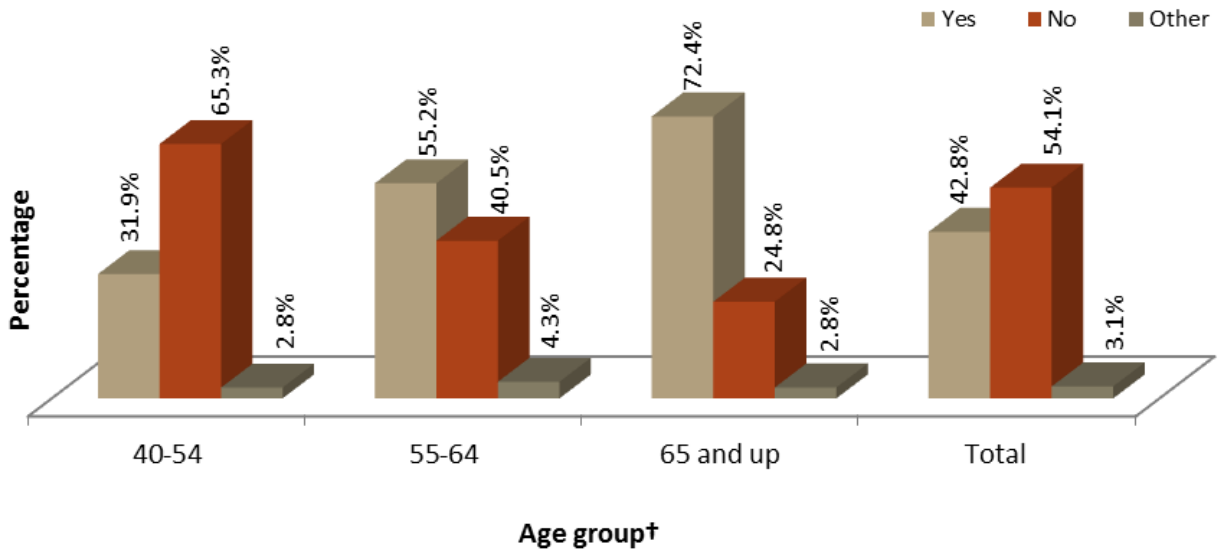
† Statistically significant difference between proportions of individuals who took medical tests or exams, based on geographic isolation (cholesterol test; vision exam; blood pressure test; blood sugar test and complete physical examination ($p < 0.0001$)).

1.4 Prevention and screening measures specific to age and gender

Prostate-specific antigen test (PSA)

Among men aged 40 and up, the proportion of individuals who took a prostate-specific antigen (PSA) test increase significantly with age ($p < 0.0001$). Individuals in the 65 and up age group reported the highest proportion for taking that test over the 12 months before the survey with 72.4% (Figure 2).

Figure 2: Proportion of men aged 40 and up who took a PSA test over the 12 months before the survey, based on age group, First Nations of Quebec's population (N = 5,239)



† Statistically significant proportion of men who took a PSA test based on age group ($p < 0.0001$).

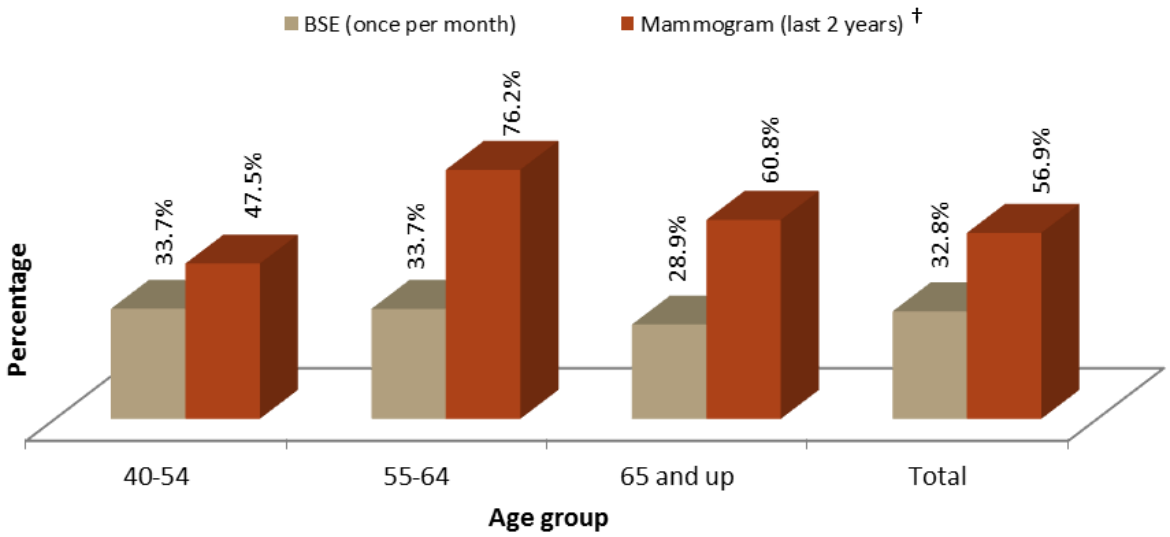
Breast self-examinations (BSE) and mammogram

About a third (32.8%) of women aged 40 and up said that they have performed breast self-examinations at least once per month. Among women aged 40-54 and 55-64, 33.7% said that they have performed breast self-examinations at least once per month. Among women aged 65 and up, 28.9% said that they have performed that test at least once per month. Performing breast self-examinations at least once per month is not statistically related to age (Figure 3).

More than half (56.9%) of women aged 40 and up had a mammogram over the 24 months before the survey. A higher proportion of women aged 55-64 took a mammogram during that same period (76.2%); 47.5% of women aged 40-54 said that they had taken a mammogram over the 24 months before the survey. The difference in the proportions of women aged 40 and up who took a mammogram is statistically significant based on age group ($p < 0.0001$) (Figure 3).

[2] Based on the objectives of the Programme québécois de dépistage du cancer du sein (PQDCS) and scientific literature, a participation rate of over 70% of women aged 50-69 to screening by mammogram allows mortality rates for this type of cancer to decrease (PQDCS, Cadre de référence, 1996). [Online], URL: http://publications.msss.gouv.qc.ca/acrobat/f/documentation/1996/96_005.pdf

Figure 3: Proportion of women aged 40 and up who performed breast self-examinations (BSE) or took mammograms, based on age group, First Nations of Quebec's population, (N = 5,081)*



* The total absolute frequency contains a "other" category (individuals who answered "don't know" or "refused"). That category is not shown in the table.

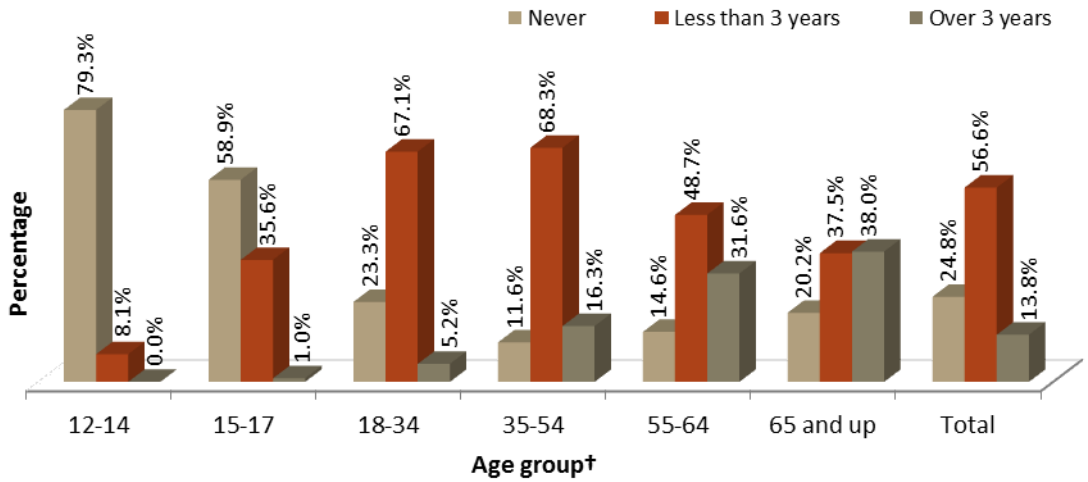
† Statistically significant difference in the proportions of women who took mammograms over the 24 months before the survey and the age group ($p < 0.0001$).

Papanicolaou (PAP smear) test

Figure 4 shows that 56.6% of First Nations women aged 12 and up report having taken the Papanicolaou test (PAP smear) over the 3 years before the survey, 24.8% said that they never took it while 13.8% said that they did over 3 years ago. The highest proportions of women who took the PAP smear test are found in the adult population, among women aged18-34 (67.1%) and 35-54 (68.3%) (Figure 4).

Among women aged 35 and up, the proportions of those who took a PAP smear test over the last three years are inversely proportional to age. Among youths, those proportions increase with age (8.1% for young women aged 12-14 and 35.6% for young women aged 15-17). The proportions of women who took a PAP smear test are statistically different based on age group ($p < 0.0001$) in the youth and adult population (Figure 4).

Figure 4 : Proportion of women aged 12 and up who took a PAP smear test over the 12 months before the survey, based on age group, First Nations of Quebec's youth and adult population (N = 11,367)*



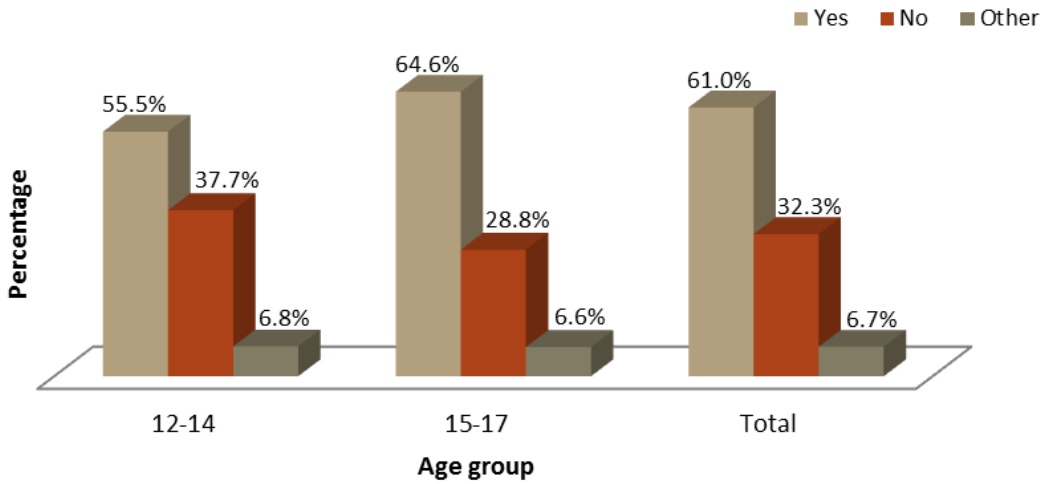
* The total absolute frequency contains a "other"category (individuals who answered "don't know" or "refused"). That category is not shown in the table.

† Statistically significant proportion of men who took a PAP smear test based on age group ($p < 0.0001$).

1.5 Vaccination against the human papilloma virus (HPV)

Among Quebec First Nations female youths, 61% said that they were vaccinated against the human papilloma virus (HPV) over the 12 months before the survey. The proportion of youths who had the vaccine increases with age. In fact, 64.6% of female youths aged 15-17 said that they had the vaccine, compared to 55.5% of youths aged 12-14. However, the data does not allow to differentiate the number of doses taken. HPV vaccination is not statistically associated with age among youths ($p > 0.05$) (Figure 5).

Figure 5: Proportion of youths who were vaccinated against HPV over the 12 months before the survey, based on age group, First Nations of Quebec's youth population (N = 1,766)



* The total absolute frequency contains a "other" category (individuals who answered "don't know" or "refused"). That category is not shown in the table.

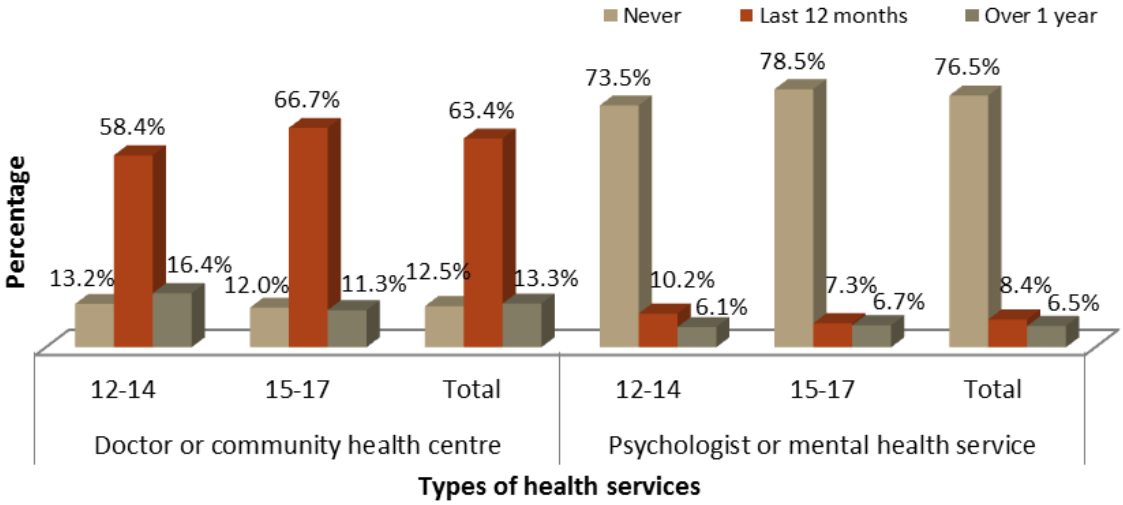
2. OTHER PREVENTION AND SCREENING MEASURES USED AMONG FIRST NATIONS YOUTHS

Consultation with a doctor or psychologist

The First Nations of Quebec's youth population aged 12-17 also used a certain number of health services over the 12 months before the survey. They include consulting a doctor or visiting a health centre (63.5%), consulting a psychologist or using mental health services (8.4%) (Figure 6 and Figure 7).

Over the 12 months before the survey, youths aged 15-17 have reported consulting a doctor more often than those aged 12-14 (66.7% compared to 58.4%). However, 10.2% of youths aged 12-14 and 7.3% of youths aged 15-17 used mental health services. Consulting a doctor or a psychologist does not vary significantly based on age among youths (Figure 6).

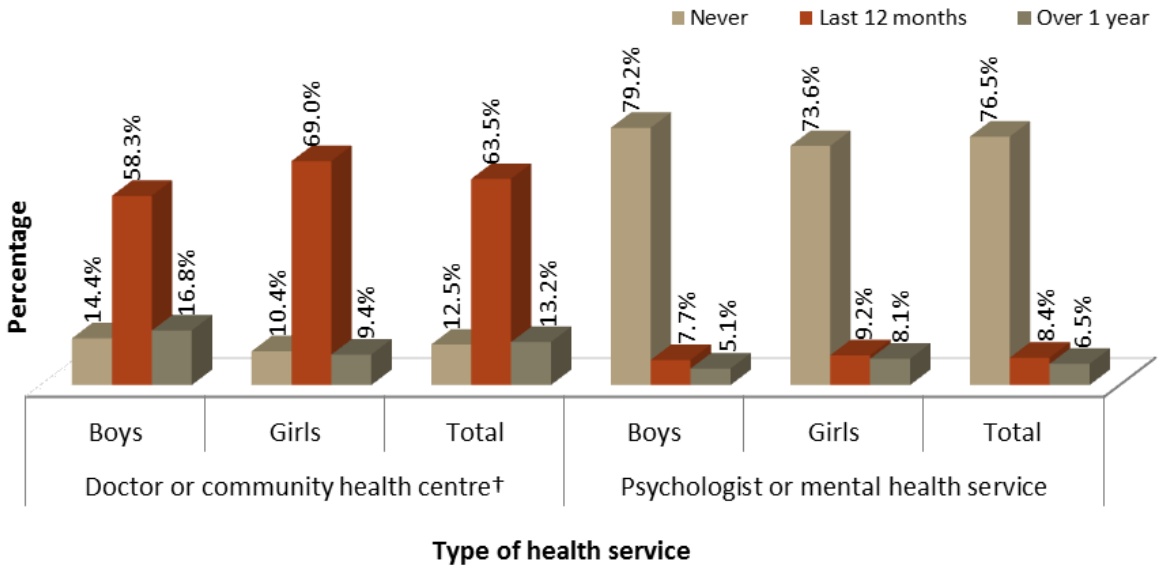
Figure 6: Percentage of youths who used certain health services over the 12 months before the survey, based on age group (N = 3,661)*



* The total absolute frequency contains a "other"category (individuals who answered "don't know" or "refused"). That category is not shown in the table.

Girls are more likely to consult a doctor or visit a community health centre. In fact, more than two thirds of girls (69%) and more than half of boys (58.3%) have consulted a doctor over the 12 months before the survey. In addition, 9.2% of girls have used mental health services, compared to 7.7% of boys. Doctor consultations increase significantly for female youths ($p = 0.02$), while the use of mental health services bears no statistical relation to gender (Figure 7).

Figure 7: Proportion of youths aged 12-17 who used certain health services over the 12 months before the survey, based on gender (N = 3,661)*



* The total absolute frequency contains a "other"category (individuals who answered "don't know" or "refused"). That category is not shown in the table.

† Statistically significant difference for the proportions of individuals who consulted a doctor, based on gender (p = 0.02).

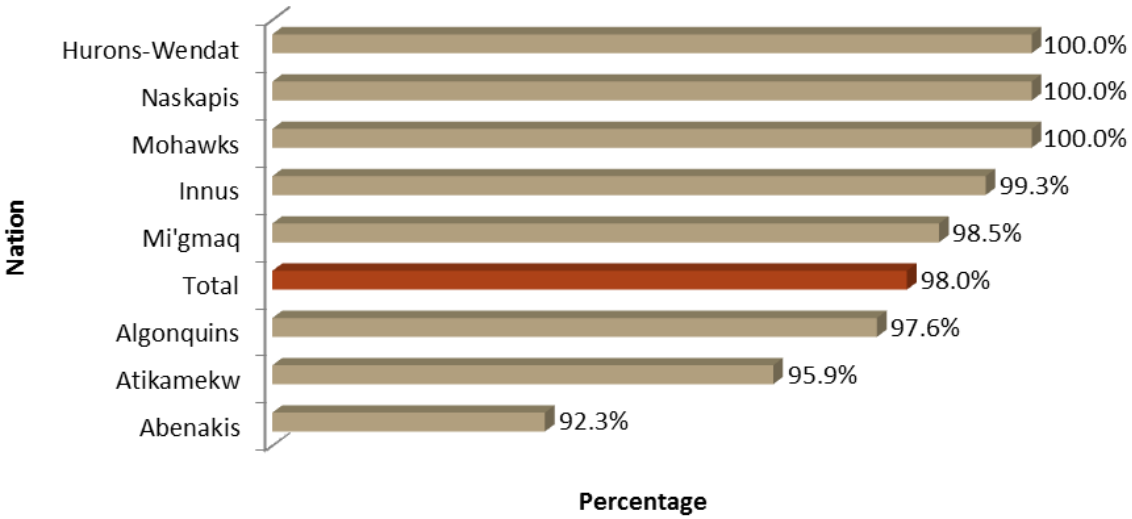
3. PREVENTIVE MEASURES USED AMONG FIRST NATIONS CHILDREN

Routine vaccination

Based on the respondents' affirmations, 98% of Quebec First Nations children have received their routine vaccination (Figure 8).

The distribution of those proportions varies between 92.3% and 100%, based on nation. Hurons-Wendat, Naskapis and Mohawks have the highest proportions (100%) of children who received their routine vaccination. However, Algonquins (97.6%), Atikamekw (95.6%) and Abenakis (92.3%) have the lowest proportions (Figure 8).

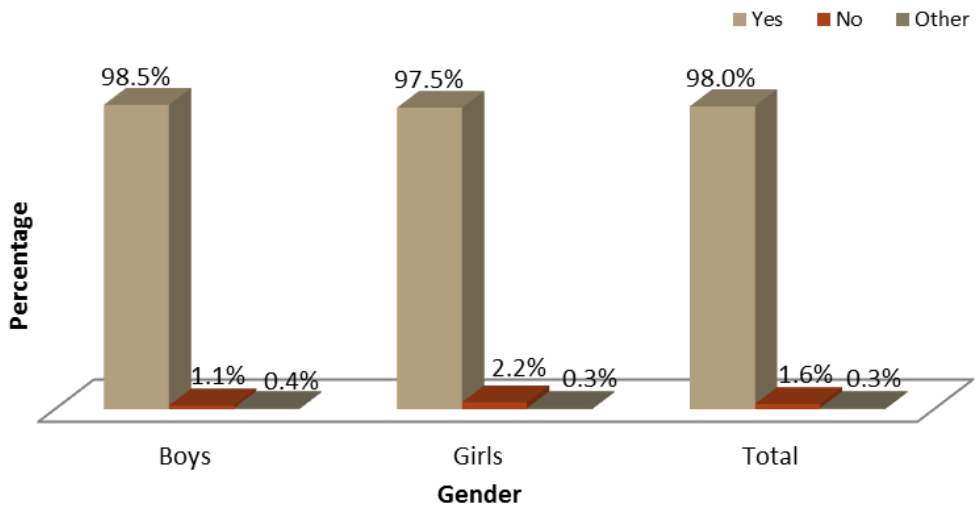
Figure 8: Proportion of children aged 0-11 who received their routine vaccination, based on nation, First Nations of Quebec's chidren population (N = 6,288)*



* The total absolute frequency contains a "other"category (individuals who answered "don't know" or "refused"). That category is not shown in the table. Variations in total absolute frequencies are due to missing data.

Based on gender, 98.5% of girls have received their routine vaccination, compared to 97.5% of boys ($p > 0.05$) (Figure 9).

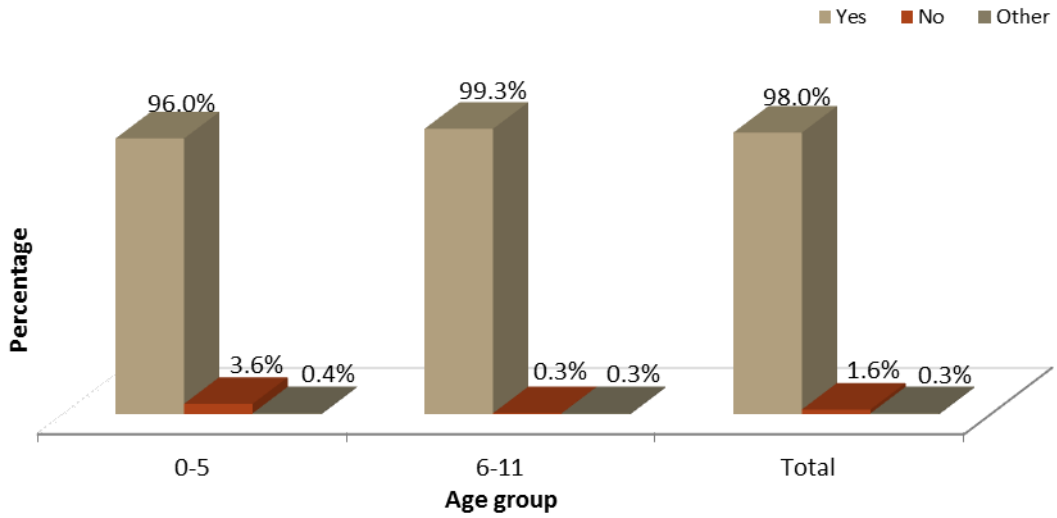
Figure 9: Proportion of children aged 0-11 who received their routine vaccination, based on gender, First Nations of Quebec's children population (N = 6,257)*



* The total absolute frequency contains a "other"category (individuals who answered "don't know" or "refused"). That category is not shown in the table. Variations in total absolute frequencies are due to missing data.

The proportion of children who received their routine vaccination is higher for children aged 6-11 (99.3%) than for children aged 0-5 (96%) (Figure 10).

Figure 10: Proportion of children aged 0-11 who received their routine vaccination, based on gender, First Nations of Quebec's children population (N = 6,288)*

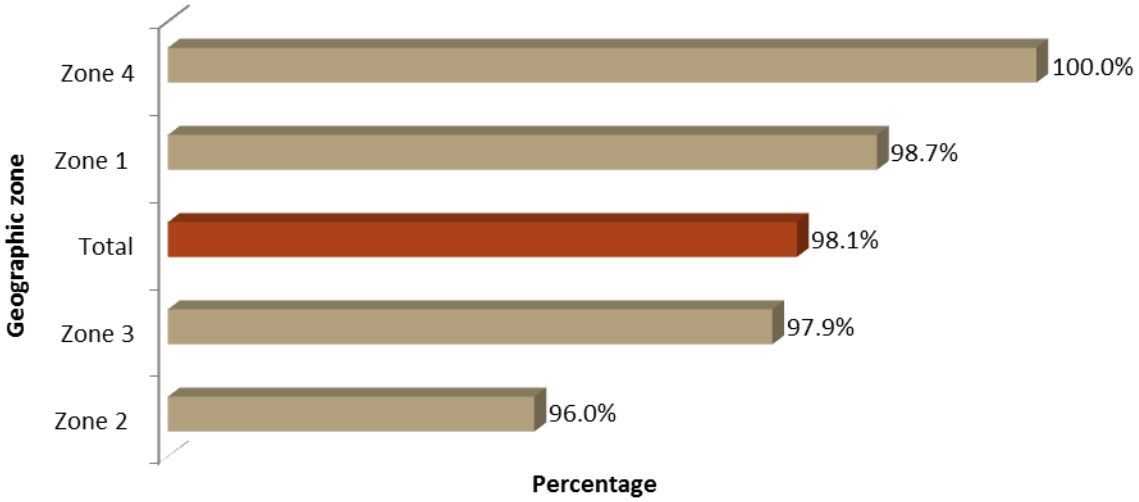


* The total absolute frequency contains a "other"category (individuals who answered "don't know" or "refused"). That category is not shown in the table. Variations in total absolute frequencies are due to missing data.

Routine vaccination and geographic isolation

Based on geographic isolation (Figure 11), the proportions of children who received their routine vaccination are higher in zone 4 (100%) than in zone 1 (98.7%). In zones 3 and 2, those proportions are 97.6% and 96% respectively.

Figure 11: Proportion of children aged 0-11 who received their routine vaccination, based on geographic isolation, First Nations of Quebec's population (N = 724)

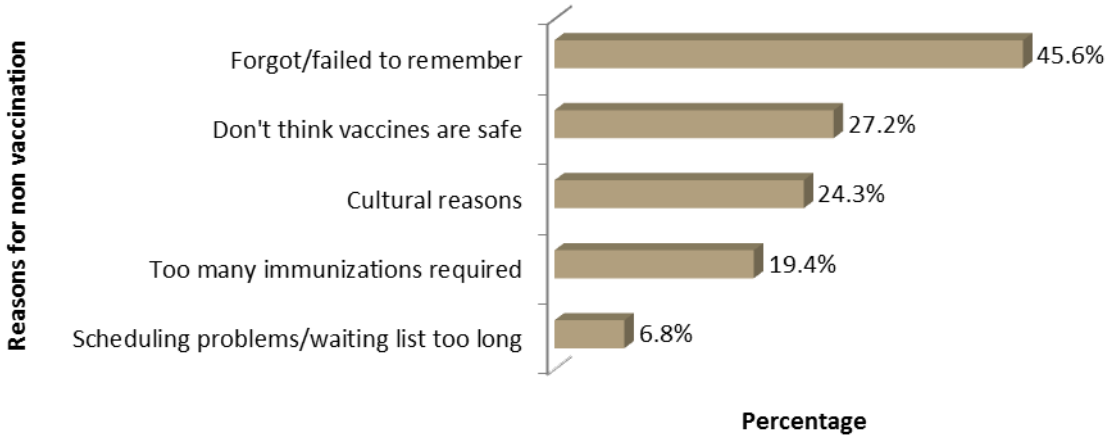


Reasons mentioned for the lack of routine vaccination among children

A population consisting in 103 respondents (1.6% of the total children population) mentioned various reasons to explain why their children had not received their routine vaccination.

Among those reasons, forgetting or failure to remember is the most commonly mentioned (45.6%). Some respondents don't believe that vaccines are safe (27.2%), while other mention cultural reasons (24.3%). The number of vaccines required (19.4%) is also mentioned, as are long waiting lists (6.8%) (Figure 12).

Figure 12: The various reasons mentioned for the lack of routine vaccination among children aged 0-11, First Nations of Quebec's population (N = 103)



DISCUSSION

Survey results comparability issues

Some variables in the 2008 survey are not found in the 2002 survey. This creates a data comparison problem. In addition, missing (or absent) data are found in some data combinations. For example, the blood pressure variable is not found for youths in the 2002 survey. For the comparison of the 2002 and 2008 surveys, we did not take that variable into account. Comparing geographic isolation in the youth population was not possible, due to insufficient absolute frequencies.

The methodology used in the Canadian Survey of Experiences with Primary Health Care differs from that of the First Nations Regional Health Survey (RHS) in terms of target population and questions on medical tests or exams taken over the year before the survey. The questionnaire in the CSE-PHC was focused on individuals with at least one chronic health problem. However, for RHS, the questions were focused on the entire First Nations population aged 12 and up.

Recommendations for medical tests and exams

Routine medical exams such as cholesterol tests, blood sugar tests, blood pressure tests, vision exams and complete physical examinations are aimed at preventing and detecting some chronic diseases such as diabetes, heart diseases, hypertension and other health problems. Most of these exams are recommended at specific intervals and for a specific population.

- Cholesterol tests are recommended once every 5 years or at the doctor's discretion (Proulx and Mercier, 2006).
- For blood sugar tests, the new Canadian Diabetes Association guidelines calls for a laboratory screening every three years for adults over 40 without risk factors, as well as for adults under 40 with cardiovascular risk factors (Adult periodic health examination, 2009).
- For blood pressure tests, the Canadian Hypertension Education Program (CHEP) recommends to perform them at every appropriate medical consultation (Adult periodic health examination, 2009) or annual screening, and at every visit motivated by an acute problem (Proulx and Mercier, 2006).
- Vision exams are recommended on a yearly basis, when possible (Proulx and Mercier, 2006).
- Complete physical examinations are recommended annually (Canadian Task Force on Preventive Health Care (CTFPHC, 1994)).

Frequency of preventive medical tests and exams among First Nations of Quebec, adult and youth population

In the First Nations of Quebec's population aged 12 and up, the proportion of individuals who took medical tests or exams over the year before the survey are much lower than that of the Canadian population. In fact, among that population, 42.3% have reported taking a cholesterol test, 41.8% a vision exam, 54.4% a blood pressure test, 45.8% a blood sugar test and 45.1% a complete physical examination.

According to the Canadian Institute for Health Information (CIHI, 2009), 94% of Canadians said that they had their blood pressure taken over the 12 months before the Canadian Survey of Experiences with Primary Health Care (CSE-PHC, 2009), 82% reported taking a cholesterol test and 80% a blood sugar test (CSE-PHC, 2009)[3].

In Quebec, 92% of adults aged 18 and up said that they had their blood pressure taken over the 12 months before the survey, 80% took a cholesterol test and 81% a blood sugar test (CSE-PHC, 2009).

That increasing trend for medical tests and exams based on age is also seen at the Canadian and Quebec level (Statistics Canada, 2002; Fortin et al., 2011). One of the reasons that could explain this phenomenon is that age is often seen as a risk factor for some diseases (chronic diseases such as cancer, cardiovascular diseases, diabetes, etc.). What characterizes First Nations is the fact that they are more likely than non-Aboriginals to be diagnosed with a chronic disease such as diabetes, heart conditions or cancer (Garner et al., 2010). Therefore, it is particularly important to perform those preventive exams regularly for a maximum of individuals within that population, to allow for early detection of anomalies or potential problems that could trigger those diseases.

The results from the 2008 survey show that First Nations women take considerably more health exams and tests than men. Generally, women tend to care more about their health than men, for various reasons. One of the reasons is found in the Health report (Statistics Canada, 2001), in the following terms: "Some factors influence behaviours in terms of health, and they are different for men and women. In a given social context, men and women seem to react differently to similar influences. For instance, 80% of women choose food to maintain a good health or to improve it, compared to 63% of men» (Statistic Canada, 2001). [free translation] The same reason could explain why women tend to take preventive health tests and exams.

In addition, the high rates of some chronic diseases found in First Nations women (high blood pressure, diabetes and its complications) could partly explain the fact that they use preventive health services more frequently than men. As for diabetes, in 1997, the rate of self-declared diabetes among Canadian First Nations men and women was respectively 3.6 and 5.3 times higher than their non-Aboriginal equivalents in terms of age and gender (First Nations Centre, 2004). In the Canadian population, the opposite trend prevails: 6.3% of women suffer from diabetes compared to 7.2% of men (Ross et al., 2010).

[3] The Canadian Survey of Experiences with Primary Health Care (CSE-PHC) is cosponsored by the Canadian Institute for Health Information (CIHI). The survey is led by Statistics Canada, the sample is made of sub-samples of respondents from the Canadian Community Health Survey (CCHS), cycle 4.1 from 2007. The population is made of Canadians aged 18 and up. Residents of First Nations reserves, full-time member of the Canadian Forces, inmates and inhabitants of remote areas were excluded from this survey.

First Nations youths are also affected by diabetes, especially type 1 (juvenile diabetes). Based on the results of the First Nations health study, 13.4% of First Nations youth have this diabetes, compared to 4.2% for non-Aboriginals (Garner et al., 2010). The prevalence of diabetes among First Nations youth could explain the use of certain medical tests or exams, such as blood pressure tests, blood sugar tests and cholesterol tests.

Globally, the proportions among First Nations for preventive care are by far inferior to those of the Canadian and Quebec population in general. While one can argue that personal, cultural and socioeconomic factors can explain this, the interpretation of preventive care data and access to health services among First Nations can certainly give a better vision of the fact that this population doe not use those services much, in spite of the high prevalence.

Based on education level and household income, the trends in terms of routine medical tests and exams are the same, both for First Nations and the general Canadian population. That trend is normally observed for the risks of developing certain diseases in relation to some socioeconomic characteristics such as education and income. In the literature, economically distressed people are generally more exposed to some diseases than those with a higher socieconomic level (Pampalon et al., 2009). Some studies suggest that individuals with a low education level or low household income report receiving a diagnosis for at least one chronic health problem. However, the percentages for First Nations are often higher (Garner et al., 2010; Auger and Légaré, 2008).

Based on geographic isolation, the results show that zone 1 (urban zone) and zone 4 (hard to access) have the highest proportions of individuals who report taking medical tests and exams. If living in an urban zone means an easier access to and availability of health care, the same cannot be said for remote areas, at least for the results of this survey. The fact that health services are either developed locally due to isolation, or service providers visiting these areas could explain this phenomenon. For the latter, inhabitants tend to use the services more due to the fact that they are not continuously available. A study on health infrastructures (community centres, dispensaries, health services, etc.) available in remote or hard-to-access areas will verify that finding. In addition, it would be interesting to address this chapter based on the results of the one on service access.

Cancer screening for women

Breast self-examination (BSE)

Breast self-examination is a "systematic self-examination and palpation technique for breasts and armpits. There is no conclusive evidence in terms of the most efficient technique, the best teaching methods or the optimal frequency" (Baxter et al., 2001) [free translation]. Many studies focused on the efficiency of BSE in the reduction of deaths due to breast cancer, but the results are not definitive and recommendations vary; this leads to contradictory recommendations for women aged 40-69 to perform this test between the various organizations (Baxter et al., 2001).

The results from RHS 2008 show that the proportions of First Nations women who performed breast self-examination at least once per month increase from age 40 to age 65.

Breast cancer screening by mammogram

In 2009, 22,700 Canadian women were diagnosed with breast cancer (Shields and Wilkins, 2009). Breast cancer is a major cause for morbidity and death among women, both in Quebec and Canada. Early screening is done via mammogram. The mortality rate for breast cancer decreases among women aged 50 and up who take a screening mammogram every two years. The Quebec breast cancer screening program for women aged 50-69 was implemented in 1998. Its objective is to reach a participation level of 70% of target women, which would reduce the mortality rate due to breast cancer by 25%. If breast cancer is also widespread among women aged 40-49, the efficiency of mammograms among younger women has yet to be proved. That age group is not subject to systematic screening in Quebec (Ringash, 2001; MSSS, 1996, INSPQ, 2006).

Among First Nations women aged 40 and up, the results from the 2008 survey show that the proportions of individuals who passed a mammogram over the two years before the survey are higher for women aged 55-64 (76.2%)[4] and 65 and up (60.8%) than for women aged 40-54 (47.5%). It should be noted that the nature of the mammogram exam (screening or diagnosis mammogram) was not specified in the survey.

The mammogram coverage for First Nations women aged 40 and up (56.9 %) seems to be smaller than for the general population (Canadian and Quebec). In the entire province, the mammogram coverage was 63.4% in 2003-2004 and 73.9% in 2009 among women aged 50-69 (INSPQ, 2006; Shields and Wilkins, 2009). In Canada, 72.5% of target women had a mammogram (Shields and Wilkins, 2009). Based on the 2003 Cree survey, 40% of women aged 40 and up had a mammogram (Auger and Légaré, 2008).

Cervical cancer screening

After breast cancer, cervical cancer is the second deadliest type of cancer among women aged 20-44 (SCC & INCC, 2005). The cervical cancer can however be avoided by early screening. The Papanicolaou (PAP smear) test is the screening method used to detect early signs of that cancer. In Quebec, the screening guidelines for that type of cancer among sexually-active women aged 21-65 were developed by the health department in late 2011.[5]

An annual screening test is recommended for sexually-active women or women aged 18 and up. After two negative tests, one screening every three years is recommended until the age of 69 (Morrison, 1994).

Among First Nations aged 12 and up, the RHS 2008 results show that the percentage of women who declared having taken a PAP smear test over the three years before the survey increases starting from the 15-17 age group to the 35-54 age group. Globally, that population corresponds to the target population for the cervical cancer; the other component is composed of early sexual activity, which is certainly noted among youths in terms of age group, including the 12-14 category.

[4] Based on the objectives of the *Programme québécois de dépistage du cancer du sein* (PQDCS) and scientific literature, a participation rate of over 70 % of women aged 50-69 to screening by mammogram allows mortality rates for this type of cancer to decrease (PQDCS, Cadre de référence, 1996). [Online], URL: http://publications.msss.gouv.qc.ca/acrobat/f/documentation/1996/96_005.pdf

[5] http://www.radio-canada.ca/regions/Quebec/2011/11/22/005-depistage-cancer_col_uterus-lignes_directrices.shtml

Based on the 2003 Cree survey, two thirds (66.7%) of Cree women took a PAP smear test over the three years before the survey (Auger and Légaré, 2008), while 82% of Inuit women took it over the two years before the survey (Anctil, 2008).

The Quebec data on PAP smear shows the same trends for the proportions of women who took that test, based on age group. However, the proportion of Quebec women who took that test over the last three years (71.2%) is much higher than that of First Nations of Quebec women (56.6%) (INSPQ, 2006).

Vaccination against the human papilloma virus (HPV)

The HPV vaccine targets the two types of HPV oncogenes 16 and 18. The vaccine is recommended during youth. While the efficiency of the vaccine is proven for those two types of oncogenes (only 70% of cervical cancers are caused by types 16 and 18), it is mostly recommended that vaccinated women keep taking screening tests (Kliwer et al., 2010).

Based on the Kliwer study (Kliwer et al., 2010), "the HPV infection rates, the incidence rates for the cervical cancer and mortality due to cancer are higher for Aboriginal women compared to non-Aboriginal women. In addition, the HPV epidemiology among Aboriginals is not well known" (Kliwer et al., 2010).

The RHS 2008 results show that more than half of youths aged 12-17 did get the vaccine.

Consultation with a doctor or psychologist

Among the First Nations of Quebec youth population, the RHS 2008 results show that 69% of girls and 58.3% of boys consulted with a doctor over the 12 months before the survey. In addition, 9.2% of girls have used mental health services, compared to 7.7% of boys. The survey could not find out the reason for those consultations (general health) and the types of services received (following distress, suicidal thoughts, etc.).

Prostate cancer screening through a prostate specific antigen (PSA) test for men

In 2002, 18,200 Canadian men were diagnosed with prostate cancer, and 4,300 died from it. Prostate cancer is the second most common type of cancer among Canadian men, after lung cancer. "The progress in terms of screening and early diagnosis for prostate cancer, especially the prostate specific antigen (PSA) test, has contributed to the high fluctuations of the incidence rate. The eventual effect of the generalization of the PSA test is subject to much controversy" (Gibbons and Waters, 2003).

The RHS 2008 results show that the proportions of First Nations men aged 40 and up who said that they had taken this test over the last 12 months increases with age, with higher percentages among elders.

The Canadian and Quebec data show similar trends. In 2000-2001, 43% of Canadians aged 40 and up said that they had taken a PSA test. Among men aged 70-79, 67% said that they had taken that test (Gibbons and Waters, 2003). The proportions of Canadians who took a PSA test are higher than those found among the First Nations of Quebec; however, in the Quebec population, 38.3% of men aged 50 and up took that test, which is lower than the proportions found in First Nations for that test (INSPQ, 2006).

CONCLUSION

A little over half of the First Nations of Quebec youths and adults said that they had taken a blood pressure test over the 12 months before the survey. About two out of five youths and two out of five adults said that they took a cholesterol test, a vision exam, a blood sugar test and a complete physical examination. Among adults, the proportion of individuals who have taken tests of exams increases with age. The proportions of individuals who took medical tests and exams increase with education and household income.

Among men aged 40 and up, the proportion of individuals who took a prostate-specific antigen (PSA) test increase with age. Among women aged 40 and up, a little over half say that they had a mammogram over the 24 months before the survey. A little over half of the female population aged 12 and up said that they took the Papanicolaou (PAP smear) test. Two out of three female youths said that they had the human papilloma virus (HPV) vaccine and consulted a doctor.

Almost all children had their routine vaccination, according to their respondents, over the 12 months before the survey.

The risks of chronic diseases are greater for First Nations than for the rest of the general population. A number of circumstances and characteristics can explain this, including the access to health care services and their use, the knowledge, attitudes and beliefs in terms of health, social factors and genetic predispositions. In the *Quebec First Nations Health And Social Services Blueprint, 2007-2017, Closing the gaps... Accelerating change* (FNQLHSSC, 2008): "Accessibility to conventional health care constitutes a major issue for the First Nations and varies from one community to the next". The accessibility to health care problems results, among other things, in an alteration of the health and quality of life for those populations. The Blueprint aims at solving access problems to continued health care among First Nations communities, and rehabilitating health prevention and promotion.

To insure the best use of preventive care by First Nations, emphasis should be put on awareness in terms of health risks and the relationship between those factors and certain characteristics such as household income and education level, but also on the promotion of healthy life habits and behaviours. The results shown in this chapter are a current and accurate source of information to support the decision-making process and review of existing programs to address that population's public health issue, as mentioned in the Blueprint.

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