RHS

QUEBEC FIRST NATIONS
REGIONAL HEALTH SURVEY

FIRST NATIONS OF QUEBEC
AND LABRADOR **HEALTH**
AND SOCIAL SERVICES
COMMISSION

CSSSPNQL • FNQLHSSC

METHODOLOGY

CONTEXT

Purpose of the survey

The purpose of the third phase of the First Nations Regional Health Survey (RHS) is to describe the health of the population in First Nations communities in the Quebec region. The main objectives of the RHS are to provide scientifically and culturally valid information and to improve the expertise of the First Nations in the area of research. The findings of the RHS will provide decision-makers and professionals in First Nations communities and organizations with access to high-quality, evidence-based information.

Origins of the survey

The RHS is a cross-sectional survey on research by and for the First Nations in Canada. Entirely conducted by First Nations, it is an innovative endeavour in terms of the involvement of the communities in the process, ethics and decolonization of research.

The process that led to the creation of the RHS began in 1994, when the federal government decided to exclude members of First Nations living in communities from its three major national surveys. A collective of First Nations advocates and academics launched a plan for a new national survey of First Nations health, designed by and for First Nations. In 1995, this initiative led to the establishment of a national steering committee, with a view to seeking financing, recognition and respect. In 1996, the Chiefs' Committee on Health of the Assembly of First Nations mandated the First Nations Information Governance Committee to conduct a survey of the health of First Nations living in the different regions of Canada. In 1997, these efforts culminated in the launch of the pilot RHS, which included both the First Nations and the Inuit (with the exception of the Inuit in Quebec, who were not included). The plan was for new phases of the survey to follow every five years, to permit the assessment of the evolution of First Nations health over time. The Inuit withdrew from the RHS after the pilot survey. Phase 1 of the RHS was finally carried out in 2002, followed by phase 2 in 2008 and phase 3 in 2015 **(FIGURE 1)**. The mandate conferred by the Chiefs' Committee has evolved since the beginning of the RHS. In December 2009, the Assembly of First Nations approved the creation of the First Nations Information Governance Centre (FNIGC), which has been the body responsible for coordinating the activities of the RHS at a national level since 2010.

FIGURE 1
RHS Cycle

1997	2002	2008	2015	2021
RHS pilot Completed	Phase 1 of the RHS Completed	Phase 2 of the RHS Completed	Phase 3 of the RHS Completed	Phase 4 of the RHS In preparation

The RHS is the fruit of a joint effort by the First Nations, citizens living in communities, 10 regional First Nations organizations, and the FNIGC. The leadership of the First Nations at community, regional and national levels has contributed to the success of the RHS. This survey was conducted in 10 regions of Canada with participants living in more than 250 First Nations communities. The FNIGC coordinates RHS activities nationally, while the First Nations of Quebec and Labrador Health and Social Services Commission (FNQLHSSC) coordinates the development and deployment of the survey in Quebec. The FNIGC's mandate also includes a national assessment (as well as methodology and ethics quality control) of the processes of the various RHS cycles.

Ethical considerations

In Quebec, the RHS process complies with the *First Nations in Quebec and Labrador's Research Protocol*.[1] The chiefs of the Assembly of First Nations Quebec-Labrador have adopted a research protocol in order to set out their position on research carried out with their population and on their territory. The values and principles expressed in this protocol seek to encourage a spirit of cooperation and mutual respect between researchers and First Nations people.

Nationally, the survey respects the code of ethics of the RHS[2]. An ethical assessment is performed for each phase of the RHS.

The RHS respects and applies the principles of ownership, control, access and possession (OCAP®) developed by the FNIGC. The application of these principles is a mechanism to protect First Nations' information and knowledge.

> These principles are about collective ownership of information by a community, a nation or a group. They expand to research, population studies, surveys, documentary monitoring, information management systems and cultural knowledge. They target all aspects of information, including its creation and management. These principles apply to all kinds of research and all research fields which take place on First Nations territories or concern First Nations.[1]

Regional advisory committee

To guide RHS-related activities, the FNQLHSSC's survey team established a regional advisory committee. The committee's mission was to guide work on the RHS by the FNQLHSSC's Research Sector in accordance with the mission and orientations of the FNQLHSSC.

METHODOLOGY

Design of survey

The RHS is a descriptive, cross-sectional survey that aims to create a profile of the health of individuals living in First Nations communities. To ensure that a sufficient diversity of participants were reached in each of the target sub-populations, separate standardized questionnaires were designed for children (age 11 and under), adolescents (ages 12 to 17) and adults (18 and over). The main advantages of descriptive research are its rapidity, simplicity and low cost, as well as the possibility of standardizing the information to facilitate analysis and comparison.

Questionnaires

The RHS covers a wide variety of topics relating to the First Nations. The "child," "adolescent" and "adult" questionnaires include a series of questions of national interest addressed to all First Nations communities in Canada. Many of these questions were taken from other national surveys, including the Canadian Community Health Survey. This approach enables comparisons between First Nations and the general Canadian population. The RHS questionnaires targeting communities in Quebec include additional questions that take into account aspects and issues specific to this region. TABLE 1 provides an overview of the topics addressed in the different RHS questionnaires.

TABLE 1
Topics addressed in the RHS questionnaires

Topics	Children 11 years and under	Adolescents 12 to 17 years	Adults 18 years and older
Vaccination	●		
Childcare services	●		
Special needs (health, education)	●		
Sociodemographic characteristics	●	●	●
Household characteristics	●	●	●
Education	●	●	●
Language, culture and traditions	●	●	●
Food	●	●	●
Physical activity	●	●	●
Exposure to screens	●	●	●
Perceived health	●	●	●
Chronic health problems	●	●	●
Diabetes	●	●	●
Overweight and obesity	●	●	●
Oral health	●	●	●
Maternal and child heath	●	●	●
Access to health care and services	●	●	●
Exposure to second-hand smoke	●	●	●
Residential schools and placement	●	●	●
Injury	●	●	●
Transportation safety		●	●
Community wellness		●	●
Sexual health		●	●
Demographics		●	●
Individual mental health and wellness		●	●
Tobacco, alcohol and drugs		●	●
Internet use		●	●
Gambling			●
Employment and income			●
Food security			●
Housing			●
Geographic mobility (migration)			●
Home care			●
Preventive healthcare			●
Elder abuse			●

The questionnaires were computerized. Field agents used portable computers as their primary tool in which all the data was recorded and encrypted.[1] Interviewers administered the "child" and "adult" questionnaires, while respondents filled out the "adolescent" questionnaires out independently. Computerization made the collection and entry of data easier.

Recruitment and training of interviewers

Data collection was carried out by 62 interviewers recruited from participating communities, with the collaboration and support of resource persons in the communities. A mobile team was also created by recruiting 10 mobile interviewers, 8 of whom went out on the field at least once.

All the interviewers received training on the following subjects:

Conducting a population survey

– Why conduct a survey?

– The stages of a population survey

Data collection

Before the interview

– Samples: finding and communicating with respondents

– Introducing yourself and presenting the survey

During the interview

– Understanding how the material and procedures work

– The importance of confidentiality

– Informed consent

– The questionnaire: knowing and understanding it

– Difficult situations and respondents

After the interview

– Follow-up procedures

The FNQLHSSC's survey team followed up on the interviewers' work on a weekly basis. If interviewers had not been able to reach the planned number of respondents in a given community, a mobile team of interviewers went on-site to conduct interviews and ensure the planned number of respondents were interviewed.

1 Encrypted = coded so that the data may be accessed only by people with the key or password necessary for decoding.

Survey sample

The RHS used a two-stage stratified sample that included all the First Nations in Quebec except for the Cree. The populations invited to participate had to have at least 75 inhabitants living in the same community.

First stage

Classification of the communities of each nation into the following strata, according to size: small (between 75 and 299 residents); medium (between 300 and 1,499 residents); large (1,500 residents and up). Communities needed at least 75 residents to be eligible. Communities were then selected from each stratum at random. To increase statistical power, all the large communities were invited to participate in the RHS. If a stratum was represented by a single community of a given nation, it was automatically invited to participate in the survey.

Second stage

Distribution of the population of the selected communities among eight strata defined by 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 and older/male
STRATUM 8: 55 years and older/female

Individuals were then selected from each stratum at random. The selection process was carried out using the band lists of each of the participating communities.

Communities invited to participate in the RHS could choose between two sampling strategies.

- **Minimum sampling:** Communities could conduct a sufficient number of interviews to perform analyses that were reliable regionally and nationally, but not on a community scale.

- **Oversampling:** Communities could conduct a number of interviews beyond the minimum threshold, thereby producing reliable regional, national and community analyses, but incurring additional costs that had to be covered by the community.

The target number of recruited communities was 100% achieved. The target number of questionnaires filled out at a regional level was 96% achieved. Taking the oversampling preferred by some of the communities into account, the objective was 95% achieved.

The data were collected from February 2015 to May 2016 in 21 communities from 8 nations **(TABLE 2)**. The RHS is based on a sample of 3,261 individuals (825 children, 769 adolescents and 1,167 adults), which is approximately 9% of the population targeted by the survey (36,531 individuals).

TABLE 2
List of communities participating in the 2015 RHS, by nation

Nation	Community
Abenaki	Odanak
Algonquin	Kebaowek Pikogan Timiskaming Kitigan Zibi Lac-Simon
Atikamekw	Wemotaci Opitciwan Manawan
Huron-Wendat	Wendake
Mi'gmaq	Gesgapegiag Listuguj
Mohawk	Kanesatake Kahnawake
Innu	Essipit Matimekush-Lac-John Nutashkuan Pessamit Uashat mak Mani-Utenam Mashteuiatsh
Naskapi	Kawawachikamach

TABLE 3 presents the distribution of respondents within the different nations, according to the size of the communities included in the 2015 RHS.

TABLE 3
Overview of 2015 RHS final sample

Nation	Size of communities	Survey sample	Population	Proportion of population interviewed
Abenaki	**Medium**	**40**	**307**	**13%**
Algonquin	Small	40	263	15%
	Medium	205	2,468	8%
	Large	346	2,562	14%
	Total	**591**	**5,293**	**11%**
Atikamekw	Medium	138	1,169	12%
	Large	342	4,440	8%
	Total	**480**	**5,609**	**9%**
Huron-Wendat	**Medium**	**115**	**1,491**	**8%**
Mi'gmaq	Medium	56	601	9%
	Large	160	1,825	9%
	Total	**216**	**2,426**	**9%**
Mohawk	Medium	108	821	13%
	Large	616	7,901	8%
	Total	**724**	**8,722**	**8%**
Innu	Small	94	215	44%
	Medium	285	3,628	8%
	Large	680	8,083	8%
	Total	**1,059**	**11,926**	**9%**
Naskapi	**Medium**	**36**	**757**	**5%**
Total		3,261	36,531	9%

Weighting of observations

The data presented in the various RHS booklets are weighted so that the results reflect an estimate of the total population of Quebec First Nations living in communities. The weighting, determined on the basis of the band lists, takes into account the nation and size of the community, as well as the gender and age of the respondents.

Data analysis

The data gathered for the RHS were used to draft a regional report structured into 20 separate booklets, which are outlined in TABLE 4.

TABLE 4
List of thematic booklets

Sociodemographic and socioeconomic conditions	**1**	Sociodemographic characteristics
	2	Employment, income and food insecurity
	3	Education
	4	Language, culture and traditional food
Physical and social environment	**5**	Housing
	6	Accessibility and use of health services
	7	Home care
	8	Mobility and community wellness
Lifestyle habits and behaviours	**9**	Smoking
	10	Alcohol, drugs, cyberaddiction and gambling
	11	Food and physical activity
Overall health and wellness	**12**	Health status and chronic health problems
	13	Diabetes and obesity
	14	Individual wellness, mental health and elder abuse
	15	Unintentional injuries and transportation safety
	16	Sexual behaviours and prevention
	17	Oral health
	18	Preventive health services
	19	Residential schools and placement
	20	Maternal and child heath

Each booklet was designed with the aid of an analysis plan that had received the prior approval of an expert committee. The committee included content experts familiar with the topics addressed and the needs for information on these topics. Regardless of the issues identified by the expert committee, all the analysis plans included, where possible, a description of:

1 the general trends observed in the 2015 RHS in the topics addressed;

2 the development of these trends over time (from the 2002 RHS to the 2015 RHS);

3 specific trends observed in the 2015 RHS in certain sub-populations.

Some results having to do with specific trends were presented separately according to age, gender, education level, income level or geographic area. The "zoning" system, developed by Indigenous and Northern Affairs Canada, refers to the degree of remoteness of a community, as set out in TABLE 5.

TABLE 5
Definition and distribution of geographic zones in the RHS[3]

Zone	Définition	Communities
Zone 1 (urban)	The community is located within 50 km of the nearest service centre† with year-round road access.	Pessamit Pikogan Uashat mak Mani-Utenam Essipit Kahnawake Kitigan Zibi Listuguj Gesgapegiag Kanesatake Mashteuiatsh Lac-Simon Wendake Odanak Timiskaming Wolinak‡ Barriere Lake‡
Zone 2 (rural)	The community is located between 50 km and 350 km of the nearest service centre† with year-round road access.	Wemotaci Kebaowek Manawan Winneway‡ Kitcisakik‡ Ekuanitshit‡
Zone 3 (remote)	The community is located more than 350 km of the nearest service centre† with year-round road access.	Opitciwan Nutashkuan
Zone 4 (special access)	The community has no year-round road access to a service centre†.	Matimekush–Lac-John Kawawachikamach Pakua Shipi‡ Unamen Shipu‡

† Service centre: The nearest location where community members must go to access service providers, banks and government services.
‡ Communities that did not participate in the 2015 RHS (other than Cree nation communities): Wôlinak, Barriere Lake, Winneway, Kitcisakik, Ekuanitshit, Pakua Shipu, Unamen Shipu.

Other analyses were performed per sub-group according to risk factors and protective factors documented when the analysis plans were designed, based on scientific literature and recommendations of the expert committee.

STATISTICAL ANALYSES

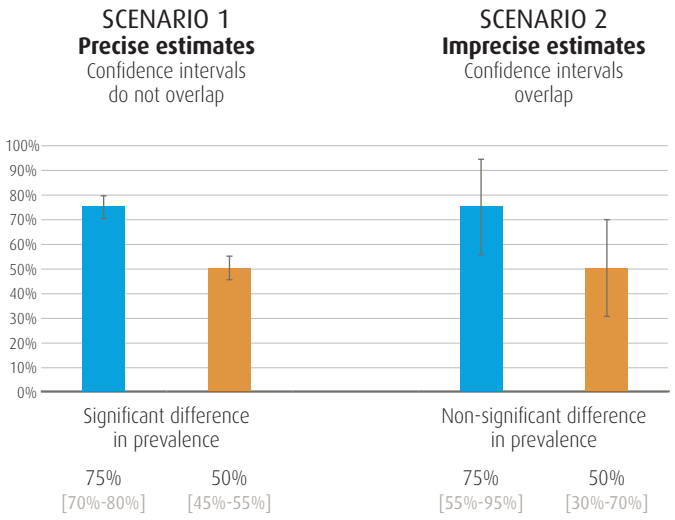
Precision of estimates

All estimates with a coefficient of variation lower than 16.6% are published without restriction. Estimates with a coefficient of variation between 16.6% and 33.3% are presented with an asterisk (*) to indicate that they must be interpreted with caution. Estimates with a coefficient of variation greater than 33.3% are not published and are replaced with a double asterisk (**). Because the coefficient of variation is very sensitive and tends towards very high values when the estimates are near 0, estimates of 5% and less with a coefficient of variation greater than 33.3% may be published in some cases but must be interpreted with caution.

Because the calculation of estimates is based on a fraction of the First Nations population living in communities in Quebec (approximately 10% of the population of participating communities), there may be a deviation between actual trends and trends estimated from the sample. Therefore, estimates are presented with their 95% confidence interval (95% CI). This interval represents a range of values with a high probability (95%) of containing the actual value of the parameter addressed in the total population. In the bar or line charts presented in the various RHS booklets, intervals are generally indicated with dashes or square brackets. The difference between the two estimates is considered "statistically significant" when the confidence intervals of the two estimates do not overlap (BOX 1).

BOX 1
95% Confidence Intervals (95% CI)

The figure below shows how the confidence intervals were used to guide the interpretation of the results in the different RHS booklets.



The estimated percentages are identical in both scenarios. The blue bars display percentages of 75% and the orange bars display percentages of 50%. The deviation in estimated percentages is therefore always the same (75% – 50% = 25%). However, the precision of the estimates is higher in the first scenario than the second, so it can be stated with confidence that the percentages are different in the first case but not in the second:

– SCENARIO 1 **(Precise estimates):** In the population targeted by the analysis, it is almost certain that the percentage represented by the blue bar is between 70% and 80% and that the percentage represented by the orange bar is between 45% and 55%. These intervals do not overlap. It is almost certain that an actual difference exists between these two percentages in the population targeted by the analysis.

– SCENARIO 2 **(Imprecise estimates):** In the population targeted by the analysis, it is almost certain that the percentage represented by the blue bar is between 55% and 95% and that the percentage represented by the orange bar is between 30% and 70%. These intervals overlap. It cannot be stated with confidence that there is a real difference between these two percentages in the population.

Treatment of nonresponses

The respondents had the option of answering "I don't know" or "I refuse to answer" to most questions in the RHS questionnaire. In most cases, nonresponses are not considered in the analyses. However, they are considered when they reveal relevant information, in particular the presence of a potential social desirability bias (e.g., when the questions concerned sexual behaviour).

DRAFTING PROCESS

Terminology

In the context of the RHS, the term "community" is used to represent "Indian reserves." The term "Indian reserve," although created by the federal government and officially recognized, is perceived as pejorative and is therefore replaced with "community."

Review committee

A review committee oversees the production of each thematic booklet (the composition of the different committees is described in the credits page of each booklet). The committee's role is to review the quality of the analyses, as well as the interpretation and presentation of the results.

The committee includes FNQLHSSC members or collaborators who are familiar with the key issues of the topics addressed. Committee members ensure that the booklets present content that is relevant and adapted to the needs of the First Nations in Quebec. The committee is involved in the entire drafting process, from the creation of the analysis plans to the drafting and validation of the final versions of the booklets. At the end of the drafting process, the committee reviews the booklets and makes recommendations to ensure the relevance of the content they present.

Limitations

The RHS is a Canada-wide survey. Because everyday realities, politics and health and wellness structures differ from one region and territory to another, a regional component partially compensates for this limitation by adding questions that specifically target the Quebec region. The number of such questions is limited, however, so as not to unduly lengthen an already long questionnaire. Moreover, some questions deal with sensitive topics, and their answers may therefore be subject to social desirability bias or memory bias.

Some questions were given to certain population sub-groups only. Where the number of observations was insufficient, results are not presented or are presented with a note urging readers to interpret the results with caution.

Limitations of the representativeness of the data

TABLE 6 shows the evolution of communities participating in the RHS since the 2002 RHS. This information makes it possible to identify certain limitations of the generalizability of results.

Limitations of the interpretation of temporal tendencies: The variations in sampling plans observed in the different phases of the survey encourage a cautious interpretation of time variations, given the fluctuation of the sample composition.

TABLE 6
Evolution of participating communities since the 2002 RHS

Nation	Community	2002 RHS	ERS 2008	2015 RHS	Proportion of participating communities in 2015
Abenaki	Odanak	●	●	●	50%
	Wôlinak	●			
Algonquin†	Kebaowek	●	●	●	63%
	Pikogan	●	●	●	
	Timiskaming	●	●	●	
	Kitigan Zibi	●	●	●	
	Lac-Simon	●	●	●	
	Winneway				
	Kitcisakik				
	Barriere Lake				
Atikamekw	Wemotaci	●	●	●	100%
	Opitciwan	●	●	●	
	Manawan	●	●	●	
Huron-Wendat	Wendake	●	●	●	100%
Mi'gmaq‡	Gesgapegiag	●	●	●	100%
	Listuguj	●	●	●	
Mohawk	Kanesatake	●	●	●	100%
	Kahnawake			●	
Innu	Essipit	●	●	●	67%
	Matimekush–Lac-John		●	●	
	Nutashkuan	●	●	●	
	Pessamit	●	●	●	
	Uashat mak Mani-Utenam	●	●	●	
	Mashteuiatsh	●	●	●	
	Pakua Shipu	●	●		
	Unamen Shipu	●	●		
	Ekuanitshit				
Naskapi	Kawawachikamach	●	●	●	100%

† Wolf Lake is not included in the Algonquin nation (no community).
‡ Gespeg is not included in the Mi'gmaq nation (no community).

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