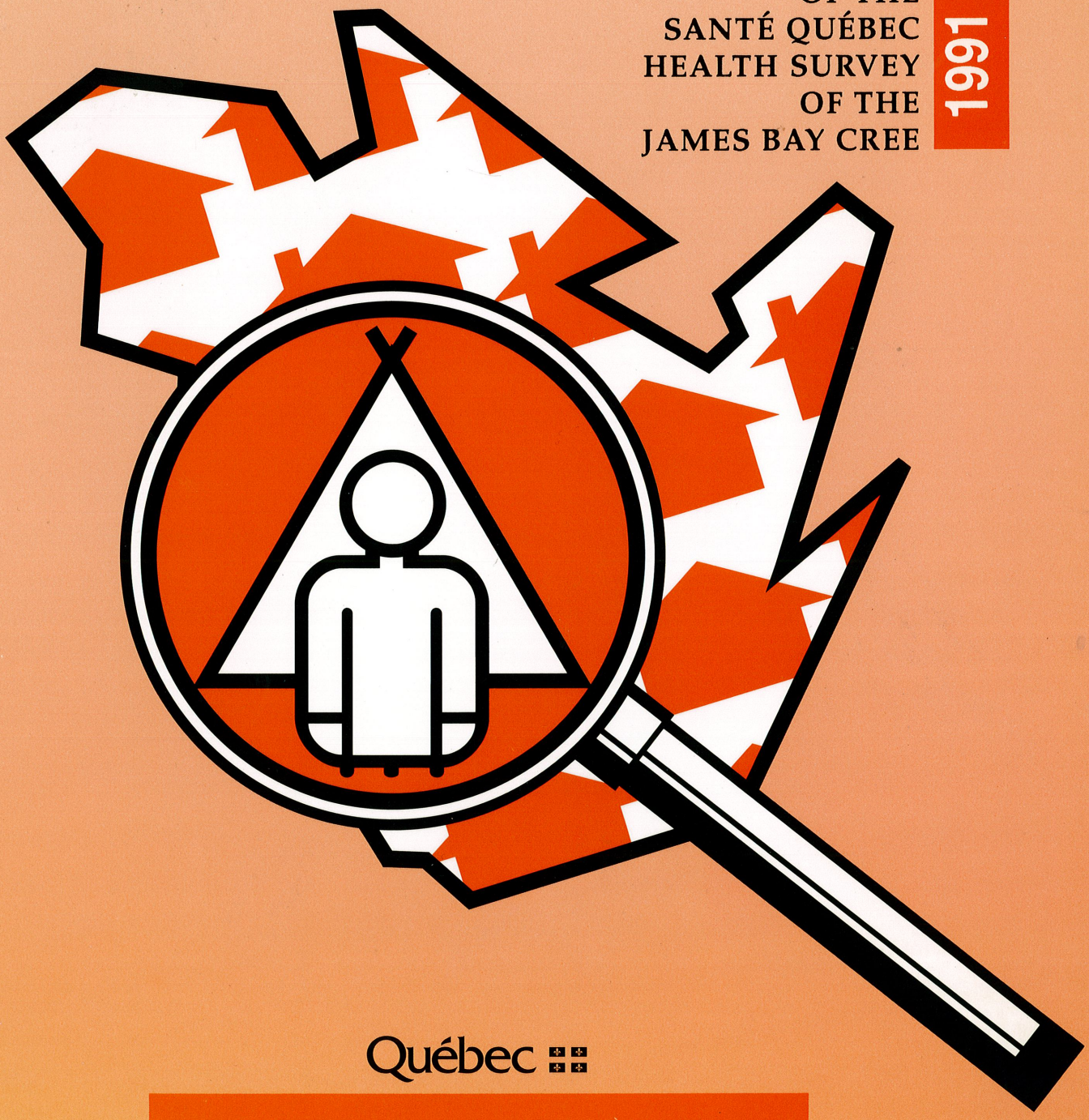
SANTÉ QUÉBEC

A HEALTH PROFILE OF THE CREE

REPORT

OF THE SANTÉ QUÉBEC HEALTH SURVEY OF THE JAMES BAY CREE

1991



Québec

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REPORT OF THE SANTÉ QUÉBEC HEALTH SURVEY OF THE JAMES BAY CREE 1991

Editors: Carole Daveluy, Claudette Lavallée, May Clarkson and Elizabeth Robinson

Gouvernement du Québec
Santé Québec

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Report of the Santé Québec Health Survey of the James Bay Cree 1991

This survey was conducted by Santé Québec with the financial support of the *ministère de la Santé et des Services sociaux (MSSS)* and the National Health Research and Development Program (NHRDP), in collaboration with the Cree Board of Health and Social Services of James Bay, and the Northern Quebec Module of the Montreal General Hospital (MGH).

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PREFACE

By providing the knowledge required for informed program planning, health surveys can make a major contribution to the development of a comprehensive health policy for Quebec. However, it is only in the last few years that Quebec has taken steps to meet the need for reliable data. As recently as 1986-87, the Rochon Commission was critical of the relative lack of indicators on the prevalence or distribution of problems in the population in the area of both health care and social services.[1]

Following the Lalonde report[2], it was recognized that Quebec needed regularly-conducted, province-wide surveys to determine the frequency and nature of health problems, be they physical or mental, acute or chronic. Since 1987, the Santé Québec studies have become building blocks in all planning exercises, both regionally and provincially. Up until then, most of the information had been gathered for administrative purposes or gleaned from studies done outside of Quebec.

The first Santé Québec survey, conducted in 1987, was representative of the general Quebec population, excluding the northern regions. At that time, technical and financial considerations made it impossible to study all regions of the province simultaneously, and at the same level of precision.

The population of Nouveau-Québec, made up essentially of Cree and Inuit, required that a survey-based method of information gathering on health be developed with the interested parties. Northern Quebec is geographically and culturally unlike the rest of Quebec, and the health care and social service profile of its population is quite different from that of the southern Quebecers. Various indications, including the fact that infant mortality rates are two to three times higher than elsewhere in Quebec, suggested that a general health survey would be extremely instructive.

The cost of providing health care throughout the Cree territory justified in itself that efforts be made to gather data on the special risks to which the northern communities are exposed, whether they be social, environmental, individual or collective. It was also important to determine how residents of the region perceived the effects of their health on their daily lives.

It is our hope that the findings of this survey will result in the implementation of prevention

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[1] Report of the Commission of Inquiry on Health Care and Social Services (1988). Publications du Québec, pp. 92-137.

[2] Lalonde, Marc (1974). New perspective on the Health of Canadians, Health and Welfare Canada, 82 pages.

and promotion programs, remedial environmental measures, and other front-line initiatives that are better suited to the reality of the Cree population. By increasing the visibility of social problems experienced by the communities, the survey should give added impetus to new projects and grass-roots involvement through community action supported by the various partners in the health care and social service field. Finally, to the extent that there remain problems of equity among the citizens of Quebec, this study should help to identify them.

As is the case for any investigation of this type, the Cree health survey should not be seen as a substitute for other information systems, but rather as a complement to other sources that should be analyzed as part of an all-encompassing process by local planners. This caveat aside, it must also be recognized that the survey has brought into focus a number of unique characteristics that in themselves merit discussion both within the Cree communities and among all those at the local, regional and departmental level involved in the administration and delivery of health care and social services, and education and environmental protection.

The following report does not claim to be exhaustive, but the comparisons it makes with the data from surveys of other Quebecers raise questions which neither the local, regional nor provincial authorities can ignore. Subsequent analyses by teams of professionals and researchers should round out the portrait of the region and enable us to identify factors with the greatest explanatory value and potential for improving health.

The primary purpose of this study is to give the Cree a better understanding of the health-related conditions and issues that affect them today. The survey will hopefully be repeated so that changes can be monitored and compared to those in the rest of Quebec.

Aline Émond
Director at the time of the survey

Daniel Tremblay
Current Director

ACKNOWLEDGEMENTS

First, we would like to extend our warmest thanks to the 354 Cree households who agreed to participate in this survey and gave so generously of their time.

We would also like to thank our numerous partners, without whom this survey would not have been possible:

- The *ministère de la Santé et des Services sociaux* (MSSS), who provided the major funding for the survey.
- The National Health Research and Development Program, who financed the lipid analysis.
- Richard Lessard, the principal investigator in Quebec within the Canadian Heart Health Initiative for the prevention of cardiovascular disease, for his support in arranging the financing of the blood analyses.
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- James Bobbish and Steven Bearskin, the current and former Executive Director respectively of the Cree Board of Health and Social Services of James Bay.
- The members of the Steering Committee (Annex 1), who developed the protocol and recommended the areas to be studied.
- Françoise Tarte, Manon Rouleau, Marcel Godbout and Robert Courtemanche, of the *Direction de la méthodologie, Bureau de la statistique du Québec* (BSQ).
- The Housing Departments of the nine Band Councils, who furnished the lists of households.
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- Louise Carrier and Louise Cormier, Coordinators of the Coastal and Interior Local Community Health Clinics (CLSCs) respectively, for organizing the field work.

- Nicole Turcotte, for coordinating the on-site activities in the Cree communities.

- The nurses and interviewers (Annex 1), for the quality and energy they put into their work, and without whom this survey would not have been possible.

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- The Cree Language Department of the Council of the Mistissini Band, and Emily Rondeau, of Radio-Canada Nord, for translation into Cree.

- Aline Émond, former Director of Santé Québec, without whom this survey would still have been in the planning stages.

- Mireille Jetté, of Santé Québec, for coordinating the analysis teams from January to September, 1992.

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Thanks also to the entire team at Santé Québec, particularly France Lacoursière, Martin Lamer, Claude Lamarre, Lise Ménard-Godin, Josette Thibault, Thérèse Cloutier and France Lozeau, for their constant availability, and the quality of their work. Their expertise in administration, logistics, computer analysis of the survey and layout of the report, and their constant encouragement of our collaborators throughout the duration of the project, are greatly appreciated. We would also like to thank Daniel Tremblay, Director of Santé Québec, for his support in the completion of this report. Grateful appreciation is extended to Nathalie Audet. Suzanne Messier, for their technical support at the last minute. Thanks also to Lucille Pica, for her invaluable assistance in the final publication of this report, and for revising the English version.

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LIST OF ABBREVIATIONS

BSQ: Bureau de la statistique du Québec/Quebec Bureau of Statistics[1]

CBHSSJB: Cree Board of Health and Social Services of James Bay

CHUL: Centre hospitalier de l'Université Laval/Laval University Hospital Center[1]

CLSC: Centre local de services communautaires/Local Community Health Clinic[1]

DCH: Department of Community Health

MSSS: Ministère de la Santé et des Services sociaux/Ministry of Health and Social Services[1]

NQM/MGH: Northern Quebec Module of the Montreal General Hospital

NHRDP: National Health Research and Development Program

PE: Population estimate

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[1] Unofficial translations.

GLOSSARY OF QUEBEC GOVERNMENTAL AND OTHER INSTITUTIONS (with unofficial translations)

GOVERNMENT

Direction de la méthodologie, Bureau de la statistique du Québec	Methodology Department, Quebec Bureau of Statistics
Ministère de la Santé et des Services sociaux (Québec): • Direction des communications, • Direction de l'évaluation, • Direction de la planification, • Direction de la santé publique, • Direction générale de la planification et de l'évaluation	Ministry of Health and Social Services (Quebec): • Communications Department, • Evaluation Department, • Planning Department, • Public Health Department, • Directorate General of Planning and Evaluation

HOSPITALS

Centre de recherche Fernand-Séguin, Hôpital Louis-H. Lafontaine	Fernand-Séguin Research Center, Louis H. Lafontaine Hospital
Unité de recherche sur le diabète, Centre hospitalier de l'Université Laval	Diabetes Research Unit, Laval University Hospital Center
Unité de santé publique: • Hôpital Charles LeMoyne • Hôpital Général de Montréal • Hôpital Maisonneuve-Rosemont • Hôpital Saint-Luc • Hôptial Sainte-Croix • Hôpital régional de l'Outaouais • Hôpital régional de Rimouski • Hôpital Hôtel-Dieu de Saint-Jérome	Public Health Unit: • Charles LeMoyne Hospital • Montreal General Hospital[1] • Maisonneuve-Rosemont Hospital • Saint Luc Hospital • Saint Croix Hospital • Outaouais Regional Hospital • Rimouski Regional Hospital • Hôtel-Dieu Hospital of Saint Jerome

OTHER INSTITUTIONS

Direction des services professionnels, Urgences-Santé	Department of Professional Services, Urgences Santé (emergency ambulance services)

[1] Official translation.

Groupe d'experts sur la santé mentale et les autochtones pour le Comité de la santé mentale du Québec

Recherche et intervention sur les substances psychoactives - Québec

Service de la recherche,
Les centres jeunesse de Montréal

Université de Montréal:
- Département de géographie,
- Département de nutrition

Université Laval:
- École de pharmacie,
- GÉTIC (Groupe d'études inuites et circumpolaires),
- Département de médecine sociale et préventive

Expert Group on Mental Health and Aboriginal Peoples for the Quebec Mental Health Committee

Research and Intervention on Psychoactive Substances - Quebec

Research Service,
Youth Centers of Montreal

University of Montreal:
- Department of Geography,
- Department of Nutrition

Laval University:
- School of Pharmacy,
- GÉTIC (Inuit and Circumpolar Study Group),
- Department of Social and Preventive Medicine

HISTORICAL FOREWORD

The results of any survey can be interpreted in many different ways depending on what questions you pose to the issues raised in the survey. Of course, one automatic comparison is the status of any number of health problems of the James Bay Cree with that of the rest of the population of Quebec and eventually to the rest of Canada. It seems that because most of the statistics show Crees have a higher incidence of any given illness compared to others, our goal would be to work towards having comparable indicators. If the population to which we are comparing ourselves deems that their indicators of any condition are too high, then we would miss the point in the orientation of our services.

Historically, then, if the Crees could compare their health situation before modern conveniences, store bought food and social and cultural upheaval, it would show that the state of health, notwithstanding infant mortality rates, was better than the present state of health in Quebec.

Traditionally, the Cree people have accepted what has befallen them and have remained stable as a people after many damaging influences. One example has been the devastating effects of new diseases caused by unseen phenomena. By and large, these types of diseases (influenza, measles, tuberculosis, chicken pox, etc.) have been quelled and occur rarely, if at all, in some cases. However, the type of health problems that are prevalent now are mostly related to eating habits and lifestyle. Because the people do not have historical knowledge on health problems caused by such eating habits and lifestyle, there is acceptance of such conditions.

The challenge that lies ahead for the Cree Health Board and the Cree population is obtaining more knowledge on preventable illnesses in order that people make informed choices in taking measures for better health.

The present and future purpose of surveys such as this would be to present views and statistics on the general health conditions of a people and relate them in a meaningful way so that the Cree Health Board as an organization that promotes health and well-being can work with clients on the same objectives.

There are many aspects to having a successful health and social services programme but the key elements are:

- an organization that responds to health and social services issues as met;

- the ability of that organization to have a meaningful dialogue with its clients - which

means having the right conditions to promote education on any given health or social situation;

- the willingness and commitment of people to be responsible for their own health status after acquiring understanding.

If people are aware of the individual health issues, then the numbers and descriptions of a situation acquired during a survey will have a meaning. Surveys such as this provide orientation for professionals to set up a certain type of approach and also for clients and professionals to interact in order to make differences on the state of health.

The indicators shown by this survey also give us an opportunity to put in proper perspective, the identification of resources that would meet the responsive mechanisms of the health and social services Ministry and other possible resource providers.

Notwithstanding good work that has been provided by our organization, the Cree Health Board, and our colleagues of the Northern Quebec Module in identifying problem areas, this is the first time that we have dealt with such a wide scope of indicators.

On behalf of the Cree Board of Health and Social Services, I would like to take this opportunity to thank the population for its participation in this very important survey.

James Bobbish,
Executive Director
Cree Board of Health and
Social Services of James Bay

INTRODUCTION

LOUISE GUYON*
RECHERCHE ET INTERVENTION
SUR LES SUBSTANCES PSYCHOACTIVES - QUÉBEC

* Ms. Louise Guyon assumed the coordination of the survey until December 1991.

This report analyzing the data from the Santé Québec Health Survey of the James Bay Cree is the result of an undertaking which is unique in the annals of general health surveys in Quebec. At the outset, the idea that people from such diverse cultures with such different ways of doing things could work effectively together seemed somewhat utopian. The project's ultimate success was due to the determination of the region's health and social service institutions, the cooperation of the population, the enthusiastic dedication of the Santé Québec team and, last but not least, the political will to keep the project alive.

The operation was prepared and carried out as a follow-up to the 1987 Santé Québec Health Survey of the Quebec population. Although the 1987 survey covered most of the province (Santé Québec, 1988), the northern regions and the Indian reserves had been excluded for financial and methodological reasons, on the understanding that the survey would be repeated for the Cree and Inuit populations at a later stage. In 1989, at the initiative of the *ministère de la Santé et des Services sociaux* (MSSS) and the request of the Cree Board of Health and Social Services of James Bay (CBHSSJB), the decision was made to proceed with a general health survey in the Cree communities based on the 1987 Santé Québec model but adapted to the sociocultural specificities of the region. It was also decided to add a second component based on the Heart Health and Nutrition Survey conducted by Santé Québec in the southern part of the province in 1990.

Mandated to carry out the project, Santé Québec set up a steering committee made up of representatives of the CBHSSJB, the Northern Quebec Module (NQM) of the Department of Community Health, Montreal General Hospital (DCH-MGH), the MSSS and the *Bureau de la statistique du Québec* (BSQ). With Santé Québec coordinating, the committee planned and supervised the various operations of the survey. Funding was provided by the *ministère de la Santé et des Services sociaux.*

0.1 HISTORY OF THE SURVEY

It all began in June 1989, when Santé Québec convened a first meeting to prepare for a general health survey of the populations of northern Quebec. This meeting was attended by representatives of the MSSS, the CBHSSJB, the Kativik Board of Health and Social Services, the DCH of the *Centre hospitalier de l'Université Laval* (CHUL) and the Northern Quebec Module. Two experts in the field of epidemiological surveys among native populations were also invited: Peter Foggin, from the *Université de Montréal,* who had conducted a health survey among the Cree and the Inuit of Quebec in 1983-1984[1], and Robert Imrie, from

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[1] Santé Québec prepared and published a document on the salient points of this survey entitled *Features* (Clarkson and Foggin, 1991). The publication provided health workers and the population of the James Bay region with both the main findings of the study and the assurance that Santé Québec would indeed make the results of the survey it was about to undertake, available to the public.

Health and Welfare Canada, who had been involved in the Health Promotion Survey of the population of the Northwest Territories.

This meeting made it clear that the two northern health boards were indeed interested in having the survey done among their populations, and that separate surveys would be required, one for the James Bay Cree and the other for the Inuit of the Kativik region. The surveys would have to be adapted to the cultural and geographic conditions of the respective regions while including all of the sociodemographic and health components of a comprehensive evaluation for the purposes of improving services and planning resources. Close cooperation between Santé Québec and the two regional health and social services boards would also be required.

In the fall of 1989, the Cree Board of Health and Social Services officially requested that Santé Québec conduct a general health survey among the Cree in the James Bay region and the two agencies submitted an application for funding to the MSSS.

Under the aegis of Santé Québec, the steering committee was formed with a mandate to define the objectives and the content of the survey in addition to monitoring all stages of the project and cooperating in bringing it to a successful completion.

In keeping with the tradition at Santé Québec, working groups were set up to finalize the questionnaires and other data collection tools; the working groups were made up of individuals seconded by the CBHSSJB, the Northern Quebec Module, the MSSS, the Chisasibi and Mistissini Band Councils and the Department of Community Health network. In the interests of benefiting from their methodological expertise and to ensure continuity, Santé Québec saw to it that the teams included people who had taken part in previous surveys. The involvement of the Cree at particular points in this process (especially in discussions on psychological distress, accidents and women's health) was extremely useful in terms of both relevance and feasibility.

A new questionnaire was drawn up on the basis of the instruments used in Santé Québec's 1987 Health Survey and 1990 Heart Health and Nutrition Survey; the various sections of the questionnaire and other survey instruments are appended to this report for reference (Annexes 2, 3, 4, 5, and 6). The survey itself was carried out during the summer of 1991; 354 households totalling nearly 2000 people were interviewed. The reader will find a detailed description of the various stages of the survey in the *Cahiers techniques* (Guyon et al., 1994).

0.2 OBJECTIVES OF THE SURVEY

The primary objective of the survey was to gather relevant information on the physical, psychological and social health of the Cree population that would complement the data from other existing sources (on mortality, morbidity, health care and social services utilization, and previous surveys). In more operational terms, the information had to be of use to the regional and subregional public health officials and to the MSSS planners, politicians and the Cree population. The project designers were instructed to come up with a design that would make it possible to:

- establish the prevalence of reported health problems and the associated risk factors;
- identify priorities;
- ensure monitoring of health status;
- facilitate the process of developing and implementing health and social service programs;
- assess the relevance of various preventive and corrective measures;
- provide useful input into the decision-making process; and
- include a plan to make the survey findings available to all members of the Cree communities.

In addition to the above, the survey had to:

- use a holistic health model taking into account the various aspects of an individual's health, the determinants of health status (lifestyle, sociocultural, biological and environmental factors) and the impacts of health conditions (limitations on activities, use of health services, medications);
- generate data that would be comparable to the data of the 1987 Santé Québec Health Survey and the 1990 Quebec Heart Health and Nutrition Survey, which implied using the same model and the same instruments, to the extent that this was possible;
- take into consideration the sociocultural and environmental realities of the Cree population;
- cover all of the Cree communities: Whapmagoostui, Chisasibi, Wemindji, Eastmain, Waskaganish, Nemaska, Mistissini, Waswanipi and Oujé-Bougoumou;
- include aspects of positive health;
- ensure the participation of individuals from the Cree communities in all phases of the process;
- lay the bases of an ongoing data collection process.

0.3 PROJECT MANAGEMENT SUPPORT

Santé Québec was responsible for planning and conducting the survey; the steering committee assisted in the development and monitoring of the project (see diagram below). As mentioned above, Santé Québec systematically called upon small expert committees, or working groups, to work on particular stages of the survey such as the preparation of the instruments and the analysis of the results.

The sampling and weighting issues were dealt with under the supervision of the *Bureau de la statistique du Québec*. Santé Québec handled the data validation operations and created the computerized files; indexes were developed by the analysis teams and checked by Santé Québec.

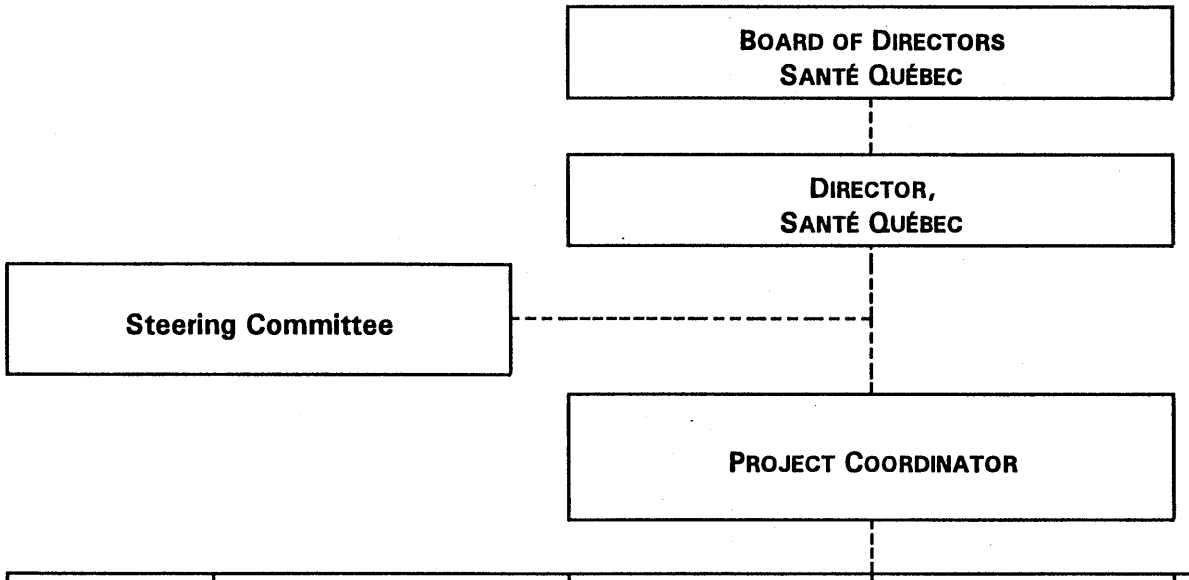
Information on how the survey would take place was provided to the Cree communities by Santé Québec and the various Band Councils in cooperation with the CBHSSJB and the Northern Quebec Module. The *Direction des Communications* at the MSSS published the Features report and the informational material.

0.4 A SERIES OF CHALLENGES

The series of challenges that cropped up throughout the course of the survey made it a unique experience. The first was the formidable task of taking a methodology that had been tried and tested in southern Quebec and adapting it to the new and quite different northern context, where everything had to be rethought, from the instruments, interviewing techniques, language and field logistics to the problems of respecting confidentiality and anonymity in communities where everyone knows everyone else. A more flexible and imaginative alternative to the performance-centred and deadline-driven style was needed. The real challenge was to take all of these considerations into account while satisfying the requirements of validity and comparability with previous Santé Québec surveys.

Each stage of the survey required one special adaptation or another, given that the instruments had to be prepared and the all-Cree team of interviewers had to be trained with an eye to possible problems of linguistic and cultural interpretations. In the field, allowances had to be made for the population's annual cycles of activity, which meant that the data had to be gathered during the summer, between two hunting seasons. The interviewers were carefully chosen in cooperation with the Band Councils of the various villages. Finally, a great deal of imagination and ingenuity were required throughout the survey to solve the problems of travelling considerable distances and finding means of transportation and adequate working space.

Process Organization and Flow Chart



Sampling plan	Preparation of questionnaires	Data collection	Organization of data base	Analysis of results	Editing of texts
BSQ	Working groups: • Santé Québec • Band Councils • DCH • CBHSSJB • MSSS • University researchers	Santé Québec Field coordinator Interviewers Nurses Interpreters	Santé Québec Data processing firm BSQ	Analysis teams: • Santé Québec • DCH • CBHSSJB • MSSS • Band Councils • University researchers	Editorial committee: • Santé Québec • NQM • MSSS

The second challenge was no less demanding: the survey had to bring out the cultural specificity of the population, highlighting the health-related attitudes and behaviours that were distinctly Cree. This required changes to the questionnaires, including the addition of questions on activities in the bush and breastfeeding, and the rewording of questions on problems such as alcohol consumption, but also the removal of some questions that were more or less meaningless for the Cree, of which the questions on the practice of various sports in the 1987 Santé Québec survey are a good example.

The problem here was to make the survey comparable to the previous surveys without compromising its feasibility; the list of additions had to be limited so that the survey would be acceptable given the constraints on the time required to complete the questionnaires and measurements, and on the content (some of the more sensitive subjects such as the use of psychoactive substances required a special methodology). The challenge was met thanks to the participation of the Cree at all stages of the survey. Future users of the data base will have to be mindful of the specificities of this project, especially when making comparisons with other Santé Québec surveys.[1]

Other challenges included the need to keep the survey within financially "reasonable" bounds, despite the high cost of reaching remote locations by the few means of transportation available, and the need to integrate all the components of the survey, which was to be carried out concurrently with the heart health and nutrition survey.

Despite the challenges, and perhaps because of them, the survey was a learning experience for all the people involved. The researchers learned to question the more traditional survey methods, and found that scientific objectivity is not incompatible with intuition and creativity. At the same time, the myth that surveys of this sort can be relatively inexpensive to conduct was laid to rest. The fact is that health surveys do not simply happen by themselves; they require a great deal of energy, time and space and upset many preconceived notions and routines. Understanding this was, in a sense, one of the least expected but most positive results of the experience.

0.5 EXPANDED HORIZONS

The Santé Québec Health Survey of the James Bay Cree was also somewhat of an adventure. It required a collective effort on the part of a great many people with varying backgrounds,

[1] Readers interested in the fine points of the survey methodology can refer to Chapter 1 of this report, and the *Cahiers techniques* (Guyon et al., 1994).

qualifications and goals, as well as the ability to navigate around potential misunderstandings due to cultural differences. Moreover, communications occurred throughout the survey in French, English and Cree, creating a situation in which people often used a language other than their mother tongue.

The size, diversity and remoteness of the territory were ultimately more than just logistic problems; they also became opportunities to expand our knowledge and test our ability to adapt. People from the north and the south visited each other regularly during that period, with all of the changes that such intermingling implies. Carrying the operation through required a high level of cooperation between people who were acting out of a sense of good will, of course, but who were also prepared to take the risks inherent in such an undertaking.

0.6 HOW TO USE THIS REPORT

The report you are about to read presents the major findings of the survey. Its descriptive approach is intended to enable the reader to grasp and keep in view all of the major themes it covers. Because of that global perspective, but also for lack of space, the publication of some more exhaustive analyses will have to wait for the investigations of other users of the data base, whom we hope will be numerous and prolific. Santé Québec has already published the Features report and is about to come out with two *Cahiers techniques* containing full details on how the survey was conducted and the data were used.

Now that this report is published and the data base is available[1], Santé Québec has completed its main task[2]; the survey data are now in the hands of the health workers, planners, administrators and researchers who want to know more about the health of the Quebec Cree and work toward improving it. It is first and foremost to them that the report is addressed, to provide a preliminary analysis of the results, suggest avenues for further research and point out the pitfalls to be avoided along the way.

The report is divided into eight chapters: methods, sociodemographic information, lifestyle, social environment and social problems, selected determinants of heart health status, health status and its consequences, injuries and risk factors, and finally, mental health. With the exception of the chapter on methods, each section contains an introduction of the subject, a discussion of the scope and limits of the data, the major findings, conclusions, avenues for

[1] The survey data bank and accompanying documentation are available on request from Santé Québec.

[2] Santé Québec is, however, interested in continuing to provide scientific and technical support to the users of the data bank.

further research and action, and a short bibliography. To put the results in their broader context, comparisons are made, wherever comparable data are available, between the coastal and inland villages or between all of the Cree communities and the rest of Quebec (1987 Santé Québec survey). Appended to the report are the survey instruments.

0.7 REFERENCES

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CHAPTER 1

METHODS

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1.0 INTRODUCTION

This chapter outlines the key methodological aspects of the survey, i.e., selection of the survey model, data collection tools, target population, sample design, data quality procedures, and last but not least, the limits of the survey. Interested readers are referred to the separately published technical handbooks (*Cahiers techniques*, Guyon et al., 1994) for a more detailed description of the methods.

1.1 SURVEY MODEL AND CONTENT AREAS

The survey combined in a single data collection exercise the core content of the 1987 Santé Québec Health Survey (Santé Québec, 1988) and the 1990 Quebec Heart Health and Nutrition Survey (Santé Québec, 1991; Santé Québec et al., 1994). Based on the model of the 1987 survey, it was adapted to the cultural specificities of the Cree population. Its content, reflective of a holistic health model, describes the determinants of health, the actual state of physical and psychological health and the consequences of health status on the use of health services and ability to function. The areas covered in the survey are summarized in Table 1.1. The topics and related indicators were evaluated by the steering committee. In addition, some analysis teams held group discussions with the Cree or people working in the Cree communities to validate the choice and the wording of some of the questions.

TABLE 1.1 - CONTENT AREAS

Cree Health Survey, 1991

DETERMINANTS		
Lifestyle	**Biological factors**	**Environmental factors**
Smoking	Family history	Sociodemographic characteristics
Alcohol and drug use	Blood pressure	Social support
Physical activity	Anthropometry	Stressful life events
Nutrition	Blood lipids	Employment
Means of transportation	Blood sugar	
Women's health		
HEALTH STATUS		
Physical health	**Psychological health**	**Social health**
Accidents and injuries	Psychological distress	Social problems
Chronic health problems	Suicidal thoughts and suicide attempts	
Hearing		
CONSEQUENCES		
Use of health services	**Ability to function**	
Medical appointments	Disability days	
Social services	Restriction of activities	
Use of medication		

1.2 DATA COLLECTION TOOLS

A number of instruments were developed and/or adapted for the purposes of the Cree survey. Their content was taken in large part from the tools used in both the 1987 (Levasseur, 1988; Guyon and Levasseur, 1992) and 1990 Santé Québec surveys (Levasseur et al., 1994). Wherever possible, the wording of questions was left unchanged in order to ensure comparability between populations. The relevance of each of the topics and the wording of the questions were discussed with resource persons from the community, after which a number of cuts, additions and adjustments were made, which contributed to the specificity of this survey compared to its predecessors. The reader is referred to the technical handbooks for a detailed description of the questions and their source (*Cahiers techniques*, Guyon et al., 1994).

1.2.1 Questionnaires

An identification chart and three types of questionnaires were used to collect information about the respondents.

1) The Identification Chart was used to list all members of the household living together at the time of the survey, by age, sex and kinship to each other.

2) The Household Questionnaire was developed using the Interviewer-Completed Questionnaire of the 1987 Santé Québec survey. This questionnaire was administered by an interviewer to a key informer responding on behalf of all household members, regardless of age. It covered such topics as disabilities, health care or social services utilization, use of medications, accidents and injuries, restriction of activities, chronic health problems, hearing problems and food preparation.

3) The Individual Questionnaire, also completed by an interviewer, was used instead of the Self-Administered Questionnaire (SAQ) of the 1987 survey, the face-to-face interview being better suited to the oral tradition in Cree culture. This questionnaire was directed at respondents 15 years of age and over and included questions on lifestyle, work, social problems and preventive behaviours.

4) The Confidential Questionnaire, also directed at respondents 15 years and over, was developed to take into account the sensitive nature of some of the questions relating to subjects such as drug and alcohol consumption and suicidal thoughts and attempts. For this reason, these questions were put together in a separate booklet in which the respondents wrote their own answers, if they so desired, after the

question was read to them by the interviewer. The respondents then placed the completed questionnaire in an envelope they sealed themselves.

1.2.2 Clinical measures

Individuals 18-74 years of age were asked to come to a clinic in order to have a series of physical measurements taken by a nurse. These included blood pressure, pulse, height, weight, waist and hip measures, as well as blood samples. The information was noted on a form developed from the one used in the 1990 survey on heart health and nutrition (Annex 6).

It should be noted that 24-hour recalls of dietary intake were also taken by a nurse in a second home interview; these data, however, will be published separately.

1.3 TARGET POPULATION

The target population comprised all Cree private households in the nine communities of James Bay. A Cree household was defined as one including at least one Cree individual; a private household as one being made up of a person or persons occupying a private dwelling who had or did not have a customary place of residence elsewhere than in the Cree communities. Collective dwellings and commercial buildings were excluded from the sample.

1.3.1 Sample frame

The sample frame was developed from the nine lists obtained from the housing department of each of the nine Cree community Band Councils. Because the lists contained many inconsistencies, they were checked to eliminate all but the dwellings occupied by private households as per the definition of the target population. The final list revealed that the Cree population was comprised of 1716 private households distributed among nine communities.

1.3.2 Sample design

A number of sampling approaches were considered. The *Bureau de la statistique du Québec* ultimately chose a design that would afford an acceptable degree of precision (coefficient of variation) for any prevalence equal to or greater than 10% for all communities combined (Cochran, 1977; Desu and Raghavamo, 1991).

The Cree population was stratified on the basis of the nine communities to ensure that the results would be representative of the population as a whole. The sample was then selected in proportion to the number of households in each stratum.

The sample size was set at 400 households using the following parameters: estimation of the average number of household members (5.43), predicted design effect and anticipated response rate. Systematic sampling was performed after the sample frame was sorted by address of the household.

1.3.3 Response rates

The observed response rates for the survey questionnaires were generally within the anticipated ranges, and were calculated assuming that the characteristics of the responding and non-responding households were the same. Of the 400 households that made up the initial sample, 354 agreed to answer the Household Questionnaire. The 354 responding households consisted of 2258 individuals of all ages, of whom 1288 were aged 15 years and over and therefore qualified for both the Individual and Confidential Questionnaires. Of this number, 1161 completed the Individual Questionnaire and 1136 filled out the Confidential Questionnaire. Of the household respondents, 1115 individuals were aged 18-74 years, and therefore qualified for the subsequent clinical examination; 943 of them actually underwent the physical measurements and blood tests. The response rates, shown in Figure 1, were calculated on the overall sample and not the sample eligible for each instrument.

1.3.4 Weighting

In order to reestablish the equal probability of selection into the sample, and to take into account the non-response phenomenon by age, sex and subregion, the data were weighted.

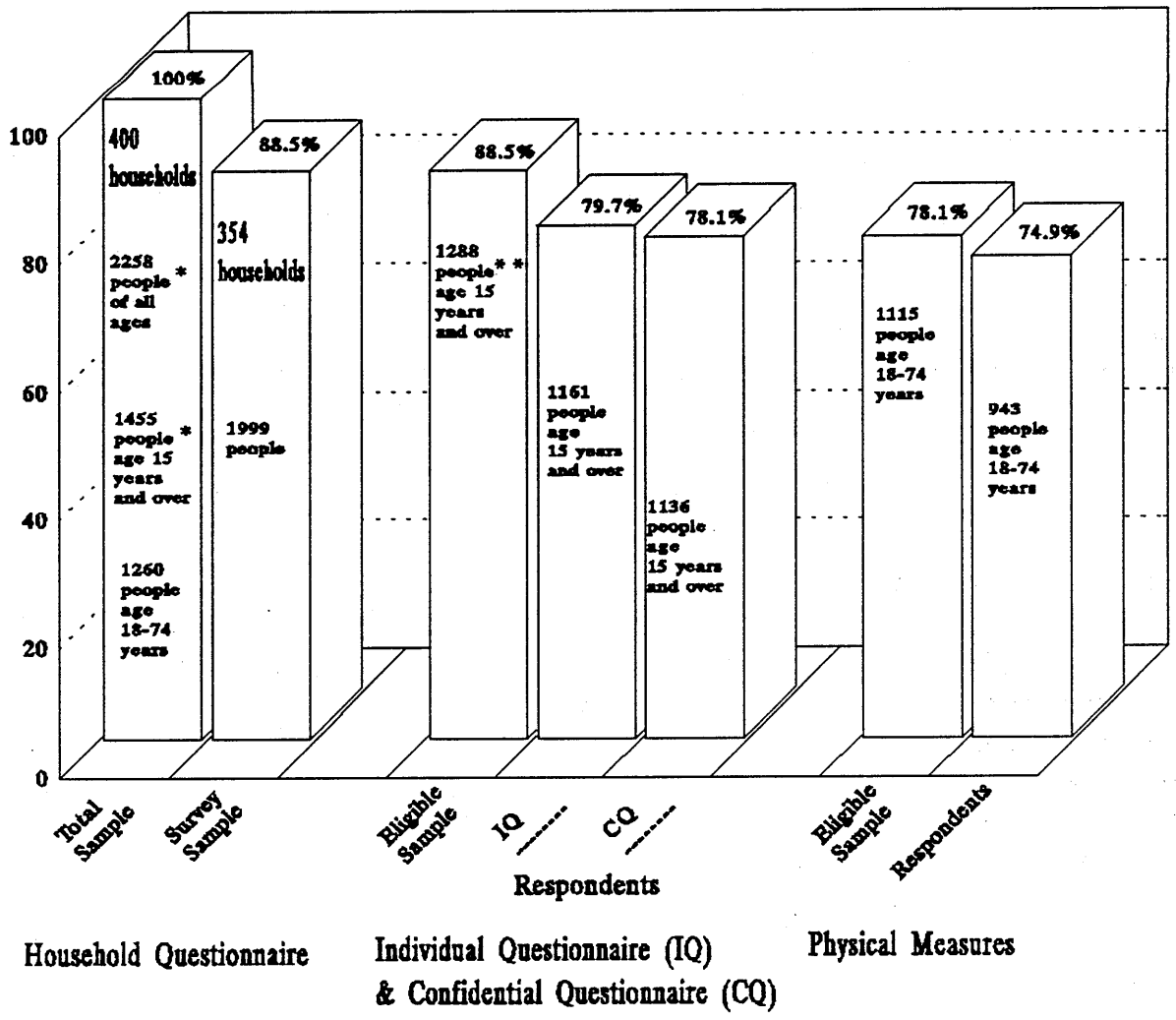
The weighting consisted of assigning to each respondent a value (or weight) corresponding to the number of people he/she represented in the population. The chosen weighting factors were the community for the Household Questionnaire, and a combination of age/sex/subregion (coastal or inland) for the Individual and Confidential Questionnaires and clinical measures. The data presented in the following chapters were therefore weighted to represent the whole Cree population. A population weight was used to estimate the numbers corresponding to the results in the tables (**PE** or population estimates); where as a sample weight was employed for the statistical testing.

1.4 Data quality

The estimates in any survey are subject to two types of error: sampling errors and errors of observation. An estimate of the sampling error is presented in Section 1.4.4 (estimation of the margin of error). Errors of observation are more difficult to assess because they can occur at any stage of a survey. Various measures were applied to reduce these errors, thereby ensuring the quality of the data.

FIGURE 1.1

Number of participants and response rates of the various survey instruments (%), Cree population, 1991



* Estimated number from census data.

* * People who were reported on in the Household Questionnaire.

1.4.1 Pilot survey

A pilot survey was conducted from September 17-21, 1990 in the communities of Chisasibi and Mistissini to validate the survey instruments and verify the methodology, materials and feasibility of the various procedures. Two coordinators, two nurses and two interviewers took part. The pilot survey was preceded by a week of preparatory work in the field focused largely on training the two interviewers.

For the pilot study, ten households, five in Chisasibi and five in Mistissini, were selected. The initial household contact procedure was tested, as were the methods for identifying household members, selecting the respondents for each of the questionnaires and setting up the interview appointments. The Household and Individual Questionnaires were administered to test the respondents' understanding of the questions and the sequencing based on "filter" questions. Questions that were not readily understood were reworded and minor changes were made.

The interviews on the 24-hour diet recall were conducted and the visits to the clinic for the physical measurements took place. All of the procedures were reassessed and adjusted in the light of the difficulties encountered during the pretest.

1.4.2 Training of interviewers and nurses

To maximize data quality, Santé Québec conducted an intensive eight-day training session for 23 interviewers and 10 nurses, and this to thoroughly familiarize them with the survey's objectives, ethical rules, and instruments. Training booklets were prepared for both groups. The interviewers, who were of Cree origin, were trained in English. A Cree version of the questionnaires, however, was available on cassette to standardize the translation of questions. The cassettes were put to frequent use in role-playing exercises. The nurses, on the other hand, not being of Cree origin, received their training in French and English.

1.4.3 Validation of the data

Each data collection operation was followed by same-day verifications. The interviewers handed the completed questionnaires in to the nurse, who performed a summary check, after which they were sent to the field coordinator in Chisasibi. The coordinator then rechecked each of the questionnaires. A control questionnaire was administered to 10% of the respondents at the time of the 24-hour diet recall. The physical measurements and blood tests were also repeated for 10% of the sample.

Once a week, questionnaires were sent to Santé Québec, where a team of specialists rechecked the data and performed the coding operations. Any errors or omissions in the questionnaires were fed back to the interviewers. Once the data were collected, the completed questionnaires and the data base were subjected to validation procedures similar to those used in other surveys conducted by Santé Québec, i.e., verification of allowable codes and logical flow and meaning of responses.

The data were then checked for inconsistencies by the various analysis teams, and all tables of data furnished by them were further checked by the computer technicians at Santé Québec. The researchers of the various teams constructed synthetic indices based on methods validated by earlier surveys or by group discussions with the Cree or people working with them. The construction of these indices, all of which were verified by Santé Québec, is described in the technical handbooks (Guyon et al., 1994; Levasseur et al., 1994). Moreover, the data of the 1987 Santé Québec survey were reanalyzed using the indices employed in the Cree survey, and this in order to make comparisons between the two studies. The final texts were then submitted to the editorial committee, which referred when necessary to experts in the field. Finally, the findings were checked against the cultural and historical background of the Cree wherever possible.

1.4.4 Estimation of the margin of error

A margin of error allowing for the design effect was estimated for the whole population, by age, sex and subregion, and this, for each of the instruments (see detailed tables in the technical handbooks). These calculations were based on a 50% prevalence rate. As a result, when statistics are produced for the Cree population as a whole, they are generally accurate within 3%, with a degree of confidence of 95%, signifying that the actual proportion lies within the boundaries of the observed proportion plus or minus the margin of error. The results are slightly more accurate for the coastal communities (between 3% and 4%) than for the inland communities (between 4% and 5%). The precision of the results also varied with age. It ranged from about 5% for both the 0-14 year-olds (Household Questionnaire) and 15-34 year-olds (depending on the questionnaire), to approximately 7% for adults aged 35-64 years (depending on the questionnaire). In the case of individuals 65 years of age and over, their small number makes the results highly unstable, with a margin of error of up to 20% (depending on the questionnaire).

1.4.5 Presentation of survey results

Unless otherwise indicated, missing values were excluded from the analyses. The acceptable alpha error was set at .01 for all of the statistical analyses (significance level of 99%). Differences between subgroups, mentioned in the text, are significant at this threshold;

confidence intervals were also calculated at this level (Fleiss, 1981). When the comparison of prevalence required that the data be standardized for age, the indirect method was used. This method consists of applying the observed rates or prevalence for each of the reference population's age groups to the number of individuals in the corresponding age groups in the Cree population, and calculating comparative ratios (standardized morbidity or mortality ratios, or SMRs).

Percentages were rounded off to the next whole number when included in the text, and to the first decimal place in the tables.

1.5 LIMITS OF THE SURVEY

1.5.1 Understanding of the questions

Despite the many precautions taken to ensure data quality, it was not possible to measure the accuracy of the answers given by the respondents. This kind of limitation is particularly significant when the target population is of a different culture, unaccustomed to direct questions and in many cases unilingual, speaking only Cree. Although an effort was made to standardize the oral translation of questions, there are a number of concepts related to health or illness that do not exist in the Cree language. Therefore, it is unsure whether all the questions were clearly understood, or if one person's understanding of a particular question was the same as another's.

Furthermore, the results were interpreted by professionals who, in some cases, were not familiar with the culture and the environment specific to the survey population. To offset this limitation, the manuscripts were submitted to individuals with a good knowledge of the population in question, along with documentation on the health of the Cree and related subjects.

1.5.2 Small sample size

As mentioned earlier, some of the results expressed as prevalence (%) may be quite unstable, particularly those with small sample sizes. This is the case for the category of individuals aged 65 years and over, whose numbers are small. Caution must also be used when interpreting events, prevalence or opinions, which occur rarely, or in smaller subgroups of the target population. When reading the results, it is best to keep in mind the following question: "How many people does this percentage represent?"

All of the above-mentioned limitations need to be taken into account when reading the following chapters.

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CHAPTER 2

SOCIODEMOGRAPHIC INFORMATION

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2.0 INTRODUCTION

The importance of living conditions (household structure, schooling, employment, income) and cultural characteristics (language, religion) as contributing factors to health and social problems is mentioned in the official report on Quebec's health and social policy; the document also highlights the association between these factors and the other determinants of health (Gouvernement du Québec, 1992).

The sociodemographic variables included in this survey were selected to form a social, economic and demographic backdrop against which the various determinants of the population's health status could be more readily grasped and fully understood. The description is all the more comprehensive in that the survey included a number of non-census questions designed to provide information on issues specific to the Cree of northern Quebec.

2.1 SCOPE AND LIMITS OF THE DATA

The need to make comparisons with the 1987 Santé Québec Health Survey, was the motivation for using its questions on sociodemography as the basis for those in the present study. Some were reworded or changed to tailor the questionnaires to the cultural reality of the Cree. For example, not only were some changes made to the questions on employment, but the questions themselves were integrated into the Individual Questionnaire, unlike the 1987 survey. To capture some of the specific characteristics of the Cree population, some new questions were added, a good example being the one on the length of stays in the bush. Finally, some variables used in 1987 had to be dropped: the relative education index was discarded because it failed to discriminate a phenomenon too closely related to age, as was the income level index because the response rate was too low. The questions referred to in this chapter are in Section IX of the Household Questionnaire and Sections XIII and XIV of the Individual Questionnaire.

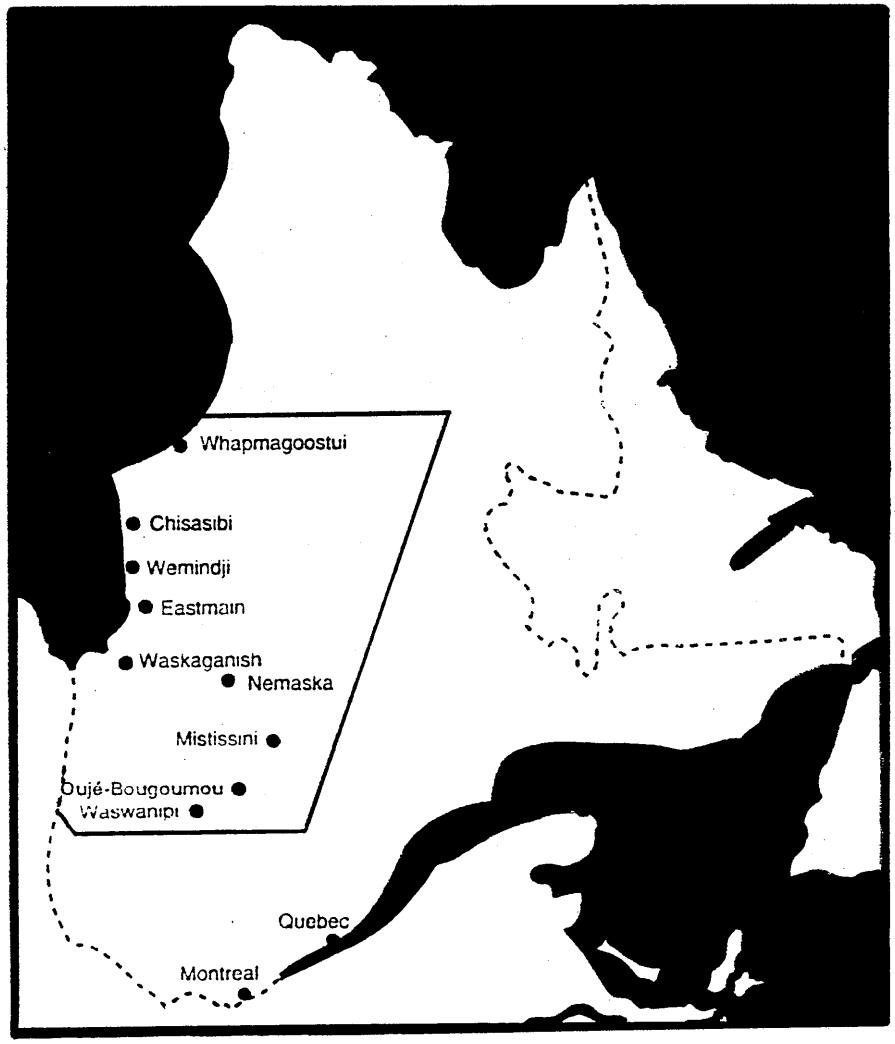
2.2 RESULTS

The results presented in this report cover 354 households, made up of 1999 individuals. The Individual Questionnaire was answered by a total of 1161 individuals aged 15 years and older, including 582 men and 579 women; 943 individuals aged 18 to 74, roughly half of whom were male and half female, underwent the clinical examination.

2.2.1 Geographic location

The Cree population was estimated at 9300 people as of December 31, 1989. As the following map shows, the population is divided into nine bands whose numbers range from

400 to 2500 members, and is spread out over a vast territory of 300,000 square kilometres in northern Quebec between the 49th and 55th parallels. The geographic distribution of the survey participants presented in Table 2.1 shows that 65% were members of the coastal communities of James Bay and Hudson Bay; 36% were living in inland villages.



Once the figures were weighted, the Cree communities were also classified according to their degree of isolation. The isolated villages were those where there was no access by road, except by winter road in some cases. Thirty-two percent (32%) of the Cree were inhabitants of the isolated communities of Whapmagoostui, Wemindji, Eastmain and Waskaganish. The other 68% were living in villages connected to the rest of Quebec by a road which is open all year around; these villages were Chisasibi, Nemaska, Waswanipi, Mistissini and Oujé-Bougoumou.

TABLE 2.1

Survey participants by community and subregion (%), Cree population, 1991

SUBREGION AND COMMUNITY	%	NUMBER OF PARTICIPANTS*
COASTAL	64.4	1,288
• WHAPMAGOOSTUI	5.6	113
• CHISASIBI	30.7	613
• WEMINDJI	9.5	191
• EASTMAIN	4.6	91
• WASKAGANISH	14.0	280
INLAND	35.6	711
• NEMASKA	3.3	66
• MISTISSINI	20.7	413
• WASWANIPI	6.9	139
• OUJÉ-BOUGOUMOU	4.7	93
TOTAL	100.0	1,999

* unweighted figures

2.2.2 Age structure

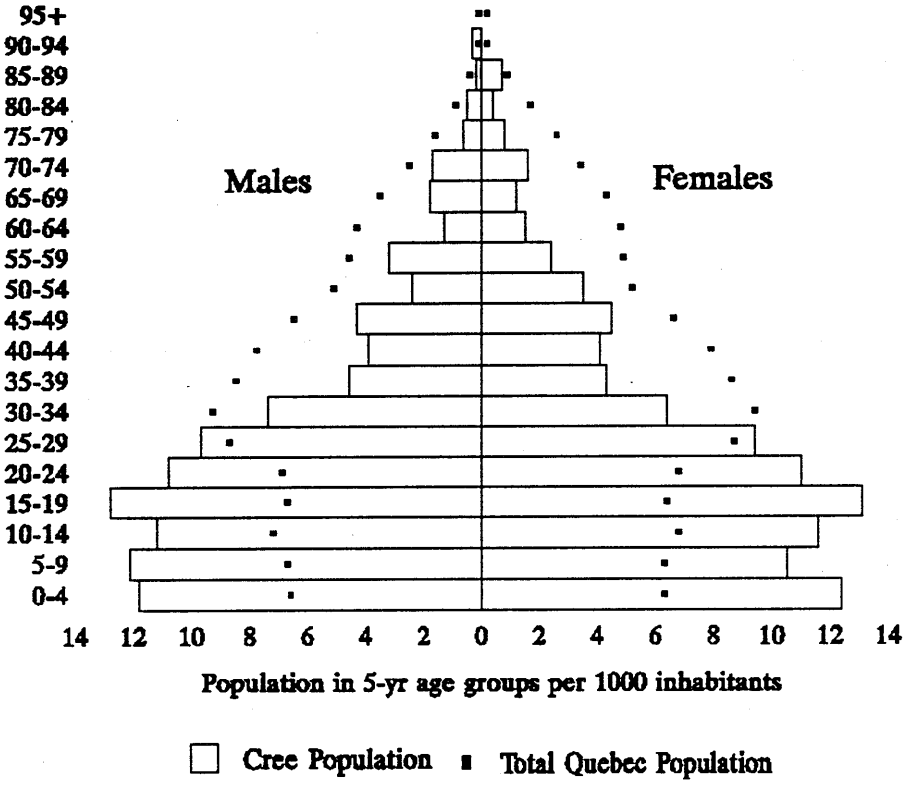
The age structure of the Cree population, as estimated from the survey data, shows them to be a much younger group than the population of Quebec as a whole (including the northern regions). The median age among the Cree was 20.8 years, compared to 34.2 for all of Quebec, and the Cree were comparatively over-represented in the 0-4 and 25-29 year-old age groups, and under-represented from the age of 30 on (see Figure 2.1). The under 15 year-olds made up 35% of the Cree population, but only 16% of the Quebec population. Conversely, people 65 years of age and older represented only 5% of the Cree population against 11% throughout Quebec. Because of the large proportion of children among the Cree, the youth dependency ratio[1] (65.9) was much higher than that of the Quebec population as a whole (36.6).

[1] The youth dependency ratio is calculated by dividing the number of individuals under the age of 15 and those 65 years of age and older (the dependent population) by the number of individuals aged 15 to 64 (the economically active population), and multiplying the product by 100.

The shape of the age pyramid in the Cree population suggests that a drop in fertility occurred toward the end of the 1970's, causing the 10-14 year-old age group to be smaller than the 15-19 year-old one. Figure 2.1 shows that for Quebec as a whole the decline in fertility seems to have started in the early 1960's. However, Cree women remain significantly more fertile than the average female in Quebec: the proportion of children aged 0-4 to women aged 15-44 was 50 children per 100 women in the Cree and only 27 per 100 in the overall Quebec population.

FIGURE 2.1

Age pyramids, estimated Cree population and total Quebec population, 1991



Source: Santé Québec Health Survey of the James Bay Cree, 1991, Statistics Canada, 1991 census.

2.2.3 Description of households and families

2.2.3.1 Households according to number of members

Nearly half of the households in the Cree population were made up of six or more individuals; 7% were made up of 10 or more members (Table 2.2). On the other hand, there were virtually

no single-person households. The average number of individuals per household was 5.6. This picture contrasts sharply with the situation in Quebec as a whole, where the proportion of households with six or more members is only 2%, and that of single-person households as high as 25% (Statistics Canada, 1992a). The average number of individuals per household for all of Quebec is 2.6.

As seen in Table 2.2, the proportion of households of two or three people was higher in the inland villages. The percentage of households of six or more people, however, was much higher along the coast.

TABLE 2.2

Distribution of private households by number of members and subregion of residence (%), Cree population, 1991

NUMBER OF HOUSEHOLD MEMBERS	SUBREGION		TOTAL	
	COASTAL	INLAND	%	NUMBER OF HOUSEHOLDS*
1	0.0	0.0	0.0	0
2	4.6	12.4	7.6	27
3	8.3	15.3	11.0	39
4-5	34.6	35.0	34.7	123
6-9	44.7	31.4	39.5	140
10 OR MORE	7.8	5.8	7.1	25
TOTAL HOUSEHOLDS	100.0	100.0	100.0	354

* Unweighted figures

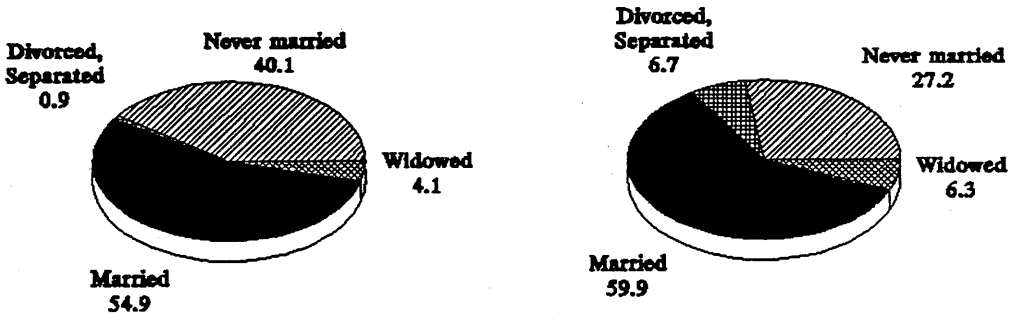
2.2.3.2 Marital status

Married persons were defined as people who were legally married or living as common-law spouses. Figure 2.2 shows that the proportion of never-married people (40%) in the 15 and older age group was much higher among the Cree than among Quebecers as a whole (27%) (Statistics Canada, 1992a). This difference clearly illustrates the much younger age structure of the Cree population. The percentages of Cree who are divorced, separated or widowed were also much lower than in the rest of the Quebec population.

The distribution of the Cree population by marital status varied according to sex (Figure 2.3). The proportion of single males was higher than that of single females. However, more than half of all women aged 65 years and over were widowed, compared to only 18% of males.

FIGURE 2.2

Distribution of the Cree population and total Quebec population, 15 years of age and over, by marital status (%), 1991

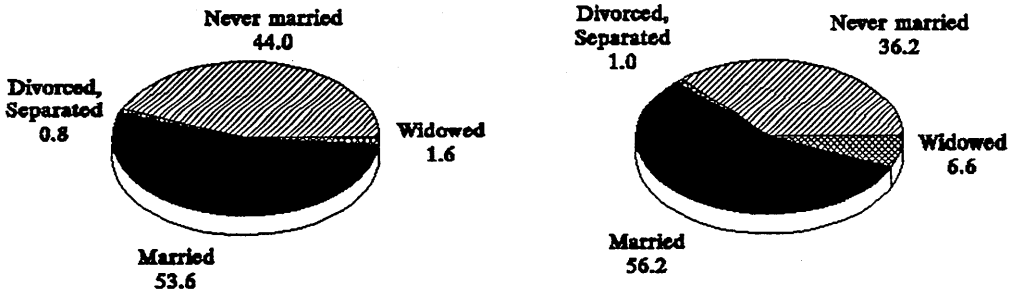


Cree Population | Total Quebec Population

Source: Statistics Canada, 1991 census.

FIGURE 2.3

Distribution of the Cree population 15 years of age and over, by marital status and sex (%), 1991



Males | Females

2.2.3.3 Household structure

Of the 354 households that made up of the sample, the overwhelming majority (353, or 99.7%) were economic families as defined by Statistics Canada (1992b), i.e., "groups of two or more persons living together and related by blood, marriage, common-law marriage or adoption". Only one of the households in the sample consisted of boarders who were unrelated to the main respondent.

Table 2.3 gives a more detailed breakdown of the make-up of Cree households. Two-thirds of the households match the Statistics Canada definition of a census family, i.e. a husband and wife (with or without never-married children of one or both of the spouses), a common-law couple (with or without never-married children of one or both of the spouses) or a single parent (regardless of his or her marital status) living with at least one child who has never been married. However, 34% of the households in the sample represented various forms of "extended families": e.g., parents living with unmarried children, a married child or his (her) spouse and their children; couples providing lodging for an older relative or a nephew or niece; couples living with their unmarried children, including a daughter who had a child, and so on. These extended families may constitute a single census family as defined above, or include more than one census family. This situation differs from the one observed in the rest of Quebec, where, according to the 1991 census, only 1% of all households include more than one family.

TABLE 2.3

Distribution of households by structure (%), Cree population, 1991

	%	NUMBER OF HOUSEHOLDS*
COUPLES LIVING ALONE	5.6	20
COUPLES OR SINGLE PARENTS LIVING WITH AT LEAST ONE UNMARRIED CHILD	59.9	212
EXTENDED FAMILIES	34.2	121
RESPONDENTS + BOARDERS	0.3	1
TOTAL HOUSEHOLDS	100.0	354

* Unweighted figures

The questionnaire also included a question on the arrival of new household members which was used to assess inter-household and inter-community mobility. Approximately 5% of Cree households had taken in a new member in the course of the preceding year, and the overwhelming majority of these new members came from another Cree community. This mobility may have been due to marriages.

2.2.3.4 Description of families with young dependents

In the 1987 Santé Québec survey, the concepts of "two-parent family" and "single-parent family" were defined using the following criteria: "parent(s) with one or more child dependents living in the same dwelling: either two spouses who are married or living in common law, or a single parent with no substitute for the missing parent. In the first case, the family is considered to be two-parent, in the second, single-parent. The presence of at least one child under the age of 18 who is related biologically or by adoption or is the offspring of a previous relationship is considered to be essential for both types of family" (Bellerose et al., 1989). The same criteria were applied to the Cree. As was the case in the 1987 survey, the types of families with at least one child less than 18 years of age were determined with the aid of the identification cards, which contained data on members of the household, their age and their relationship with the main respondent.

TABLE 2.4

Distribution of households with children under 18 years of age by family type (%), Cree population, 1991

	%	NUMBER OF HOUSEHOLDS*
1 TWO-PARENT FAMILY	59.5	175
1 SINGLE-PARENT FAMILY	3.8	11
1 TWO-PARENT + MISC.	10.5	31
2 TWO-PARENT FAMILIES	6.1	18
1 TWO-PARENT + 1 SINGLE-PARENT	9.2	27
1 SINGLE-PARENT + MISC.	7.5	22
2 SINGLE-PARENT FAMILIES	0.7	2
UNCLASSIFIABLE	2.7	8
TOTAL HOUSEHOLDS	100.0	294

* Unweighted figures

The data of this survey indicate that 294 households (or 83%, compared to 42% for southern Quebec in 1987) included at least one child under the age of 18. However, as previously mentioned, Cree households differed in structure from those in southern Quebec. Table 2.4 shows that 60% of these households were two-parent ones as defined above; only 4% were single-parent households in which one parent was living alone with one or more children. Of the 11 cases of single-parent households, the single parent was male in only one case. The remaining 37% corresponded to other "extended family" models. Many single-parent families were integrated into these households.

The 294 households in the sample included 341 families with at least one child under the age of 18, 79% of which were two-parent, 19%, single-parent and 2%, unclassifiable. The proportion of single-parent families was comparable to the figure of 18% for southern Quebec found in the 1991 census (Statistics Canada, 1992a). However, given that four out of five Cree single-parents live with their extended family, their isolation might be much less than that of single-parent families in the rest of Quebec.

2.2.4 Cultural characteristics

Culture not only influences the beliefs, values, attitudes and behaviour of individuals, but also their state of health (Dufresne et al., 1985). Given the significance of this connection, it is now common practice to include the cultural characteristics of a population in the analysis and interpretation of its health status data (Cousineau, 1989). This is particularly important in the study of a society which is undergoing acculturation, or a process of rapid change resulting from direct and continuous contact between two distinct cultural groups (Berry, 1990).

2.2.4.1 Mother tongue and language usually spoken at home

In this survey, the first criterion of cultural belonging to the Cree community was mother tongue, defined as the language first learned and still spoken. All individuals 65 years and older and 96% of the remaining population identified Cree as their mother tongue, followed, in order of importance, by English and French. The language usually spoken at home was another key indicator of cultural belonging. Ninety-one percent of the people stated that they only spoke Cree at home, compared to 5% who spoke English and 2% who spoke both Cree and English. The percentages speaking other languages were negligible.

At this juncture in history, when aboriginal peoples are becoming increasingly conscious of their own identity and striving to take charge of their future, the Cree see maintaining their cultural identity as a priority. Linguistic survival was measured by cross-referencing the variables "mother tongue" and "language spoken at home" (Siggner, 1986). This new "language transfer" variable can be considered as an indicator of the acculturation level of

individuals; however, the fact that 97% of people whose mother tongue was Cree continued to speak Cree at home meant that it was of no use as a correlate of physical, social and mental health, its discriminatory value being nil. The smallest proportion of people whose mother tongue was Cree and who continued to speak Cree at home was in the 25-44 year-old age group (94%). The percentage rose to 100% among Cree 65 years of age and over.

2.2.4.2 Knowledge of languages

The knowledge of other languages may be a determinant of the individual's socioeconomic status, and it may also represent a factor of acculturation. One out of every five individuals using Cree at home did not know another language and, as Table 2.5 shows, the proportion increased with age, rising from approximately 6% among the 15-44 year-olds to 93% among the elders. The pattern was the same in all of the communities. Of the nearly two-thirds (63%) of Cree who knew one of the official languages, 20 times more knew English than French. This is due to historical factors, since the Cree had frequent contact with the Hudson Bay Company from the 17th century on, and in more recent times were provided with some health services in English by the federal government (Bobbish-Atkinson and Magonet, 1990). Overall, 15% of the Cree knew both official languages, an ability which declined with age from the peak of 23% in 15-24 year-olds. The availability of educational services in French in the territory's schools has increased the number of people in the younger generation who are learning French. Only 2% of the population did not know Cree.

TABLE 2.5

Knowledge of the official languages by age (%), Cree population 15 years of age and over, 1991

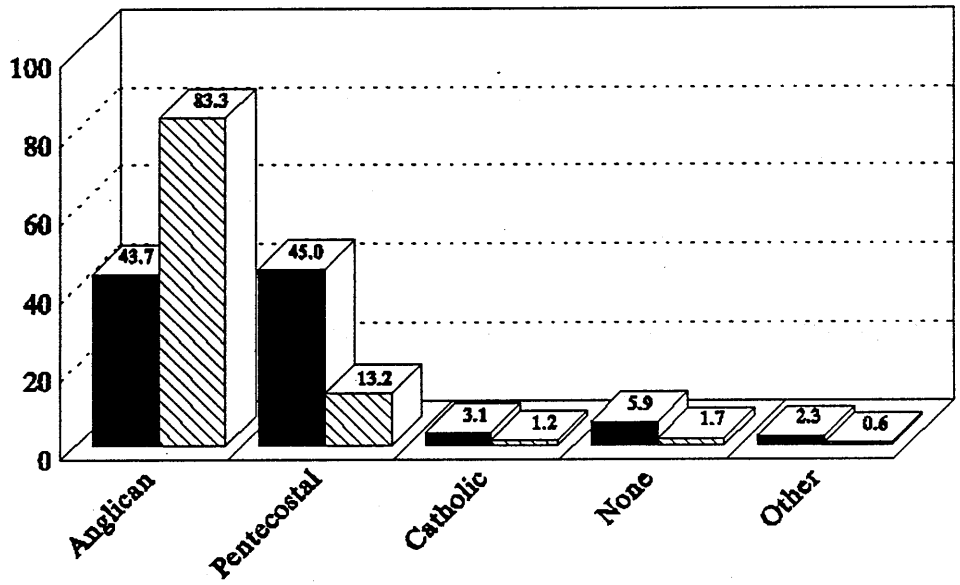
KNOWLEDGE OF LANGUAGES	AGE GROUP				TOTAL	
	15-24	25-44	45-64	65 +	%	PE
CREE ONLY	6.1	5.1	52.9	93.3	20.2	1,206
CREE AND ONE OFFICIAL LANGUAGE	69.0	76.4	42.2	6.7	62.6	3,736
CREE AND BOTH OFFICIAL LANGUAGES	22.8	15.0	3.7	-	14.8	882
OFFICIAL LANGUAGE(S) ONLY	2.1	3.5	1.2	-	2.3	140
TOTAL	100.0	100.0	100.0	100.0	100.0	5,963

2.2.4.3 Religion

Spirituality is of paramount importance in the holistic view aboriginal peoples have of their health (WHO, 1978; Adair, 1988). According to the 1983-84 Plasannouq survey, 85% of the Cree participants believed that prayer and religion were important to their well-being (Clarkson, Foggin, 1990). Religion can strongly influence particular lifestyle habits (smoking, drinking, drugs), the social environment, mental health and social problems. Two thirds of the Cree in this survey indicated that prayer and religion were very important to them. Their church-going behaviour provides a further indication of the value they ascribe to religion. Over one-third (35%) were going to their place of worship one or more times a week, and attendance increased regularly with age, rising from 16% in 15-24 year-olds to 60% in individuals 45 and over. Weekly church-going was also more prevalent among women than men.

FIGURE 2.4

Religious denomination by subregion (%),
Cree population 15 years of age and over, 1991



A little over two thirds of people of all ages were Anglican, and as shown in Figure 2.4, 83% of the inhabitants on the coast belonged to this denomination, compared with only 44% in the interior. The Pentecostal denomination was the choice of 26% of the Cree, most of whom were older and living in inland villages, with a slight majority of women over men. Table 2.6 shows that almost 60% of the Pentecostals reported attending church at least once a week.

TABLE 2.6

Church-going by religious denomination (%), Cree population 15 years of age and over, 1991

FREQUENCY OF CHURCH ATTENDANCE	RELIGIOUS DENOMINATION					TOTAL	
	CATHOLIC	ANGLICAN	PENTECOSTAL	OTHER	NONE	%	PE
AT LEAST ONCE/WEEK	-	27.2	59.2	34.2	5.7	34.5	2,013
AT LEAST ONCE/MONTH	25.0	22.7	16.7	7.6	3.2	20.3	1,187
A FEW TIMES/YEAR	17.8	35.1	17.0	32.6	53.8	30.6	1,789
ONCE/YEAR OR LESS	31.1	11.8	6.7	11.7	13.8	10.9	638
NEVER	26.1	3.2	0.4	13.9	23.5	3.7	216
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	5,843

2.2.5 Education

In many societies, education, expressed as the number of years of schooling, is one of the main indicators of socioeconomic status and state of health (Arnoti, 1987; Colin et al., 1989; Wilkins et al., 1989; Mori and Burke, 1989).

Education in this survey was measured by the highest level of schooling reached. Only 7% of the Cree population 15 years of age and over had any post-secondary education (Table 2.7), compared with 41% in the general population of Quebec (in 1986). For nearly 60% of the Cree, education stopped at the end of secondary school, and a little more than a third got no further than elementary school. There was no difference between males and females in this respect.

The level of schooling, however, varied considerably with age, the situation improving over time. Indeed, over 80% of the Cree aged 45-64 years and 65 and over, had no more than an

elementary school education, whereas this figure was only 10% in 15-24 year-olds. The vast majority of 15-24 year-olds (86%) had either completed high school or were still attending. The highest percentage of Cree with post-secondary education (non-university or university) was found in the category of 25-44 year-olds (12%). The relative proportion of people with no more than an elementary school education was higher in the interior (44%) than on the coast (29%).

TABLE 2.7

Distribution of the Cree population 15 years of age and over by highest level of education reached and age (%), 1991

EDUCATION LEVEL	AGE GROUP				TOTAL	
	15-24	25-44	45-64	65 AND +	%	PE
ELEMENTARY, COMPLETED OR NOT	9.9	24.4	83.9	98.1	35.1	2,129
SECONDARY, COMPLETED OR NOT	86.4	63.3	12.0	-	57.9	3,517
POST-SECONDARY, NON-UNIVERSITY	3.4	8.0	2.3	1.9	4.9	295
UNIVERSITY, COMPLETED OR NOT	0.3	4.3	1.8	-	2.1	127
TOTAL	100.0	100.0	100.0	100.0	100.0	6,068

Among those who spoke only Cree, the percentage of people who did not get beyond elementary school (87%) was eight times higher than among those who could speak English, French and Cree (11%). The levels of education and of proficiency in English and French were higher in individuals under 45 years of age than in those aged 45 and over. These differences indicated that knowledge of another language was highly correlated with education and age.

2.2.6 Work and occupations

Labor market status and occupation type are indicators of an individual's socioeconomic level. As a general rule, high unemployment and particular types of occupations are associated with poor living conditions, a low socioeconomic level and a higher incidence of social and health problems (Roy et al., 1988; Lesemann, 1987).

2.2.6.1 Working status

A question on working status (question 67b in the Individual Questionnaire; Annex 4) was included to determine what proportion of the population was engaged in salaried or non-

salaried employment at the time of the survey. With respect to salaried employment only, 30% of the Cree were working full-time, 12% had a part-time job and 3% were working occasionally, for a total of 45% of the population.

It should be noted that trapping was considered non-salaried employment in this survey, although trappers do benefit from an income security program.

2.2.6.2 Type of occupation

People who answered that they were engaged in salaried employment either full-time, part-time or occasionally (question 67b), were then asked what type of work they did (question 71). This information was then combined with the data on non-salaried employment (also question 67b) to create the variable "type of occupation".

The two main occupational categories found in the Cree 15 years of age and over were trappers (22%) and white collar workers (21%). Occupation type, however, varied according to sex (Table 2.8). More than half the men worked as blue collar or manual workers (28%) and trappers (27%); while Cree women did mostly white collar jobs (28%), e.g., clerical work or worked at home (23%).

TABLE 2.8

Distribution of the Cree population 15 years of age and over by occupation type and sex (%), 1991

TYPE OF OCCUPATION	SEX		TOTAL	
	MALES	FEMALES	%	PE
SALARIED WORKERS				
• PROFESSIONAL/MANAGEMENT	8.6	9.3	8.9	540
• WHITE COLLAR	14.6	27.8	21.2	1,278
• BLUE COLLAR	28.3	1.8	15.1	910
NON-SALARIED WORKERS				
• TRAPPERS	26.7	17.5	22.1	1,334
• WORK AT HOME	2.4	22.9	12.6	761
• RETIRED/WELFARE	6.4	12.5	9.5	572
• UNEMPLOYMENT INSURANCE	3.4	1.6	2.5	151
• OTHER	9.6	6.6	8.1	492
TOTAL	100.0	100.0	100.0	6,038

White collar workers constituted the largest employment category in the 15-24 and 25-44 year-old age groups, whereas trappers made up nearly one-half of the population 45 years of age and over. There was no significant difference in the distribution of the population by occupation between the inland and coastal villages. The only point of comparison worth mentioning is that the proportion of trappers was somewhat higher in the interior (26%) than on the coast (19%).

TABLE 2.9

Sector of activity of salaried workers by subregion (%), Cree population 15 years of age and over, 1991

SECTOR OF ACTIVITY*	SUBREGION		TOTAL	
	INTERIOR	COAST	%	PE
PRIMARY SECTOR	7.5	0.7	3.3	89
• AGRICULTURE	0.5	0.3	0.4	10
• FISHING AND TRAPPING	1.3	0.4	0.8	21
• FORESTRY	3.7	-	1.4	38
• MINING	2.0	-	0.7	20
SECONDARY SECTOR	15.3	21.4	19.1	520
• MANUFACTURING	-	0.8	0.5	14
• CONSTRUCTION	10.8	15.0	13.4	364
• TRANSPORTATION	-	2.4	1.5	42
• COMMUNICATIONS	4.5	3.2	3.7	100
TERTIARY SECTOR	77.2	77.9	77.6	2,112
• TRADE (WHOLESALE & RETAIL)	6.5	13.4	10.8	294
• FINANCE	1.5	1.0	1.2	32
• MAINTENANCE SERVICES	0.5	0.6	0.6	16
• GOVERNMENT SERVICES	38.5	35.6	36.7	999
• EDUCATION	10.9	10.3	10.5	287
• HEALTH AND SOCIAL SERVICES	11.2	9.1	9.9	268
• LODGINGS/ACCOMMODATIONS	3.1	3.5	3.3	90
• OTHER SERVICES	5.0	4.4	4.6	126
TOTAL	100.0	100.0	100.0	2,721

* Based on the classification of economic activities in Quebec (*Bureau de la statistique du Québec, 1989*)

Note : Columns may not add up to 100.0 due to rounding off of percentages.

2.2.6.3 Sector of activity

The information on sector of activity was captured via the question: "To what kind of business, industry or service sector is your job related?". Table 2.9 shows that three-quarters (78%) of the Cree who were engaged in salaried employment had jobs in the tertiary sector: government services (37%), wholesale and retail (11%), education (11%), health (10%), lodgings/accommodations (3%) and several smaller categories (5%). Nearly 20% of the jobs were in the secondary sector: construction (13%), transportation (2%), communications (4%) and manufacturing (0.5%). Only 3% of the salaried jobs were in the primary sector (fishing, trapping, mining and forestry). This latter figure is an underestimation due to the fact that the Cree trappers, who make up 22% of the adult population were not asked this question, having not been considered along with salaried workers in the questionnaire.

The primary sector was more developed in the interior, chiefly because of forestry and mining operations. There were more secondary sector jobs, particularly in construction and transportation, in the coastal communities. As far as the tertiary sector was concerned, twice as many Cree were working in wholesale or retail stores in the coastal communities. Finally, 90% of the women were employed in the tertiary sector, compared to 68% of the men, who predominated heavily in the primary and secondary sectors.

2.2.6.4 Length of stays in the bush

The length and number of stays in the bush are sociodemographic variables not usually included in surveys of this type. However, in the case of the Cree, they are relevant for the very simple reason that 32% of the population of all ages make one or more trips totalling at least 120 days in the bush every year (*Office de la sécurité du revenu des chasseurs et piégeurs cris*, 1990).

One quarter of the Cree population 15 years of age and over (24%) spent more than four months in the woods per year. As shown in Table 2.10, the proportion of people spending lengthy periods of time in the bush increased steadily with age, reaching 32% in the inland communities, compared to 19% in the coastal villages.

2.2.7 Income

The fact that nearly 25% of those interviewed did not answer the question about their income before deductions for the year preceding the survey may be due in part to traditional Cree values placing greater emphasis on the present (what is the point of knowing how much one has earned in a year?) and on trusting ones family and friends (having someone else do one's income tax return) (Bobbish-Atkinson and Magonet, 1990).

As seen in Table 2.11, among individuals aged 15 years and over who declared an income, 45% had a income over $12,000 and 25% earned over $20,000. Almost twice as many men (33%) as women (17%) declared an income of over $20,000. One woman out of five earned less than $1,000.

TABLE 2.10

Length of stays in the bush by age (%), Cree population 15 years of age and over, 1991

LENGTH OF STAYS	AGE GROUP				TOTAL	
	15-24	25-44	45-64	65 +	%	PE
NEVER	13.3	13.6	5.4	18.0	12.3	691
1 MONTH OR LESS	51.8	51.4	34.4	12.8	45.6	2,551
> 1 MONTH < 4 MONTHS	20.7	16.6	16.4	13.8	17.8	998
4 MONTHS OR MORE	14.2	18.4	43.8	55.4	24.3	1,363
TOTAL	100.0	100.0	100.0	100.0	100.0	5,603

TABLE 2.11

Distribution of Cree population 15 years of age and over, by individual income and sex (%), 1991

INCOME	SEX		TOTAL	
	MALES	FEMALES	%	PE
LESS THAN $1,000	11.5	19.5	15.3	710
$1,000 TO $5,999	11.8	21.9	16.6	769
$6,000 TO $11,999	23.7	21.6	22.7	1,052
$12,000 TO $19,999	20.2	20.1	20.2	934
$20,000 TO $29,999	18.0	9.9	14.1	654
$30,000 TO $39,999	10.1	5.7	8.0	370
$40,000 AND OVER	4.7	1.3	3.1	144
TOTAL	100.0	100.0	100.0	4,633

Note: The non-response rate was close to 25%.

Table 2.12 shows that the largest percentage of salaried workers declaring incomes of over $20,000 were in the 25-44 year-olds (39%), the smallest in those aged 65 and over (6%). The proportion of individuals earning less than $6,000 decreased with age, varying from 62% in 15-24 year-olds to 9% in the 65-and-over age group.

TABLE 2.12

Distribution of the Cree population 15 years of age and over, by individual income and age (%), 1991

INCOME	AGE GROUP				TOTAL	
	15-24	25-44	45-64	65 +	%	PE
LESS THAN $6,000	62.3	17.8	14.5	9.3	31.9	1,479
$6,000 TO $11,999	17.8	20.6	28.7	43.8	22.7	1,053
$12,000 TO $19,999	12.1	22.2	22.9	40.6	20.2	934
$20,000 AND OVER	7.8	39.4	33.9	6.3	25.2	1,168
TOTAL	100.0	100.0	100.0	100.0	100.0	4,634

Note: The non-response rate was close to 25%.

The frequency of incomes over $20,000 increased with education level, rising from 18% among those who had completed elementary school to 80% among those who had taken university courses. The proportion of salaried workers earning $20,000 and over was higher in the non-isolated villages (28%) than in the isolated villages (20%).

2.3 DISCUSSION AND CONCLUSION

The independent variables quantified above will be used to analyze the results in the chapters that follow. Variables such as geographic location (coastal/inland; isolated/non-isolated), age, sex, marital status, language, religion, and length of stays in the bush will be used to explain the observational data. It should be noted, however, that the variables education and income will not be used - education, because it was too closely associated with age to provide any additional information and income, because the response rates were too low.

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CHAPTER 3

LIFESTYLE

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3.0 INTRODUCTION

Lifestyle factors are major determinants of health status. Because habits can be modified by promotional and preventive activities, significant gains in longevity and quality of life can be achieved if such activities are carried out. Most chronic diseases, disabilities and premature deaths have a multifactorial etiology involving not only non-modifiable biological factors, but also potentially modifiable environmental and behavioural factors (Lalonde, 1974). A number of these habits are in fact the major risk factors for most chronic diseases and severe disabilities. This chapter is devoted to the most important among these, namely smoking, alcohol and drug consumption, nutrition, sedentary lifestyle and the absence of preventive women's health practices. The risk factor, excess weight (Andres, 1980), was also examined.

3.1 SMOKING

Without a doubt, tobacco smoking is the lifestyle habit that causes the most mortality and disability. It has been identified in Canada as the cause of nearly 50,000 deaths per year, half of which are due to ischemic heart disease, and is cited as being responsible for 80% to 85% of all cases of lung cancer (Wigle et al., 1986). Among the Cree, 20% of deaths which occurred between 1982 and 1986 were due to circulatory problems and 17% to cancer (Courteau, 1989). The study in question does note, however, that the proportion of deaths attributable to these two problems was lower among the Cree than in the Canadian population as a whole over the same period (the standardized mortality ratios, or SMRs, were 0.8 for cancer and 0.6 for circulatory disorders).

Giving up cigarettes is a long and difficult process for most smokers. Nevertheless, four out of every ten smokers (43%) in Canada try to quit smoking in the course of any given year (Millar, 1992). As a result, between 1965 and 1990 the percentage of smokers has undergone a steady decline, from 61% to 31% among males and 38% to 28% among females (Health and Welfare Canada, 1993). The same tendency was observed in the province of Quebec where the proportion of regular smokers 15 years and older decreased from 42% in 1975 to 34% in 1988 (Millar, 1983; 1988). Ex-smokers experience a gradual improvement in their cardiovascular risk, which is cut in half by the end of the first year and becomes comparable to that of non-smokers after fifteen years (U.S. Department of Health and Human Services, 1990).

In many countries including Canada, young women are now smoking more than young men (Health and Welfare Canada, 1992). This same tendency has been observed in Quebec where 29% of males and 35% of females aged 15-24 years, reported smoking regularly (Santé Québec, 1988). In the U.S., the age at which people, especially young females, start smoking has continued to drop, and the period when children are starting to experiment with tobacco is now between 10 and 12 years of age (U.S. Department of Health and Human Services, 1989).

The national smoking rates give no indication of the considerable differences between ethnic groups. The highest rates are observed in aboriginal populations, where the proportion of regular smokers (albeit not standardized for age) stands at 59% (Millar, 1992). The Plasannouq survey conducted in 1983-84 reported a prevalence of tobacco use of 52.7% among the Cree (Foggin and Lauzon, 1987); a more recent survey (Lavallée 1990) yielded the figure of 40%. This same study found that only 18% of Cree smokers were smoking 25 cigarettes or more a day. The Cree start smoking early, judging by the finding of Pickering et al. (1989) where 51% of 11-18 year-old school children smoked.

3.1.1 Scope and limits of the data

The survey contained seven questions on cigarette smoking, all of which were taken from the 1987 Santé Québec survey. A new variable was constructed in order to reproduce the following four, widely-used categories: regular smokers (who smoke at least one cigarette a day), occasional smokers, ex-smokers and non-smokers.

3.1.2 Results

Slightly over 41% of the Cree population reported that they smoked every day. Table 3.1 shows that, although 47% said that they did not smoke, only 9% had never smoked, and the latter were for the most part 45 years of age and over. The percentage of both occasional and regular smokers was inversely proportional to age, increasing from 23% in those 65 years and over to 77% in 15-24 year-olds, in which the proportion of smokers seems to have remained basically unchanged since the Plasannouq survey (Foggin and Lauzon, 1987).

There were more regular male than female smokers (46% vs 37%), but the gap was narrower in young people (Table 3.2). The prevalence of smoking in the youngest age group was particularly high: 61% indicated that they smoked regularly. These rates are twice as high as those for all Quebecers of the same age (Roy et al., 1988). On the other hand, proportionally fewer Cree aged 45-64 years reported smoking than their counterparts in the rest of Quebec.

Unlike the Plasannouq survey, which found a higher proportion of smokers on the coast (57%) than in the interior (43%), no significant difference in the percentage of smokers was found between the two subregions (Clarkson and Foggin, 1991). Overall, 49% of the Cree population started to smoke between the ages of 7 and 15; in 15-24 year-olds, this proportion was 73%. People living in the coastal communities tended to start later than people in the inland communities: 44% began to smoke between the ages of 7 and 15 on the coast compared to 55% in the interior.

TABLE 3.1

**Types of smokers by age (%),
Cree population 15 years of age and over, 1991**

TYPES OF SMOKERS	AGE GROUP				TOTAL	
	15-24	25-44	45-64	65 AND +	%	PE
NEVER SMOKED	8.7	5.5	14.9	17.8	9.2	558
EX-SMOKERS	14.5	44.0	61.2	59.0	37.4	2,262
OCCASIONAL SMOKERS	15.6	13.2	6.7	1.9	12.0	726
REGULAR SMOKERS	61.2	37.3	17.2	21.3	41.4	2,502
TOTAL	100.0	100.0	100.0	100.0	100.0	6,048

TABLE 3.2

**Proportion of regular smokers by age and sex (%),
Cree population 15 years of age and over, 1991 and Quebec, 1987**

	AGE GROUP				TOTAL	
	15-24	24-44	45-64	65 AND +	%	PE
CREE 1991						
• MALES	64.6	42.0	21.6	28.3	45.7	1,386
• FEMALES	57.8	32.4	13.3	13.8	37.0	1,116
QUEBEC 1987						
• MALES	28.4	40.8	37.1	26.0	35.8	865,397
• FEMALES	34.5	37.5	28.5	16.0	31.9	822,215

Despite the high prevalence of smoking, the number of cigarettes smoked daily was lower in the Cree than elsewhere in Quebec, where 20% of males and 13% of females smoke more than 25 cigarettes a day (Roy et al., 1988). Among the Cree, 63% of regular smokers (females: 80%; males: 49%) smoked 10 cigarettes a day or less. Thirty-six percent (36%) (females: 19%; males: 49%) smoked 11 to 25 cigarettes a day and only 1% smoked more than one large pack a day.

Thirty-seven percent (37%) of the Cree were ex-smokers, of whom 42% had quit smoking between the ages of 20 and 30; women tended to quit earlier than men.

3.2 ALCOHOL AND DRUG CONSUMPTION

Alcohol abuse is associated with a wide range of health problems, including cirrhosis of the liver, upper digestive tract cancer and traumatic injury in motor vehicle accidents (Roy, 1985). It is also associated with a number of social problems, especially violence. The per capita consumption of alcohol increased by 250% in North America from the end of the Second World War into the 1970s, after which it fell slightly by approximately 6% (Rankin and Ashley, 1992). In Canada, Quebec and Ontario are the two provinces where alcohol consumption is the highest (Health and Welfare Canada, 1993), as measured by the average number of drinks in the seven days preceding the survey.

As for drug consumption, it seems to have been declining slowly for over 10 years now, both in Quebec and the rest of Canada (Adlaf and Smart, 1991). Yet, for a large minority of teenagers and young adults, drug abuse remains a serious problem, often linked to other risk behaviours such as alcohol abuse and unprotected sex (Santé Québec, 1992).

3.2.1 Scope and limits of the data

In any survey of this sort, the investigators must be mindful of the effect of social desirability on the accuracy of responses. When asked about alcohol or drugs, respondents may not want to answer or be tempted to downplay their consumption (Health and Welfare Canada, 1988), especially in the presence of an interviewer. To minimize this effect, not only were standard questions for this type of survey used, but also a procedure was adopted to guarantee the confidentiality of the information provided (a Confidential Questionnaire completed by the respondent and placed in a sealed envelope). Although some underestimation of the frequency and quantity of alcohol or drugs consumed remains likely, it does not prevent comparisons from being made between various sociodemographic groups.

The questions used to identify the types of drinkers (non-drinkers, ex-drinkers, occasional drinkers and habitual drinkers) in the adult Cree population were taken from the 1987 Santé Québec survey. Consumption was measured by the average number of drinks taken per day when the person is drinking. Given the individual and cultural differences in reactions to alcohol, it is difficult to define the threshold beyond which drinking begins to present a risk. According to Eliany (1989), in most populations, the consumption of five drinks or more a day when the respondent is drinking is likely to cause problems. This threshold seems to be

sufficiently sensitive as an indicator to differentiate individuals who are at risk for alcohol-related problems from those who are not.

To measure the alcohol-related problems themselves, four questions were taken from the 1987 Santé Québec survey that had been used in the construction of the CAGE index (short for Cut down, Annoyed, Guilty and Eye opener). CAGE, developed and validated in 1974 (Mayfield et al., 1974), was used primarily to identify at-risk drinkers among patients seen in clinics, before being extended and validated in general population surveys (Roy et al., 1988, Smart et al., 1991). Another question involving nine items on alcohol-related problems was also taken from the 1987 Santé Québec survey. Three of the nine items were changed slightly to adapt them to the cultural context after a pre-test with a group of Cree. This question and the four CAGE questions were used to construct another index already used in the 1987 Santé Québec survey. Based on the DSM-III-R (Diagnostic and Statistical Manual of Mental Disorders, Third Edition, of the American Psychiatric Association, 1989), this index is called ADI (Alcohol Dependence Index), although it now tends to be viewed as an indicator of problems related to excessive drinking, without necessarily implying dependence (Guyon and Nadeau, 1992).

The questions on drug consumption in this survey are different from those used in the 1987 Santé Québec survey, but are the same as those in the 1990 national Health Promotion Survey (Health and Welfare Canada, 1993).

3.2.2 Results

3.2.2.1 Alcohol consumption

Nearly one quarter (23%) of the Cree population, twice as many of whom were female as male, were non-drinkers who stated that they had never consumed alcohol. Table 3.3 shows that there were more non-drinkers in the coastal communities than in the interior (28% vs 16%). Of the 28% of individuals who were ex-drinkers and had not consumed any alcohol during the 12 preceding months, there were as many males as females and the two subregions were equally represented. Two out of every ten people (22%) were occasional drinkers who had consumed alcohol less than once a month over the preceding year. The habitual drinkers, who were drinking at least once a month, represented 27% of the population; this group included more men (33%) than women (20%) and more inhabitants of the inland villages (35%) than coastal communities (21%).

There were also marked differences in drinking habits between the Cree and other Quebecers, in which there were twice as many habitual drinkers. Five times more Cree than southern Quebecers had stopped drinking and almost twice as many had never consumed alcohol.

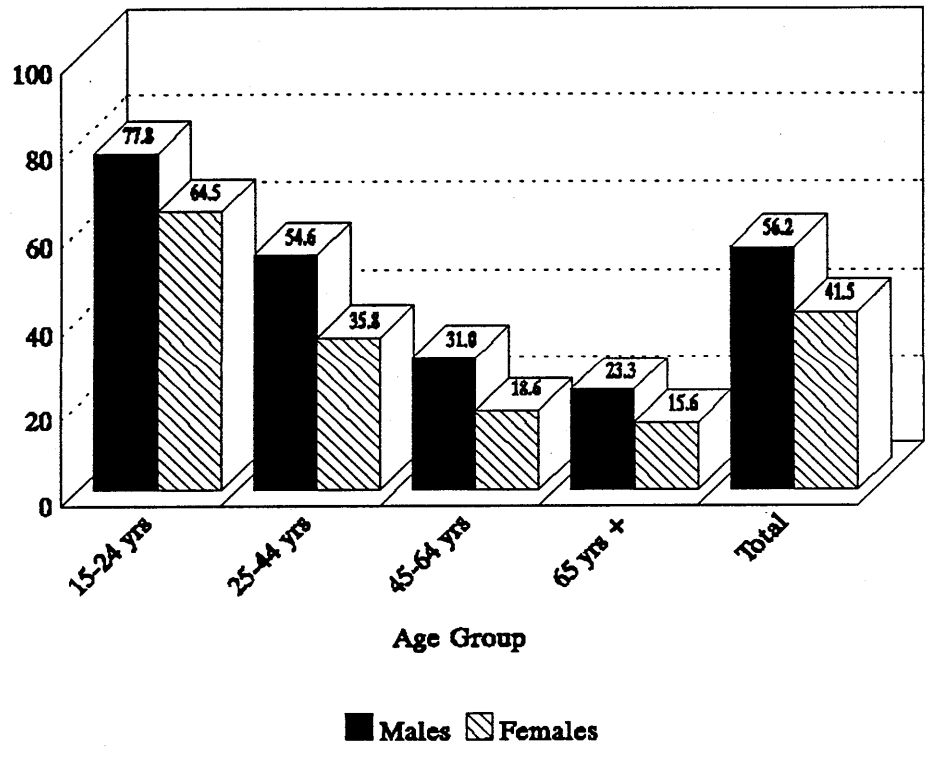
TABLE 3.3

**Types of drinkers by subregion (%),
Cree population 15 years of age and over, 1991 and Quebec, 1987**

TYPES OF DRINKERS	SUBREGIONS		TOTAL, CREE		QUEBEC
	INTERIOR	COAST	%	PE	%
NON-DRINKERS	16.2	27.6	22.9	1,365	14.8
EX-DRINKERS	29.5	27.3	28.2	1,679	5.5
OCCASIONAL DRINKERS	19.8	23.7	22.2	1,319	19.6
HABITUAL DRINKERS	34.5	21.4	26.7	1,592	60.1
TOTAL %	100.0	100.0	100.0	5,955	100.0

FIGURE 3.1

**Proportion of drinkers (occasional or habitual) by age and sex (%),
Cree population 15 years of age and over, 1991**



As Figure 3.1 also shows, the proportion of occasional or habitual drinkers declined steadily with age, especially among women. While 71% of 15-24 year-olds drank, the figures in the 65 and over group were 23% for men and only 16% for women. Conversely, only 16% of 15-24 year-olds had never consumed alcohol, as compared to 29% of men and 53% of women 65 years and over. In other words, alcohol consumption seems to be a relatively recent phenomenon in the Cree communities.

The Cree health survey conducted in 1983-1984 had pointed to a similar pattern, in that 74% of men and 41% of women in the 20-24 year-old age group said that they had consumed alcohol in the month preceding the survey, as opposed to 24% of the men and none of the women 65 and over (Clarkson and Foggin, 1991).

Alcohol consumption seems to go hand in hand with cigarette smoking, given that 70% of the habitual drinkers were also regular smokers. This phenomenon is closely linked to age. Also noteworthy is the fact that half of the individuals who had stopped smoking had also stopped drinking.

Figure 3.2 shows that more males than females (74% vs 58%) stated that they had five drinks or more a day on the days when they drank, the proportions decreasing slightly with age. A larger proportion of these heavy drinkers were living in the inland communities (83%) than on the coast (55%).

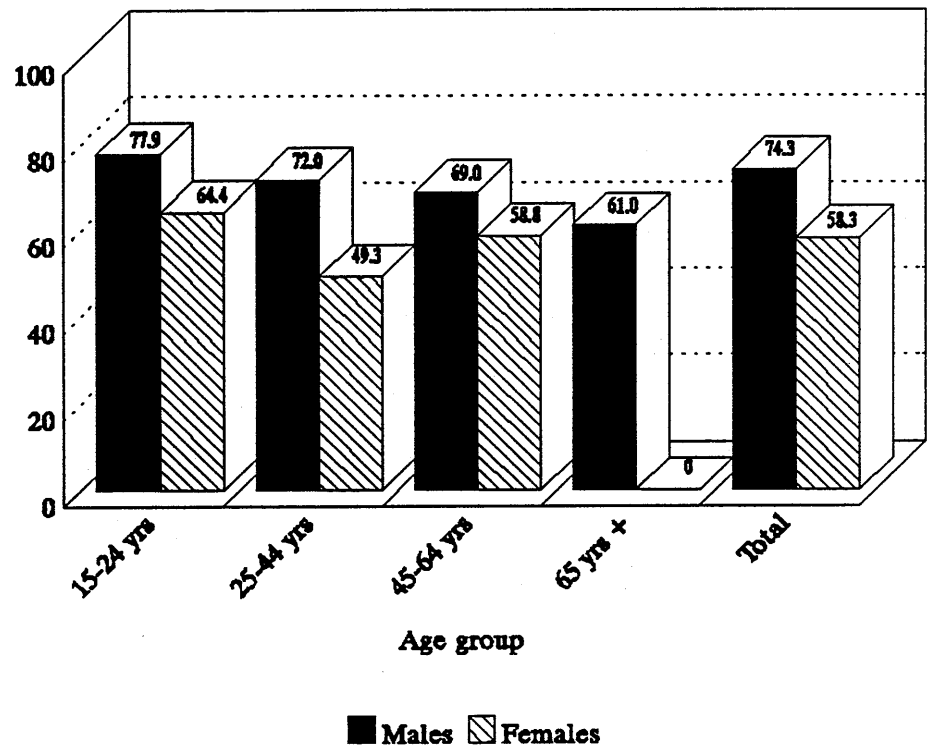
Among the Cree who drank, about two thirds (68%) stated that they had cut down on their drinking during the 12 months preceding the survey; 6% said that they had drunk more, and 26% reported no change. These proportions were basically the same in the various sociodemographic subgroups. Compared to occasional drinkers, significantly fewer habitual drinkers reported drinking less.

3.2.2.2 Problems related to alcohol consumption

As mentioned above, there were few habitual drinkers among the Cree (27%). This is due in part to the fact that most Cree communities are in principle "dry towns", meaning that the Band Councils have adopted by-laws prohibiting the sale and consumption of alcohol. Furthermore, a majority of drinkers, both occasional and habitual, stated that they had five drinks or more on the days when they drank. This type of drinking (rarely but heavily, often to the point of inebriation), generally referred to as *binge drinking* (Reynolds et al., 1992), is different from the way alcohol is consumed in the southern parts of Quebec.

FIGURE 3.2

Proportion of drinkers consuming five drinks or more a day when they drink, by age and sex (%), Cree population 15 years of age and over, 1991



Alcohol-related problems in the Cree, summarized in Table 3.4, were two to three times more prevalent among males than females, a finding which is consistent with the differences in the way they drink: both the number of drinkers and frequency and amount consumed were proportionately higher in males.

The at-risk consumption scales such as CAGE or ADI that were used in the 1987 Santé Québec survey seem to lose some of their discriminating power when applied to the Cree population. This is particularly striking in the case of two of the components of the CAGE index. To the question "Have you ever felt that you should cut down on your drinking?", 80% of those who consumed alcohol answered "yes"; at the same time, 72% of the drinkers gave the same answer to the question "Have you ever felt bad or guilty about your drinking?". The high rates of affirmative answers to these two questions may be related to the fact that alcohol consumption is disapproved of in Cree culture and prohibited in the majority of the communities.

TABLE 3.4

Problems related to alcohol consumption during the 12 months preceding the survey by sex (%), Cree population 15 years of age and over, 1991

	SEX		TOTAL	
	MALES	FEMALES	%	PE
HURT YOURSELF OR SOMEONE ELSE IN A FIGHT BECAUSE OF ALCOHOL	17.2	6.9	12.1	713
HAD TROUBLE AT WORK OR AT SCHOOL BECAUSE OF DRINKING	13.0	6.5	9.8	576
BEEN WARNED BECAUSE OF DRUNKEN DRIVING*	12.8	5.2	9.0	529
HAD PROBLEMS WITH HEALTH BECAUSE OF DRINKING	11.6	5.2	8.4	494
WAS SENT HOME BECAUSE OF BEING DRUNK IN A PUBLIC PLACE	9.8	3.3	6.5	386
HAD HAD AN ACCIDENT, INJURY OR HURT SOMEONE ACCIDENTALLY WHEN DRUNK	8.2	3.0	5.6	333
HAD HAD AN ALCOHOL-RELATED HOSPITALIZATION OR HAD TO GO FOR TREATMENT FOR AN ALCOHOL PROBLEM	6.1	1.5	3.8	225
LOST A JOB (OR GOT KICKED OUT OF SCHOOL) BECAUSE OF DRINKING	3.3	1.9	2.6	153
ANSWERED "YES" TO AT LEAST ONE OF THESE QUESTIONS	33.6	15.2	24.3	1,407

* These figures should be interpreted with caution, since it is suspected that the statement may have been misunderstood by some of the people.

According to CAGE, individuals who answer "yes" to at least two of the four questions that make up the index are at-risk for alcohol-related problems. In the Cree population, 64% of occasional drinkers and 76% of habitual drinkers (or 34% of Cree 15 years of age and over) were at risk (Table 3.5).

The ADI index identifies as having a drinking problem those individuals who answered "yes" to at least one of the CAGE questions and admitted to having been confronted with at least one of the problems associated with drinking. If the two non-discriminating questions in the

CAGE index (as described above) are included in the ADI index, 46% of occasional drinkers and 69% of habitual drinkers (representing 28% of all adult Cree) were having problems related to drinking.

Table 3.5 presents the results for the CAGE, ADI and modified ADI indices (excluding the two non-discriminating CAGE questions) for the Cree population 15 years of age and over. It appears that the modified ADI is probably the best indicator of at-risk drinkers among the Cree, because it takes problems related to excessive drinking into consideration, but not feelings of guilt or desire to reduce consumption which may be more related to the rejection of all alcohol intake by Cree culture. However, the modified ADI remains to be validated.

TABLE 3.5

Proportion of at-risk drinkers according to the CAGE, ADI and modified ADI indices, by age and sex (%), Cree population 15 years of age and over, 1991

AGE AND SEX	CAGE		ADI		MODIFIED ADI	
	%	PE	%	PE	%	PE
15-19						
• MALES	39.3	232	44.0	261	16.4	97
• FEMALES	46.1	267	39.7	230	18.4	106
20-24						
• MALES	65.4	329	65.2	328	36.3	183
• FEMALES	49.4	265	33.1	178	17.4	93
25-44						
• MALES	42.9	508	36.8	436	25.1	297
• FEMALES	22.2	252	12.1	138	8.1	92
45-64						
• MALES	22.0	117	13.0	69	7.5	40
• FEMALES	14.0	78	9.0	50	3.6	20
65 AND OVER						
• MALES	12.3	29	8.0	19	4.2	10
• FEMALES	-	-	3.3	7	-	-
TOTAL						
• MALES	39.9	1,215	36.5	1,113	20.6	627
• FEMALES	28.4	862	19.9	603	10.3	311
BOTH SEXES	34.2	2,077	28.2	1,716	15.4	938

3.2.2.3 Drug use

Initially, the Cree were asked whether they had ever consumed particular drugs, namely marijuana or hashish, cocaine or crack, or solvents such as glue or gasoline. One out of two males, and two out of three females, reported that they had never taken any of these drugs (Table 3.6).

Among Cree males, 46% reported that they had smoked marijuana or hashish at least once in their lives; the proportion was 32% in females. Cocaine or crack had already been used by 12% of males and nearly 5% of females; as for solvents of all types, 12% of males and 9% of females stated that they had already sniffed solvents "to get high".

TABLE 3.6

Lifetime consumption of various types of drugs by sex (%), Cree population 15 years of age and over, 1991

TYPE OF DRUG	SEX		TOTAL	
	MALES	FEMALES	%	PE
MARIJUANA OR HASHISH	46.0	32.1	39.1	2,329
COCAINE OR CRACK	11.6	4.8	8.2	484
SOLVENTS*	11.7	9.2	10.5	620
OTHER DRUGS	12.2	6.6	9.4	555
NONE	50.8	65.4	58.1	3,413

* Glue, gasoline, liquid paper (correcting fluid), lighter fluid, nail polish, etc.

Note: The total is greater than 100% because some individuals may have taken more than one type of drug.

Another series of questions dealt with drug use during the 12 months preceding the survey. Table 3.7 shows that consumption was more prevalent among males than females for all types of drugs. Marijuana or hashish was particularly popular in 15-24 year-olds. Solvents were more attractive to 15-19 year-olds, whereas cocaine or crack was used primarily by 20-24 year-olds. Very few women 25 and over were taking drugs. On the other hand, one out of every five males aged 25-44 years reported using drugs.

TABLE 3.7

Drug consumption during the 12 months preceding the survey, by age and sex (%), Cree population 15 years of age and over, 1991

	MARIJUANA OR HASHISH		COCAINE OR CRACK		SOLVENTS		OTHER DRUGS		NO DRUGS	
SEX	M	F	M	F	M	F	M	F	M	F
AGE GROUP										
15-19	32.8	25.5	6.6	2.5	5.1	2.8	14.5	5.1	61.1	72.2
20-24	45.4	18.5	11.7	8.1	-	-	3.5	3.8	52.9	78.8
25-44	18.6	3.8	9.0	0.8	0.4	-	0.4	-	78.7	95.7
45-64	-	0.9	-	-	-	-	-	-	100.0	99.1
65 and over	-	-	-	-	-	-	-	-	100.0	100.0
ALL AGES										
%	21.0	9.8	6.7	2.2	1.1	0.5	3.5	1.7	76.6	89.1
PE	619	286	200	65	33	16	104	49	2,188	2,561

A look at Table 3.8 shows that the frequency of consumption was also higher in males than females, with 21% of men and 10% of women reporting that they had taken drugs more than once a week, and 38% of females and 24% of males consuming drugs less than once a month.

TABLE 3.8

Frequency of drug consumption among Cree 15 years of age and over who had taken drugs during the 12 months preceding the survey, by sex (%), 1991

FREQUENCY OF CONSUMPTION	MALES	FEMALES	TOTAL	
			%	PE
MORE THAN ONCE/WEEK	20.9	10.3	17.6	33
ONCE/WEEK	10.4	12.8	11.1	21
1 TO 3 TIMES/MONTH	31.2	30.6	31.0	58
LESS THAN ONCE/MONTH	24.3	38.4	28.8	54
NO RESPONSE	13.2	7.9	11.5	22
TOTAL %	100.0	100.0	100.0	187

It was deemed important to determine whether there was an association between drug use and alcohol consumption in the Cree. For both males and females, a significant relation was found between drugs and alcohol, i.e., an individual who took drugs was more likely to drink alcohol, and vice-versa. Among males, 38% of drinkers (compared to only 4% of non-drinkers and ex-drinkers) had also consumed drugs during the 12 months preceding the survey; among females, 24% of drinkers and only 1% of non-drinkers had taken drugs during the same period.

3.3 PHYSICAL ACTIVITY

Many studies have pointed to the effect of regular physical activity in protecting against cardiovascular disease (Morris et al., 1980; Paffenbarger et al., 1978). Physical activity is apparently beneficial not only for physical health, but for mental health as well, and at all ages (Stephens, 1988). It is a determinant factor in weight control and delays the decline in musculo-skeletal function, changes in lipid and insulin levels and the loss of bone minerals that usually occur with age.

In the heart health survey (Santé Québec, 1994), 60% of the people stated that they engaged in recreational physical activity at least once a week. According to a recent survey in the Cree community, nearly 50% of the population was inactive during its leisure time (Lavallée, 1990); on the other hand; when they were in the bush, less than 3% of the respondents were sedentary in their daily activities. It is important to draw the reader's attention to the fact that the Cree see physical activity from the point of view of their culture, in which everyday physical activities are important and recreational exercise is a relatively new concept (Lavallée 1990).

3.3.1 Scope and limits of the data

In this section, two types of physical activity were measured: daily, and leisure-time activities.

The question on daily physical activity was taken from the 1987 Santé Québec survey (Santé Québec, 1988) because it was straightforward and easy to understand. It was put to each respondent twice to measure the level of physical activity in the village and during stays in the bush. The hypothesis was that people were more active when they were in the bush, where the very nature of conditions makes it necessary to fetch water, cut wood, carry game and perform a variety of more physically demanding tasks. The classification was done as follows: sedentary individuals were those who answered "yes" to the statement "I am usually sitting during the day and do not walk around very much"; relatively inactive individuals agreed with the statement "I stand or walk around quite a lot during my day, but I do not have carry or lift

things very often"; moderately active individuals agreed with the statement "I usually lift or carry light loads, or I have to climb stairs or hills often"; and very active individuals agreed with the statement "I do heavy work or carry very heavy loads". The answers were weighted according to the percentage of time, over the past year, spent in the village and in the bush to produce the daily physical activity index.

Although Canada's Health Promotion Survey (Health and Welfare Canada, 1988) concluded that leisure-time physical activity is difficult to measure because it varies so much in form, frequency, intensity and duration, Godin et al. (1986) suggest that a reliable and valid measurement can be obtained using simple questions on the frequency and duration of these activities, on the one hand, and intensity, on the other. Two questions were used to measure this concept: one on how often a person participated in sports or fitness activities for at least 20 minutes at a time, and the second on how strenuous these activities were. By combining these two variables, a leisure-time physical activity index was created. Individuals were considered to be very active in their spare time if they engaged in a 20-minute activity more than once a week and if that activity more often than not caused them to sweat or breathe heavily. Individuals whose activity sometimes caused them to breathe heavily were considered to be moderately active. Individuals whose activity never caused them to breathe heavily or sweat or who participated in an activity once a week were classified as relatively inactive. Individuals were classified as inactive if they took part in an activity once a month or less.

Finally, an overall physical activity index was constructed combining the levels of daily physical and leisure-time activities.

3.3.2 Results

Six percent (6%) of the Cree were identified as being very active during their leisure time, compared to 11% who were moderately active, 13% who were relatively inactive and 70% who were inactive. Table 3.9 shows that more males than females, and more young people, were active in their spare time. In fact, the proportion of sedentary individuals increased with age, reaching 87% among those 45 years of age and over.

The preponderance of very or moderately active males was also significant for the daily physical activity index (and this was true whether examining activities in the bush or village), and for the overall physical activity index (Table 3.10). With respect to the daily physical activity index, individuals aged 45-64 years were the ones who most often reported being very active in their daily lives (22%). Furthermore, when examining the overall index, which combines leisure-time and daily physical activities, more 15-24 year-olds (25%) were in the very active category than their elders (approximately 20% of 25-64 year-olds and 8% of those aged 65 and over).

TABLE 3.9

Leisure-time physical activity index by age and sex (%), Cree population 15 years of age and over, 1991

AGE AND SEX	LEVEL OF PHYSICAL ACTIVITY			
	VERY ACTIVE	MODERATELY ACTIVE	RELATIVELY INACTIVE	INACTIVE
15-24				
• MALES	9.8	17.9	22.1	50.2
• FEMALES	6.3	13.6	13.1	67.0
25-44				
• MALES	11.7	10.8	17.2	60.3
• FEMALES	3.0	7.0	11.1	78.9
45-64				
• MALES	3.5	5.1	6.8	84.6
• FEMALES	1.0	4.5	3.5	91.0
65 AND OVER				
• MALES	–	11.4	8.2	80.4
• FEMALES	–	3.3	3.3	93.3
TOTAL %	6.2	10.6	13.2	70.0
PE	372	634	790	4,180

TABLE 3.10

Daily physical activity and overall physical activity indices by sex (%), Cree population 15 years of age and over, 1991

INDEX/SEX	VERY ACTIVE	MODERATELY ACTIVE	RELATIVELY INACTIVE	INACTIVE
DAILY				
• FEMALES	10.5	28.4	48.8	12.3
• MALES	21.6	29.5	40.0	8.9
TOTAL %	16.1	29.0	44.3	10.6
PE	889	1,591	2,432	581
OVERALL				
• FEMALES	12.2	17.2	28.3	42.3
• MALES	29.1	17.9	29.0	24.0
TOTAL %	20.8	17.6	28.7	32.9
PE	1,138	959	1,566	1,797

3.4 NUTRITION

The importance of proper nutrition for the maintenance of optimal health is an almost universally recognized fact today. Poor or excessive food intake is associated with a wide range of health problems: obesity, diabetes, high blood pressure, cardiovascular disease, intestinal disease and cancer (MSSS, 1989). According to the authors of a policy paper from the Quebec ministry of health and social services, "the data suggest that up to 30% of all cases of obesity, cancer and cardiovascular disease can be attributed to poor nutrition" (MSSS, 1992).

As with other lifestyle factors, eating habits can be modified in the hope of preventing some chronic diseases. Changes in, or the adoption of new behaviors, however, can be influenced by social factors such as cultural or peer pressure. They can also be influenced by emotional factors, health beliefs or knowledge, an individual's perception of his/her ability to successfully adopt the desired change, and access to health services (Avis et al., 1990).

The eating habits of the Cree have changed a great deal over time. Before they had any contact with Europeans, their diet consisted almost exclusively of meat, fish and fat. The Cree also ate wild fruit and other plants such as Labrador tea and lichen, which were a major source of vitamins and minerals in their diet. The Cree's preference for the fatty parts of their game, such as the marrow of caribou and the tail of beaver, can be seen as an ecological adaptation; because lean meat is a relatively poor source of calories, they would have had to consume enormous quantities of it to get the calories they needed. The introduction of foods such as flour, sugar and lard was beneficial insofar as it staved off famine, but it also gave rise to problems such as tooth decay and a number of chronic diseases (Berkes and Farkas, 1978).

Food holds a special importance in Cree symbolism. There is a general consensus that traditional food (Cree food, bush food) is a basic prerequisite for health («being alive well») (Adelson, 1991). For the Cree, eating well means eating traditional foods. According to Adelson, the nutritional value ascribed by the Cree of Whapmagoostui to various foods, particularly meat, is related to the power of the spirit of the animal. Hence, birds would have less nutritional value than caribou or bear. She also reports that the most common way meat and fish are cooked in this community is "boiled in water", and the cooking water is considered to be an exceptionally nutritious drink. The blood and fat of the animal are also perceived as highly nutritious, and therefore, as important foods. Consequently, the Cree feel that "White" food will make a person weak. Today's young people are seen by their elders as weak and incapable of carrying out many of the Cree's traditional activities because they do not eat the right food.

Other authors point out that the current diet of the Cree is to a large extent responsible for tooth decay, anemia and the emergence of diseases previously unknown in these populations such as diabetes (Thouez et al., 1989).

3.4.1 Scope and limits of the data

The data used in this section were derived from the questions in the "nutrition" sections of the Individual and Household Questionnaires, which provided information on the preparation of meals, individual eating habits, changes in eating habits and the factors that may influence eating behaviour. Some of the questions used in the Quebec survey on heart health and nutrition had to be modified for the purposes of taking several distinctly northern factors into consideration (captive population, limited availability of food, eating habits specific to the Cree, etc.). Also, information on Cree eating habits was of a qualitative rather than quantitative nature. The quantitative analysis, based on the 24-hour diet recall, will be published at a later date.

3.4.2 Results

3.4.2.1 Meal preparation

The questions were asked to the person who most often prepared the meals for the household, in most cases a woman.

To pan fry meat, half (51%) of the Cree cooks most often used lard or shortening, and slightly over one quarter (26%) used oil (Table 3.11). The majority of them (76%) threw the cooking fat out, 8% ate it and 15% reported that they sometimes ate it as a sauce and sometimes threw it out. One out of every two individuals (51%) stated that they most often used oil for deep fat frying; 39% preferred lard or shortening. For oven cooking, the majority (60%) preferred lard or shortening.

Nearly half the cooks (46%) said that they usually fried meat and fish, as opposed to 33% who boiled them. In the case of bannock, 71% of people said that they roasted or broiled it in the oven; the remainder roasted or grilled it over a hot flame or fried it.

Four out of ten cooks (40%) reported that they often added salt while cooking; 35% added salt on occasion, and 14% almost never or never.

To the question on the purchase of prepared dishes, 5% of people stated that they bought them often, 38% sometimes, 25% occasionally and 32% almost never or never. Lack of time (63%) and convenience (20%) topped the list of reasons why they bought prepared meals.

TABLE 3.11

Proportion of household cooks using various fats or oils, by method of cooking/baking (%), Cree population, 1991

FATS AND OILS	PAN FRYING		DEEP FRYING		COOKING/BAKING IN OVEN	
LARD OR SHORTENING	50.5	850	38.7	656	59.9	1,015
OIL	26.3	443	51.0	865	12.5	212
BUTTER	13.2	223	--	--	9.6	164
SOFT MARGARINE	9.5	160	--	--	7.1	120
GOOSE OR BACON FAT	--	--	0.9	15	0.3	5
PAM OR NOTHING	0.5	9	--	--	6.3	107
DOES NOT USE THIS METHOD OF COOKING/BAKING	--	--	9.4	159	4.3	73
TOTAL %	100.0		100.0		100.0	
PE		1,685		1,695		1,696

Looking now at how often vegetables were bought and the reasons that may have limited their purchase, the most regularly bought, in decreasing order, were: potatoes, onion, tomatoes, carrots, lettuce and peas (Table 3.12). The reasons given by the Cree for not buying more vegetables related to taste, availability and cost. The most often mentioned reasons were: the family did not like them (39%), the respondent did not like the taste (28%), vegetables were not available in the community (22%), the respondent felt they cost too much (14%).

3.4.2.2 Individual eating habits

The questions referred to in the preceding section were addressed to the household cook. The following data were obtained using the Individual Questionnaire.

With respect to fat consumption, most Cree put lard, butter or margarine on bread (89%), on potatoes (71%) and on bannock (58%); 35% used them on other vegetables. Over seven out of ten Cree (73%) also ate fat with their meat or fish. The proportion was slightly lower in 15-24 year-olds (70%) than in older Cree (75%). It was also lower in women (68%) than men (78%).

The fats most frequently consumed with meat or fish were lard or shortening (37%) and goose fat (32%). Only 27% of individuals stated that they ate no fat with their meat or fish.

TABLE 3.12

Proportion of households regularly buying vegetables (%), Cree population, 1991

VEGETABLE	PROPORTION OF HOUSEHOLDS	
	%	PE
POTATOES	98.2	1,672
ONIONS	88.6	1,504
TOMATOES	87.2	1,470
CARROTS	85.1	1,444
LETTUCE	84.6	1,414
PEAS	81.6	1,365
MUSHROOMS	65.8	1,086
GREEN PEPPERS	56.2	924
CUCUMBERS	53.9	874
BROCCOLI	22.9	373
CAULIFLOWER	16.6	265
LEEKS	8.7	139
BRUSSELS SPROUTS	5.8	93
ZUCCHINI	4.9	78

Over a third (38%) of the Cree reported adding salt to their food at the table "often" compared to 11% who "almost never" or "never" did.

Four in ten Cree (44%) thought that they were eating too many sweets than were good for their health; roughly the same proportion felt they were eating too much fat.

Slightly over four out of ten people (44%) said that they had tried to change something in their eating habits in the course of the preceding year, not counting special diets. The proportion was higher among women (49%) than men (39%). Among those who tried to changed their eating habits, the attempts involved consuming less fat (85%), less junk food (84%), fewer pastries, candies or candy bars (81%), more fruit (80%), more vegetables (76%), less salt (73%), less sugar (74%) and less meat (58%).

Knowledge, beliefs, values and perceptions are all factors which may influence eating habits. They were evaluated using statements to which individuals were asked to indicate whether they agreed, disagreed, or neither agreed nor disagreed. Those who answered "don't know" were included in the latter category.

The results presented in Table 3.13 show that most Cree were of the opinion that what people eat can affect their health. For the majority, eating sweets, the amount of salt, blood cholesterol and obesity can affect and even damage their health. They felt that the risk of heart disease increased with the amount of fat consumed, and that store-bought food was not as healthy or nourishing as bush food. They indicated that they were willing to change their eating habits to stay healthy or improve their health. A minority (30%) believed that overweight women were stronger and sturdier. This opinion was found mainly among individuals 45 years of age and over (43%) and in men (36%).

For a number of the statements, the opinions were divided. For example, the majority of people who were 45 or over felt that skipping a meal was an effective way of controlling or reducing one's weight, that a person needs a good layer of fat as protection against the cold, and that fat is the only food that can improve bowel function. Most of the younger Cree disagreed with these ideas.

In considering the factors that may influence the Cree's eating habits, there are two statements which provide for comparisons with the 1990 Quebec survey on heart health and nutrition. With respect to the population aged 18-74 years only, just as many Cree as other Quebecers considered that the amount of cholesterol in your blood (83% vs 85%) and the amount of salt you eat (81% vs 76%) can affect you health.

TABLE 3.13

Proportion of individuals agreeing with the following statements, by age and sex (%), Cree population 15 years of age and over, 1991

(Table 3.13, Part 1 of 2)

STATEMENT	AGE				SEX		TOTAL	
	15-24	25-44	45-64	65 +	M	F		
THE AMOUNT OF SALT YOU EAT CAN AFFECT YOUR HEALTH (1)	75.0	84.9	79.2	73.0	76.1	82.7	79.4	4,809
THE AMOUNT OF CHOLESTEROL IN YOUR BLOOD CAN AFFECT YOUR HEALTH (1)	76.1	85.6	86.0	72.4	78.8	83.7	81.2	4,920

STATEMENT	AGE				SEX		TOTAL	
	15-24	25-44	45-64	65 +	M	F		
A PERSON WHO EATS FATTY FOODS IS MORE LIKELY TO SUFFER FROM HEART DISEASE (1,2)	74.4	83.5	90.6	81.1	77.8	84.7	81.2	4,918
OVERWEIGHT PERSONS RUN A GREATER RISK OF GETTING CERTAIN DISEASES THAN NORMAL-WEIGHT PERSONS (1)	63.6	77.3	87.8	79.2	72.9	75.7	74.3	4,498
SKIPPING A MEAL IS AN EFFECTIVE WAY TO CONTROL OR REDUCE YOUR WEIGHT (1,2)	39.9	39.3	60.5	68.0	50.6	40.3	45.4	2,744
STORE-BOUGHT FOODS ARE NOT AS HEALTHY AS BUSH FOODS (1)	53.2	66.0	80.9	88.9	65.9	65.4	65.6	3,963
I THINK THAT EATING SWEETS AFFECTS MY HEALTH (1)	76.5	87.4	86.7	76.0	79.1	85.8	82.5	4,997
IF I ATE BETTER, I COULD LIVE TO BE OLDER	67.3	68.0	69.8	61.6	71.1	64.0	67.6	4,095
TO STAY HEALTHY OR IMPROVE MY HEALTH. I WOULD BE PREPARED TO CHANGE MY EATING HABITS (1)	75.0	85.6	83.1	65.7	77.3	82.4	79.8	4,834
IT IS NATURAL TO EAT WHAT YOU LIKE, EVEN IF IT IS UNHEALTHY (1)	44.4	49.9	63.4	48.7	51.0	49.4	50.2	3,027
I WOULD RATHER BE OVERWEIGHT THAN GIVE UP MANY OF THE FOODS I LIKE (1)	18.7	14.3	28.7	12.5	19.4	17.2	18.3	1,106
A WOMAN IS MORE ATTRACTIVE WHEN SHE IS OVERWEIGHT (1,2)	9.4	7.9	23.9	33.3	16.6	9.8	13.2	796
A WOMAN IS STRONGER AND MORE STURDY WHEN SHE IS OVERWEIGHT (1,2)	31.7	19.9	43.1	42.6	36.3	23.5	29.9	1,811
A PERSON NEEDS A THICK LAYER OF FAT TO BE PROTECTED AGAINST THE COLD (1,2)	29.9	22.6	57.1	59.0	41.3	26.8	34.1	2,059
THERE IS A RELATIONSHIP BETWEEN THE FOOD WE EAT AND GOOD BOWEL FUNCTION (1)	48.4	64.4	80.6	78.8	64.0	61.1	62.5	3,785
FAT IS THE ONLY TYPE OF FOOD THAT CAN IMPROVE BOWEL FUNCTION (1,2)	30.6	29.6	57.9	71.4	41.5	34.6	38.1	2,306

(Table 3.13 - Part 2 of 2)

(1) Statistically significant difference ($p<0.01$) observed by age.

(2) Statistically significant difference ($p<0.01$) observed by sex.

3.5 EXCESS WEIGHT

Actuarial data and findings from many studies show an association between excess weight and increased rates of mortality related in particular to hypertension, diabetes and cardiovascular disease (Andres, 1980). Excess weight is associated with increased blood pressure and an increase in the total cholesterol / HDL cholesterol ratio (Dawber, 1980).

According to the Quebec survey on heart health, 13% of the Quebec population is obese, with a waist-to-hip ratio greater than the desirable value in 49% of males and 34% of females (Santé Québec, 1994). Obesity is a particularly serious problem in aboriginal populations. In their study of aboriginal peoples of northern Canada, Young and Sevenhuysen (1988) found that twice as many males and five times as many females were overweight (BMI $\geq$ 26) compared to Canadians as a whole.

In the Cree population, Clarkson and Foggin (1991) found that in 1983-84, 53% of females and 25% of males had a Body Mass Index greater than 27, placing them at high risk for adverse effects. The data collected in 1988 by Lavallée (1990) showed that 50% of females and 33% of males were clinically obese (BMI $\geq$ 30).

3.5.1 Scope and limits of the data

The Quetelet, or Body Mass Index (BMI), employed in large-scale surveys (1987 Santé Québec survey, Canada's Health Promotion Survey), is considered the most appropriate measure to determine excess weight associated with various health risks (Canadian Dietetic Association, 1988). The BMI is obtained by dividing body weight expressed in kilograms by height expressed in metres squared (BMI = weight (kg)/height $(m)^2$). The critical values used to define the weight categories have already been applied to non-aboriginal adult populations (Millar and Stephen, 1987) and to a comparable Indian population (Young, 1987). They are as follows, for both females and males:

- a BMI < 20 (underweight) may be an indicator of health problems in some individuals;
- a BMI of 20.0 to 24.99 represents an acceptable weight for most people;
- a BMI of 25.0 to 29.99 represents excess weight and may cause health problems in some individuals;
- a BMI $\geq$ 30.0 is an indicator of obesity and serious health problems.

Information on weight and height was first assessed by questionnaire, then subsequently measured by an examiner using a standardized protocol. The two calculated measures of BMI

("reported" and "real") were compared. In the scientific literature, weight and height measures are considered subjective and less accurate when they are reported by the respondents themselves (Stewart et al., 1987). In this survey, this phenomenon was measured and its significance assessed in an Amerindian population whose perception of body image may be quite different, given that it is heavily influenced by its specific cultural perceptions (White and Pereira, 1987).

This survey was also an opportunity to obtain waist and hip measurements, which are useful in calculating the waist/hip ratio, itself an indirect measure of excess abdominal fat. The presence of excess abdominal fat is associated with a number of metabolic abnormalities (high insulin levels, glucose intolerance, hypertension, hypertriglyceridemia) implicated in the etiology of ischemic heart disease. Some feel that a high waist/hip ratio is a better predictor of metabolic and cardiovascular complications than other measures of adiposity (Health and Welfare Canada, 1988; Kissebah and Peiris, 1989; Reeder, et al., 1992). The risk rises as the waist/hip ratio increases; the Quebec survey on heart health (Santé Québec, 1994) suggested that a ratio greater than 0.9 in males and 0.8 in females should be considered as indicators of increased risk.

These indicators, however, should be used with caution, because they are usually based on Caucasian populations, and are therefore not necessarily representative of Amerindian reality. Moreover, anthropometric forms and proportions are known to vary from one race to another (Wright and Whitehead, 1987). These reservations being duly noted, it is useful to be able to make comparisons.

Most of the questions used in the section on weight were taken from the 1987 Santé Québec survey. However, in view of the seriousness of the obesity problem in the Cree population (Foggin and Lauzon, 1987; Lavallée, 1990), several questions were added to measure the desire to lose weight. The additional questions came from the 1990 Quebec survey on heart health and nutrition.

3.5.2 Results

3.5.2.1 Reported and actual body mass

In surveys of other populations, the self-reported body mass index (BMI) frequently underestimates the measured BMI (Millar, 1986). In order to assess to what extent this was true among the Cree, the BMI was calculated on the basis of both self-reported and clinical measurements. As seen in Table 3.14, the tendency to underestimate was apparent among the Cree aged 18-74 years, and was equally present among males and females.

TABLE 3.14

Distribution of body mass index (BMI) based on self-reported and clinical measurements, by sex (%), Cree population 18 to 74 years of age, 1991

SEX	BMI					
	< 25		25-29.99 (OVERWEIGHT)		30 AND OVER (OBESE)	
	%	PE	%	PE	%	PE
FEMALES						
• REPORTED	19.3	298	31.0	478	49.7	766
• MEASURED	13.3	330	29.8	738	56.9	1,409
MALES						
• REPORTED	26.8	546	41.0	836	32.2	656
• MEASURED	23.5	599	38.1	970	38.4	979
TOTAL						
• REPORTED *	23.6	844	36.7	1,314	39.7	1,422
• MEASURED	18.5	929	34.0	1,708	47.5	2,388

* Approximately one quarter of the people answered that they did not know how much they weighed.

3.5.2.2 Prevalence of obesity

Table 3.14 also shows that obesity, as measured in the Cree, was more prevalent among women than men: 57% of females had a BMI of 30 or more; 28%, a BMI of 35 and over. The respective percentages for males were 38% and 10%. On the other hand, more males than females were overweight (BMI of 25-29). According to the 1990 Quebec survey on heart health, 13% of all Quebecers, males and females, were obese.

Table 3.15 shows that the prevalence of serious obesity (a BMI of 30 or more) increased with age, reaching 62% in the 45 and over group. Nearly 40% of individuals in the latter age group and over 25% of 45 to 64 year-olds had a BMI of 35 or more.

Obesity was proportionately more prevalent among people who were married or widowed. As with smoking, however, this association may be confounded by age. Finally, there were no differences between inland and coastal communities as far as BMI was concerned.

TABLE 3.15

Measured body mass index (BMI) by age (%), Cree population 18 to 74 years of age, 1991

AGE GROUP	BMI		
	< 25	25 - 29.99 (OVERWEIGHT)	30 AND OVER (OBESE)
18-24	30.1	36.8	33.1
25-44	18.4	34.3	47.3
45-65	5.9	32.1	62.0
65-74	11.8	25.7	62.5
TOTAL %	100.0	100.0	100.0
PE	929	1,708	2,388

3.5.2.3 Waist/hip ratio

The waist/hip ratio is calculated by dividing the waist measurement by that of the hip. As mentioned earlier, a ratio ≥ 0.9 in males and ≥ 0.8 in females is a sign of excess abdominal fat in surveyed populations. The ratio was high in more than four out of five Cree (84%) and was greater in females than males (92% vs 77%) (Table 3.16). It also increased with age, but did not vary by subregion.

TABLE 3.16

Proportion of individuals with an acceptable or high waist/hip ratio by age (%), Cree population 18 to 74 years of age, 1991

AGE GROUP	WAIST/HIP RATIO	
	ACCEPTABLE	HIGH
18 - 24	30.7	69.3
25 - 44	15.3	84.7
45 - 64	1.1	98.9
65 AND OVER	2.5	97.5
TOTAL %	15.7	84.3
PE	785	4,226

3.5.2.4 Desired weight

Over a third (38%) of the Cree population aged 15 years and over stated they were trying to lose weight. Fewer males than females were trying (29% vs 47%); similarly, fewer older people aged 65 and over were trying than younger ones, regardless of how much they weighed at the time. Furthermore, the higher the self-reported BMI, the more likely individuals were to want to lose weight; the proportion rose from 17% in those whose BMI was under 25, to 66% in those whose BMI was equal to or greater than 35.

The desired weight index, taken from the 1987 Santé Québec survey, was calculated by dividing the individual's reported weight by the weight he or she wanted to have. If the ratio was greater than 1, the person wanted to lose weight; if the ratio reached 1.1, the person wanted to lose a great deal of weight. This desire to lose a great deal of weight was more pronounced in females than males (74% vs 45%); the proportion was greater than 54% in all age groups except the 65 year-olds and over (38%). The proportion rose with the reported BMI (Table 3.17). Finally, 68% of the Cree who had a high waist/hip ratio also had a desired weight ratio of 1.1 or more; this was only the case of 19% of those whose waist/hip ratio was acceptable.

TABLE 3.17

Proportion of individuals wanting to lose a great deal of weight, by sex and reported BMI (%), Cree population 15 years of age and over, 1991

SEX	REPORTED BMI			TOTAL	
	< 25	25-29.99	30 AND OVER	%	PE
MALES	8.2	41.4	86.4	46.6	933
FEMALES	33.1	79.1	93.0	76.1	1,150

3.6 WOMEN'S PREVENTIVE HEALTH PRACTICES

As in the 1987 Santé Québec survey, women's preventive health practices refer to precautions taken by women to prevent particular health problems, more specifically, breast and cervical cancer.

As Courteau (1989) observed, standardized mortality rates (1982-1986) among the Cree for various types of cancer were lower than those found in the Canadian population as a whole, for both sexes. Courteau also concluded that mortality due to cervical cancer was practically non-existent in Cree. However, it is believed that other types of cancer, possibly associated with environmental changes or lifestyle (nutrition, smoking...), are on the rise.

3.6.1 Scope and limits of the data

The question on how much time had elapsed since the last test for cervical cancer was taken unchanged from the 1987 Santé Québec survey. Questions on breast examinations by a professional and self-examination, however, were different from those in the 1987 Santé Québec survey insofar as the Cree women were asked, not when the last check-up of this sort had occurred, but rather "Have you ever had a breast examination by a doctor or a nurse?" and "Have you ever examined your own breasts for tumours or cysts?" Also, women who stated that neither of these preventive examinations had occurred, were asked to say why, and this with the hope that such information would be useful to people in charge of developing prevention programs.

Questions on the use of oral contraceptives and breast-feeding were also taken from the 1987 survey, with the addition of a question asking women who had not breast-fed their last child, why they had not done so.

3.6.2 Results

Similar to the findings on other women in Quebec (Croteau et al., 1988), Table 3.18 shows that the highest proportion of Cree women who, in the course of their life, had had at least one test for cervical cancer (PAP test) or breast cancer (self-examination or examination by a health professional), was found in individuals aged 25 to 64 years. Also worth noting is the fact that a relatively large proportion of older women, whether they were Cree or women living in southern Quebec (13% vs 14%), were unable to answer the question regarding Pap tests, suggesting that many of them were unfamiliar with this exam.

While the proportion of Cree women who had already had a PAP test was more or less comparable to that of other women in Quebec in all age groups, many fewer Cree women had examined their breasts and or had them examined by a professional. And, as Table 3.19 shows, of the Cree women who had already had a PAP test, the proportion of those who had the examination during the 12 months preceding the survey was much smaller than among women living in southern Quebec, in all age groups.

TABLE 3.18

Proportion of women who had had at least one test for cervical cancer (PAP test) or one examination to detect breast cancer at some point in their lives by age, for three types of examinations (%), Cree females 15 years of age and over, 1991 and Quebec, 1987

AGE GROUP	TYPE OF EXAMINATION		
	PAP TEST	BREAST SELF-EXAMINATION	BREAST EXAMINATION BY PROFESSIONAL
15-24			
• CREE	54.5	26.9	21.9
• QUÉBEC	62.8	54.8	63.4
25-44			
• CREE	85.1	50.5	43.1
• QUÉBEC	93.2	71.5	90.7
45-64			
• CREE	73.9	45.0	42.5
• QUÉBEC	86.1	74.4	85.9
65 AND OVER			
• CREE	48.4	32.2	37.8
• QUÉBEC	57.9	56.3	65.6
TOTAL			
• CREE %	69.2	39.5	34.8
PE	2,088	1,193	1,051
• QUEBEC %	81.2	67.2	81.1

Note: The calculation of these proportions takes into account the "don't know" responses.

Among women who stated that they had never had a PAP test, 83% said that no one had ever suggested the test; 84% who had never had a breast examination by a doctor gave the same reason. Among women who had never self-examined themselves, 85% reported that they did not know how.

At the time of the survey, 9% of Cree women reported taking oral contraceptives as a means of birth control or to regulate their menstrual cycle; this overall percentage breaks down to 11% in 15-24 year-olds, 12% in 25-44 year-olds and 3% in women aged 45 to 64.

Finally, 69% of the Cree women 15 years of age and over had already had children; 65% of them stated that they had breastfed their last-born. Those who had not breastfed gave as the major reasons the fact that their doctor had advised against it or they were working outside the home.

TABLE 3.19

Number of years since last cervical cancer test (PAP test) (%), Cree females 15 years of age and over, 1991 and Quebec, 1987

AGE GROUP	TIME ELAPSED SINCE LAST PAP TEST				
	≤ 12 MONTHS	1 TO 2 YEARS	2 YEARS +	NEVER	DNK/NR
15-24					
CREE	27.9	19.1	7.2	40.0	5.8
QUEBEC	49.5	9.0	3.2	34.4	3.9
25-44					
CREE	34.2	23.3	27.6	10.6	4.3
QUEBEC	56.5	20.8	15.0	4.9	2.7
45-64					
CREE	9.9	13.6	50.4	25.2	0.9
QUEBEC	37.8	18.9	27.3	7.7	8.3
65 AND OVER					
CREE	-	15.8	31.1	37.1	16.0
QUEBEC	13.3	10.0	28.0	24.8	23.9
ALL CREE WOMEN					
%	25.0	19.4	24.5	26.0	5.1
PE	757	589	742	789	155

Note: The aggregate proportions for women in Quebec are not shown here because the age structure is different.

3.7 CONCLUSION

Lifestyle habits are determinants of the health status of individuals and groups. The results presented in this chapter can be used to identify target groups for future initiatives in the area of prevention.

3.7.1 Summary and avenues for research and action

Despite its relative decline in the last decade, **smoking** remains a major problem among the Cree, especially among 15-24 year-olds. While two out of five Cree have stopped smoking,

Cree children seem to be taking up the habit at an earlier and earlier age. This would make them a prime target for smoking prevention activities, which should be part of school health programs from elementary on. It is possible that smoking may be a behaviour which is currently in favour among young people who will spontaneously quit in their 20's, just as it is possible that this cohort will, for the most part, continue to smoke. There is a clear need for research to validate or reject these hypotheses.

Alcohol consumption was less frequent in the Cree than other Quebecers, but it still has the earmarks of a serious problem, particularly among males, and 15-24 year-olds of both sexes. The problem is compounded by the fact that most Cree drinkers have an average of five drinks or more a day when they do drink, a consumption level most likely to increase the risk of causing individual, family or social problems. Alcohol intake also seemed to be greater in the inland communities. The wide range of problems related to alcohol abuse and the large number of Cree who can be considered at-risk drinkers further underscores the importance of educating the population, and particularly young men.

The difficulties encountered in interpreting the at-risk alcohol consumption and dependency scales, constructed for different populations, point to the need of a better understanding of alcohol intake patterns among the Cree and related cultural values.

Although the majority of Cree claimed that they have never taken **illegal drugs**, roughly one third of young men had smoked marijuana or hashish during the 12 months preceding the survey, and there were enough consumers of cocaine to confirm that it is available in the Cree communities. Frequency of solvent sniffing was high in young men aged 15 to 19, which suggests that the problem may also exist in children under 15. There is no information on this latter point, but the question warrants investigation.

Two thirds of the Cree population were **sedentary** in their leisure time; this was more often true for women and people over 45 than for men and the younger age groups. Means to facilitate access to recreational physical activities should be considered.

In view of the fact that their ancestral **diet** was made up almost exclusively of fish, meat and fat (Berkes and Farkas, 1978), it was not surprising to note that the Cree are still using liberal amounts of fat to cook and accompany their food. The most frequently purchased vegetables were potatoes, onions and tomatoes. Availability, cost and the family's dislike of the taste all conspired to limit the more regular purchase of a mixture of vegetables. It will be important to check these data against the quantitative findings from the 24-hour diet recall. Associations between knowledge, perceptions and attitudes, on the one hand, and eating behaviour, on the other, deserve further exploration, as does the connection between nutrition and obesity.

Generally speaking, when all factors are considered together, the Cree appear to be prepared to make some changes to their eating habits in order to benefit from improved health. Planners and other health professionals in the area of food and nutrition, however, need to be sensitive to the importance the Cree attach to traditional foods.

The results of this study suggest that **obesity** is a serious problem in the Cree, particularly among women, half of whom are clinically obese (BMI of 30 or more). However, further research is needed to confirm the applicability of the obesity scales to aboriginal populations whose bone structure seems to be different from that of Caucasian populations. Part of the Cree population might be receptive to weight-loss programs, judging by the fact that two thirds of them indicated that they would like to lose weight.

The analysis of the data on **women's preventive health practices** shows that both cervical and breast cancer tests were less frequent in Cree women than other female Quebecers, in particular with regards to breast examinations. It is suspected that many young Cree women (15-24 year-olds) have never had a gynaecological examination nor been sensitized to the importance of this practice. As for Cree women 65 years of age and over, they may have been sexually active at a time when prevention activities were relatively non-existent. The findings suggest the need to find ways to increase preventive health behaviour in Cree women.

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CHAPTER 4

SOCIAL ENVIRONMENT AND SOCIAL PROBLEMS

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4.0 INTRODUCTION

In recent decades, epidemiologists have come to view the social environment as an increasingly important determinant of health status (Cassel, 1976). As a result, special attention has been focused on the social support network and its role in the maintenance of an individual's state of health.

The Cree social environment differs in many respects from that of southern Quebec. For example, the average size of Cree households is about six people, double that of households in the south where the average is only three. Also, as Prince (1993) recently pointed out, the Cree live in small communities where everyone knows everyone else and most people are related to one another. The extended family plays an important role among the Cree, in terms of mutual support, and of the sharing of food and resources (Bobbish-Atkinson and Magonet, 1990). There is, of course, a flip side to every coin, and living in a community in which social pressure is a very powerful force may sometimes become a stress factor in itself.

This chapter is devoted to a number of aspects of social integration in the Cree, their social support networks, important life changes, and perception of the importance of various social problems in the community. The problems were selected according to the frequency of social services utilization (Niezen and Saint-Jean, 1988) and relative importance assigned to them by the Cree who were consulted. To issues such as alcohol and drug abuse, domestic violence, child neglect, and theft and vandalism among the young, another subject of growing concern was added — loss of respect for the elders.

4.1 SOCIAL INTEGRATION AND SOCIAL SUPPORT

Bozzini and Tessier (1985) defined the social support network as a "web of relationships surrounding an individual, which he or she may rely on for various forms of assistance, i.e., a variety of resources that can be used to cope with life's difficulties". Other aspects of social integration, defined by the same authors as "the extent to which the individual identifies with society's values and his or her degree of participation in the social institutions and social products", are also thought to contribute to the prevention of mental and physical health problems by diminishing the effects of stressful events on the individual's state of health (Brunelle and Tremblay, 1988).

4.1.1 Scope and limits of the data

The questions relating to social integration and social support in Section VI of the Individual Questionnaire were addressed to people 15 years of age and older. They differ slightly from the questions used in the 1987 Santé Québec survey. The two questions, closer in wording

to the one in Canada's Health Promotion Survey of 1985 (Health and Welfare Canada, 1988), were designed to give an idea of the size of social networks among the Cree.

Two questions in this survey related to the importance of religion and the frequency of church attendance. The data from the Plasannouq survey conducted by Foggin in 1983-1984 led the authors to conclude that for the majority of Cree, "prayer and religion are important to one's sense of well-being" (Clarkson and Foggin, 1990). According to Brunelle et al. (1991), religious belief, even more than practice, contributes to the "buffering" or "immunizing" effect ascribed to social support and integration. It is for this reason that the practice of attending church, which is referred to in Chapter 2 on sociodemographics, will not be treated here.

When the 1987 survey was conducted, the question "How do you feel about your social life?" was considered to be an excellent indicator of perceived social support. The four possible responses ranged from "very satisfactory" to "very unsatisfactory". The question was changed after a group interview involving about 10 Cree men and women showed that they had trouble understanding it as it was formulated. The new question read "How would you describe your relationships with other people in your community?", with the same choice of responses as before.

4.1.2 Results

For each of the five indicators considered, a first examination of the results by ten-year age groups showed the population to be divided into two relatively homogeneous groups, people aged 15-44 years and those 45 years and over. Therefore, for the purposes of the analysis, these two "broadened" age groups were used. Table 4.1 shows the proportion of Cree who reported having "many friends" by age and sex. The proportion was higher in males than females, and in individuals aged 45 and over.

TABLE 4.1

Proportion of individuals with many friends by age and sex (%), Cree population 15 years of age and over, 1991

	15-44 YEARS	45 YEARS AND OVER	TOTAL	
			%	PE
MALES	51.9	65.7	55.3	1,678
FEMALES	42.9	55.4	46.1	1,381
TOTAL	47.5	60.5	50.8	3,059

Table 4.2 gives the number of family members or friends on whom the Cree felt they could count in case of need, by age and sex. The perceived support network appeared to be larger in those aged 15-44 years, and in men.

TABLE 4.2

Number of family members or friends on whom people felt they could count in case of need, by age and sex (%), Cree population 15 years of age and over, 1991

	15-44 YEARS	45 YEARS AND OVER	TOTAL	
			%	PE
MALES				
• 0-4 PERSONS	40.7	51.7	43.3	1,298
• 5 PERSONS +	48.3	39.5	46.2	1,383
• DOES NOT KNOW	11.0	8.8	10.5	315
FEMALES				
• 0-4 PERSONS	53.9	63.0	56.2	1,694
• 5 PERSONS +	36.3	30.5	34.8	1,050
• DOES NOT KNOW	9.8	6.5	9.0	270
TOTAL				
• 0-4 PERSONS	47.3	57.5	49.8	2,992
• 5 PERSONS +	42.3	34.9	40.5	2,433
• DOES NOT KNOW	10.4	7.6	9.7	585

Noteworthy is the finding that a significant difference was found in the size of the perceived support network between the coastal and inland villages (Table 4.3). A higher percentage of people from the coast than the interior felt they could count on five persons or more in case of need. Only 20% of the 45 year-olds in inland villages estimated their support network at five persons or more.

Table 4.4 gives an indication of the importance the Cree attach to religion and prayer, by age and sex. Among men and women aged 45 and over, nine out of ten people said they thought that religion was very important; the proportion dropped to 60% among 15-44 year-olds, where proportionally more women (66%) than men (53%) viewed religion as an important aspect of their lives. As seen in Chapter 2, church attendance follows roughly the same pattern.

TABLE 4.3

Number of family members or friends on whom people felt they could count in case of need, by age and subregion (%), Cree population 15 years of age and over, 1991

	15-44 YEARS	45 YEARS AND OVER	TOTAL	
			%	PE
COAST				
• 0-4 PERSONS	42.9	47.8	44.1	1,577
• 5 PERSONS +	44.4	44.6	44.5	1,590
• DOES NOT KNOW	12.7	7.6	11.4	409
INTERIOR				
• 0-4 PERSONS	53.6	72.3	58.1	1,415
• 5 PERSONS +	39.3	20.1	34.6	843
• DOES NOT KNOW	7.1	7.6	7.3	176

TABLE 4.4

Importance of religion and prayer by age and sex (%), Cree population 15 years of age and over, 1991

	15-44 YEARS	45 YEARS AND OVER	TOTAL	
			%	PE
MALES				
• VERY IMPORTANT	53.4	91.6	63.3	1,830
• MORE OR LESS/NOT AT ALL IMPORTANT	46.6	8.4	36.7	1,063
FEMALES				
• VERY IMPORTANT	65.6	92.5	72.6	2,133
• MORE OR LESS/NOT AT ALL IMPORTANT	34.4	7.5	27.4	806
TOTAL				
• VERY IMPORTANT	59.6	92.0	68.0	3,963
• MORE OR LESS/NOT AT ALL IMPORTANT	40.4	8.0	32.0	1,869

Table 4.5 shows the proportion of individuals who said that they were "very satisfied" with their relationships with other people in the community, by age and sex. Satisfaction in this

respect was expressed by more people in the 45 and over group, significantly more of whom were men than women (74% vs 62%). And, as seen in Table 4.6, the proportion of individuals who stated they were "very satisfied" with their relationships with other people in the community was significantly higher in the coastal (53%) than inland villages (41%).

TABLE 4.5

Proportion of individuals who said they were "very satisfied" with their relationships with other people in the community, by age and sex (%), Cree population 15 years of age and over, 1991

	15-44 YEARS	45 YEARS AND OVER	TOTAL	
			%	PE
MALES	42.7	74.2	50.5	1,498
FEMALES	39.1	62.2	45.3	1,306
TOTAL	40.9	68.1	48.0	2,804

TABLE 4.6

Proportion of individuals who said they were "very satisfied" with their relationships with other people in the community, by age and subregion (%), Cree population 15 years of age and over, 1991

	15-44 YEARS	45 YEARS AND OVER	TOTAL	
			%	PE
COAST	46.1	70.7	52.5	1,832
INTERIOR	33.5	64.1	41.2	972
TOTAL	40.9	68.1	48.0	2,804

4.2 STRESSFUL LIFE EVENTS

Often associated with an increased risk of psychological distress, depression (Kaplan et al., 1987, Dooley et al., 1986), and suicidal thoughts and attempts (Santé Québec, 1988),

stressful life changes are considered to be a determinant factor in the development of many physical and mental health problems. As the 1987 Santé Québec survey results showed, stressful events and their perceived intensity are not evenly distributed throughout the population. Particular events such as the death of a spouse or serious illness affecting the person or another household member seems to generate higher levels of stress.

Two types of events are considered in this section: childhood events, which occurred before the age of 12, and recent stressful events. Among the latter, "rejection by the community" was added to the categories used in the 1987 Santé Québec survey at the suggestion of the Cree consultants, who felt that such a rejection could be a cause of stress (and of distress). The scale, however, does not take into account other potential sources of stress which may be specific to aboriginal populations, and more particularly to young people (who may feel caught between two diametrically opposed cultures and lifestyles, for example).

4.2.1 Scope and limits of the data

The questions relating to stressful events are contained in Section VIII of the Individual Questionnaire and were addressed to individuals 15 years of age and over. Three questions measured important life changes before the age of 12: the death of one's father, mother or close family member. Seven questions measured recent stressful events in the 12 months preceding the survey. They included moving away from one's family, losing one's job, rejection or disapproval by the community, serious personal illness, serious illness of another household member, the death of one's husband, wife or partner and the death of someone very close other than one's spouse or partner. A subquestion was asked in order to estimate the perceived stress level using a scale of four answers ranging from "extremely stressful" to "not at all stressful". The questions were patterned after a stress measurement scale developed by Holmes and Rahe (1967) and were similar to those used in the 1987 Santé Québec survey; but contrary to the 1987 survey, the reference period (the past 12 months) was repeated at each question in this survey.

4.2.2 Results

With respect to stressful life events occurring before the age of 12 (see Table 4.7), a dichotomy is once again noted between the 15-44 year-olds and the 45-and-over age group, with a significantly larger number of the latter reporting they had experienced, before the age of 12, the death of their father, mother or close family member.

TABLE 4.7

Occurrence of stressful life changes before the age of 12, by age (%), Cree population 15 years of age and over, 1991

	DEATH OF MOTHER	DEATH OF FATHER	DEATH OF A CLOSE FAMILY MEMBER
AGE			
15-24	2.7	4.8	51.9
25-44	4.5	6.3	50.2
45-64	20.0	20.6	72.5
65 AND OVER	15.5	19.1	59.4
TOTAL %	7.4	9.2	5.5
PE	448	553	3,148

TABLE 4.8

Occurrence of stressful events during the 12 months preceding the survey and proportion of individuals describing them as "extremely stressful" (%), Cree population 15 years of age and over, 1991

	OCCURRENCE OF EVENT		EXTREMELY STRESSFUL	
	%	PE	%	PE
MOVING FAR AWAY FROM FAMILY	14.2	859	17.4	142
LOSS OF JOB	3.3	200	23.7	40
REJECTION BY COMMUNITY	7.9	475	40.9	175
SERIOUS PERSONAL ILLNESS	6.3	383	53.5	203
SERIOUS ILLNESS IN HOUSEHOLD	10.1	609	41.4	236
DEATH OF HUSBAND, WIFE OR PARTNER	0.8	47	100.0	42
DEATH OF SOMEONE CLOSE	26.8	1,625	50.5	771

Table 4.8 gives the figures on the occurrence of particular stressful events during the 12 months prior to the survey and the proportion of Cree individuals who, having experienced one of these events, described it as "extremely stressful". Of these events, the most frequent were, in order of importance: the death of a close family member, moving away from one's family, and serious illness of a household member. The event that was perceived as the most stressful (although it had occurred rather rarely during the year preceding the survey), was the

death of one's husband, wife or partner: almost every person whose spouse had died experienced the event as "extremely stressful". The other events perceived as being the most stressful were, in descending order: serious personal illness, the death of someone close, serious illness in one's household and rejection by the community.

Just over half the individuals (52%) stated that they had experienced none of these events in the course of the 12 months preceding the survey; 33% had experienced only one of the stressful events, and 15%, two or more such events. There did not seem to be any significant difference by sociodemographic variables in this respect.

4.3 PERCEPTION OF SOCIAL PROBLEMS IN THE COMMUNITY

4.3.1 Scope and limits of the data

The questions relating to social problems are found in Section VII of the Individual Questionnaire and were directed at individuals aged 15 years and over. Question 34 in the Individual Questionnaire, in which the person was asked to give his or her opinion as to how important various social problems in the community were, was substituted for the third-party approach used in the 1987 Santé Québec survey (Clarkson, 1989). The question was worded as it was in Canada's Health Promotion Survey of 1990 (Health and Welfare Canada, 1993). However, unlike the 1990 survey in which the question was confined to problems of alcohol and drug abuse, in this study it covered seven social problems.

This is another example of the kind of taboo or sensitive subject for which it is difficult to obtain a prevalence. Question 34 was formulated in such a way as to show how important the person felt a given problem was in his or her community; it does not capture the prevalence of social problems, but rather gives an indication of the relative importance of these problems as perceived by community members.

4.3.2 Results

Table 4.9 shows how important various social problems were perceived to be in the community, for all individuals by sex. The "minor problem" category covered the following responses: "not a problem at all" and "relatively minor problem"; a "serious problem" was either an "important problem" or an "extremely serious problem"; there was also a "does not know" category for those who were unable to rate the importance of the identified problems.

Eighty-two percent (82%) of the Cree considered alcohol abuse to be a serious problem in their community, and 81% gave the same description of young people getting in trouble with

the law (vandalism or theft). The use of illegal drugs was a serious problem in the eyes of 77% of the population, just about the same proportion as those who were concerned about the loss of respect for the elders among young people. Here, in descending order, are the proportions of individuals who rated the following problems as "serious": public fights and disturbances (70%), children neglected by their parents (68%) and physical or verbal violence between husband and wife (64%). It should be remembered that the responses given refer to the "perceived" significance of the problems, and that public opinion on these issues may be influenced by a number of factors (education campaigns, visibility of the problem, etc.).

Table 4.9 shows that more women than men considered public fights and loss of respect for the elders as serious problems.

TABLE 4.9

Perceived importance of various social problems in the community by sex (%), Cree population 15 years of age and over, 1991

	Sex	Minor problem		Serious problem		Does not know	
		%	PE	%	PE	%	PE
Physical or verbal violence between husband and wife	Males	33.6		61.5		4.9	
	Females	25.0		66.3		8.7	
	Total	29.3	1,773	63.9	3,867	6.8	410
Public fights and disturbances	Males	29.5		67.1		3.4	
	Females	20.9		73.0		6.1	
	Total	25.2	1,526	70.0	4,240	4.8	290
Illegal drug use	Males	19.1		75.2		5.7	
	Females	11.8		78.9		9.3	
	Total	15.4	935	77.1	4,672	7.5	455
Alcohol abuse	Males	16.8		80.9		2.3	
	Females	13.0		83.1		3.9	
	Total	14.9	900	82.0	4,967	3.1	188
Children neglected by their parents	Males	28.2		66.0		5.8	
	Females	20.8		69.8		9.4	
	Total	24.5	1,484	67.9	4,108	7.6	462
Young people getting in trouble with the law	Males	15.3		81.7		3.0	
	Females	13.5		80.1		6.4	
	Total	14.4	871	80.9	4,903	4.7	286
Loss of respect for elders	Males	22.7		73.7		3.6	
	Females	13.6		80.0		6.4	
	Total	18.2	1,101	76.8	4,651	5.0	304

Table 4.10 gives the figures on the perceived importance of social problems by age group. Fewer 15-24 year-olds attached importance to problems like domestic violence, public fights and disturbances, theft and vandalism by young people, or loss of respect for the elders. No significant difference between age groups in the importance ascribed to child neglect and alcohol abuse emerged. Also, when asked about the use of illegal drugs, a large proportion of individuals aged 65 and over (18%) said they did not know whether the problem was important in their community.

TABLE 4.10

Perceived importance of various social problems in the community by age (%), Cree population 15 years of age and over, 1991

	AGE GROUP	MINOR PROBLEM	SERIOUS PROBLEM	DOES NOT KNOW
PHYSICAL OR VERBAL VIOLENCE BETWEEN HUSBAND AND WIFE	15-24	33.7	58.8	7.5
	25-44	28.6	63.1	8.3
	45-64	24.9	71.2	3.9
	65 +	22.0	76.2	1.8
PUBLIC FIGHTS AND DISTURBANCES	15-24	29.2	65.7	5.1
	25-44	25.5	69.6	4.9
	45-64	17.8	77.5	4.7
	65 +	21.4	75.2	3.4
ILLEGAL DRUG USE	15-24	19.1	74.9	6.0
	25-44	13.8	79.3	6.9
	45-64	13.7	78.9	7.4
	65 +	10.1	71.8	18.1
ALCOHOL ABUSE	15-24	16.2	79.5	4.3
	25-44	13.8	83.4	2.8
	45-64	13.5	84.6	1.9
	65 +	17.2	81.1	1.7
CHILDREN NEGLECTED BY THEIR PARENTS	15-24	27.1	64.5	8.5
	25-44	22.5	69.2	8.3
	45-64	23.1	71.5	5.4
	65 +	25.5	69.0	5.5
YOUNG PEOPLE GETTING IN TROUBLE WITH THE LAW	15-24	19.4	74.9	5.7
	25-44	11.8	83.0	5.2
	45-64	11.0	87.0	2.0
	65 +	11.1	85.2	3.7
LOSS OF RESPECT FOR ELDERS	15-24	22.8	72.1	5.1
	25-44	16.7	77.5	5.8
	45-64	13.6	82.6	3.8
	65 +	13.7	82.8	3.5

* For each category of social problem, the estimated population for the sum of the age groups is essentially the same as shown in Table 4.9.

Table 4.11 compares the perceptions of the same social problems in the coastal and inland villages. In each case, a larger proportion of people in the inland villages saw the problem as serious in their community. The available data do not enable one to say whether the problems are more prevalent in inland communities, or simply that the Cree living in the interior were more sensitive to the problems in question. However, two indicators included in the survey, namely alcohol consumption and drug use (Chapter 3), suggest that there is a connection between the perceived importance of problems and their actual prevalence. Consumption of alcohol and drugs was indeed significantly higher in inland communities than coastal ones.

TABLE 4.11

Perceived importance of various social problems in the community by subregion (%), Cree population 15 years of age and over, 1991

	SUBREGION	MINOR PROBLEM	SERIOUS PROBLEM	DOES NOT KNOW
PHYSICAL OR VERBAL VIOLENCE BETWEEN HUSBAND AND WIFE	COAST	31.3	59.7	9.0
	INTERIOR	26.4	70.1	3.5
PUBLIC FIGHTS AND DISTURBANCES	COAST	28.4	65.2	6.4
	INTERIOR	20.5	77.1	2.4
ILLEGAL DRUG USE	COAST	20.0	70.9	9.1
	INTERIOR	8.8	86.1	5.1
ALCOHOL ABUSE	COAST	17.9	78.0	4.1
	INTERIOR	10.3	88.0	1.7
CHILDREN NEGLECTED BY THEIR PARENTS	COAST	25.5	65.8	8.7
	INTERIOR	23.1	70.8	6.1
YOUNG PEOPLE GETTING IN TROUBLE WITH THE LAW	COAST	16.7	77.3	6.0
	INTERIOR	10.9	86.3	2.8
LOSS OF RESPECT FOR ELDERS	COAST	19.2	74.3	6.5
	INTERIOR	16.7	80.4	2.9

* For each category of social problem, the estimated population for the sum of the regions, is essentially the same as shown in Table 4.9.

4.4 CONCLUSION

4.4.1 Summary

Though the number of indicators relating to the social environment in this survey was limited, the descriptive analysis does yield some interesting observations. For example, among people

who stated that they had "many friends", there were proportionally more men, and more individuals aged 45 and over. When the Cree were asked to estimate the number of people they could count on when they needed help, the network appeared to be larger in the case of men, and in individuals under 45. Finally, more people on the coast than inland estimated their support network at five persons or more.

Among the Cree 45 years of age and over, nine individuals out of ten stated that religion was very important to them. In the under 45 group, the proportion dropped to 60%, and more women than men saw religion as very important.

The largest proportion of Cree who reported being "very satisfied" with their relationships with other people in the community was found in those 45 years of age and over, in men, and in coastal villages.

Significantly more people 45 years and over reported the experience of the death of their father, mother or another close relative or friend. The decline in the frequency of such events among younger Cree is probably due in part to the increase in life expectancy.

As far as the occurrence of stressful events in the course of the preceding 12 months is concerned, the most frequent were the death of someone close, moving away from one's family and a serious illness affecting a household member. The event perceived as most stressful was the death of one's spouse, followed by a serious personal illness, the death of someone close, a serious illness in the household and rejection by the community.

With respect to the perceived importance of various social problems, 82% of the Cree felt that alcohol abuse was a serious problem in their community and 81% also viewed young people getting in trouble with the law as serious. Illegal drug consumption and the loss of respect for the elders on the part of the young were viewed as serious problems by 77% of the population. For each of the problems listed, the proportion of people who considered them to be serious in their community was higher in the inland villages than on the coast.

4.4.2 Avenues for further research

Though limited, the data revealed that the Cree's perception of their social environment varies according to age, sex or subregion. The Cree are also deeply concerned about the magnitude of certain social problems in their communities. Therefore research on these problems - causes and potential solutions - should extend beyond the scope of a health survey. Of particular interest is to ascertain why young Cree differ from older Cree with respect to social integration and perceived support. Another topic to be explored is the relationship between stressful events and physical or mental health, with special emphasis on sources of stress and coping

mechanisms specific to the Cree. Studies such as that by Berry et al. (1982) on the link between stress and cultural change are laying the foundation for future work in this area.

4.4.3 Implications for decision-making

The Cree's awareness of certain social problems in their communities could serve as a powerful lever for mobilizing the population. For example, efforts to fight alcohol abuse could draw upon the fact that 82% of the people thought that excessive drinking was a serious problem. It might also be useful to look for programs that would effectively deal with the less "visible" problems, which nevertheless have a considerable impact, and often long-term consequences (domestic violence, child neglect, etc.). Any work of this sort would need to be respectful of the cultural specificity of the Cree and develop culturally sensitive approaches and means of action.

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CHAPTER 5

SELECTED DETERMINANTS OF HEART HEALTH STATUS: HIGH BLOOD PRESSURE, HIGH CHOLESTEROL AND DIABETES

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5.0 INTRODUCTION

Epidemiological, clinical and laboratory studies have all identified cigarette smoking, high blood pressure and high serum cholesterol levels as major risk factors for cardiovascular disease. These risk factors are modifiable, meaning that they can be prevented or controlled (Kaplan and Stamler, 1983). More recently, physical inactivity has been recognized as an independent risk factor (Berlin and Colditz, 1990; Paffenbarger et al., 1993). Obesity, diabetes and excessive alcohol consumption have also been shown to contribute to the development of heart disease.

In Quebec, cardiovascular disease is the primary cause of death in both men and women (MSSS, 1990). In 1990, 40% of the deaths in males and 45% in females were attributable to diseases of the circulatory system (Lachance and Lafontaine, 1992).

Among the Cree, cardiovascular disease was responsible for approximately 20% of all deaths from 1975 to 1986 (Robinson, 1985; Courteau, 1989). Courteau reports that for the period 1982-1986, the comparative mortality index in the Cree was approximately 60% of that of the Canadian population. The difference may be due in part to the Cree's traditional lifestyle, which might provide some degree of protection against cardiovascular disease (Courteau, 1989). It has also been observed that heart disease is less prevalent in Cree males than in the male population of Quebec (Robinson, 1988), although both hospitalization and mortality rates indicate that the incidence of heart disease is similar and perhaps even higher in Cree women than in other female Quebecers.

The 1983-84 Plasannouq survey (Foggin and Lauzon, 1987) provided some information on the prevalence of high blood pressure and serum cholesterol levels. The overall rate of hypertension, defined as diastolic pressure greater than or equal to 95 mm Hg or systolic pressure greater than or equal to 160 mm Hg, was found to be 15% in the Cree. With respect to serum cholesterol levels, the Plasannouq survey suggested that they were lower in the Cree than in the Algonquin and general population of Canada, as reported in the Nutrition Canada survey (Foggin et al., 1988).

The Plasannouq survey also gathered information on diabetes in the Cree population (Ékoé et al., 1990; Thouez et al., 1990), however, blood sugar levels and thresholds used to establish prevalence were different from the ones used in this study. Brassard and his co-workers (1993) in their study measured diabetes prevalence using chronic disease registers and lists of diabetic cases kept by the clinics in the Cree communities.

The data in this chapter relate only to individuals 18-74 years of age and, as such, are comparable to the results of Santé Québec's Heart Health and Nutrition Survey (Santé Québec, 1991; 1994). The sample was comprised of 943 individuals who went to the clinic to have

their blood pressure measured and blood samples taken for total cholesterol, lipid fractions, triglycerides and blood sugar levels. A number of indexes used in the survey on heart health and nutrition were also recreated for purposes of comparison. It should be noted that although smoking is a major risk factor for cardiovascular disease, it will not be treated in this section as it was dealt with in Chapter 3.

5.1 HIGH BLOOD PRESSURE

5.1.1 Scope and limits of the data

The data discussed in this section were derived from the Individual Questionnaire and blood pressure measurements[1] performed both at the clinic and 24-hour diet recall visit. High blood pressure was defined as a diastolic pressure greater than or equal to 90 mm Hg or being on pharmacological or non-pharmacological treatment (i.e., restriction of salt intake and/or weight-watching). Consequently, individuals who had been told that they were hypertensive but whose blood pressure at the time of the survey was neither high nor being treated, were excluded from the category of hypertensive subjects. This definition is consistent with the one employed in the Canadian Blood Pressure Survey (Health and Welfare Canada, 1989), and subsequently used in the heart health surveys conducted in the ten Canadian provinces. An algorithm, similar to the one in Santé Québec's survey on heart health, (1991), was used to establish the prevalence, awareness, treatment and control status of the Cree (Figure 5.1).

5.1.2 Results

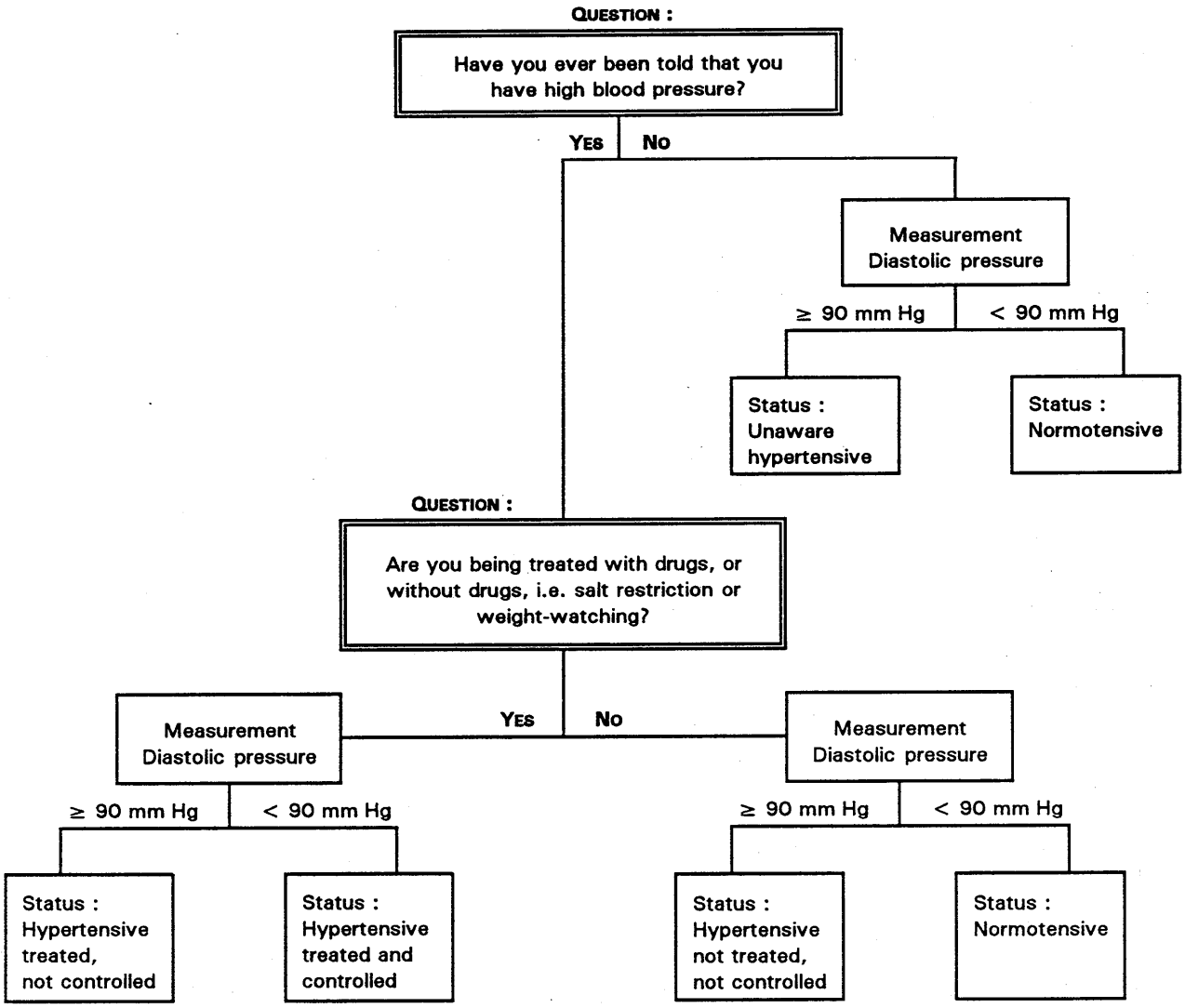
Table 5.1 shows that the average systolic blood pressure increased with age in the Cree population, and was higher in men than women. This phenomenon has been observed throughout the rest of Quebec (Santé Québec, 1991). With respect to the average diastolic blood pressure, it was greater in individuals 35-64 years of age and in males.

The overall prevalence of hypertension in the adult male and female Cree population was 13%. In Cree women, the rate increased with age, while in men, it peaked between the ages of 35-64. The age-adjusted prevalence of high blood pressure was almost 50% greater in Cree women than in their female counterparts in the rest of Quebec (comparative index = 1.45). It was especially high in Cree women 35-64 years of age (24%) compared to other Quebec women the same age (15%).

[1] A large cuff was used to take blood pressure of the obese survey participants.

FIGURE 5.1

Algorithm to establish hypertension* prevalence, awareness, treatment and control status



* Hypertension : Diastolic blood pressure ≥ 90 mm Hg and/or on pharmacological or non-pharmacological treatment (i.e., restriction of salt intake / weight-watching)

Adapted from : Pica, L. & Petrasovits, A., Workshop on the epidemiology of high blood pressure in Canada, Montreal, March 1-2, 1989

TABLE 5.1

Average blood pressure values and prevalence of high blood pressure (HBP), by age and sex, Cree population 18 to 74 years of age, 1991

SEX	MALES				FEMALES				TOTAL
AGE	18-34	35-64	65-74	TOTAL	18-34	35-64	65-74	TOTAL	
AVERAGE SYSTOLIC BLOOD PRESSURE (MM HG) [a]	121	125	135	123	112	129	148	120	122
AVERAGE DIASTOLIC BLOOD PRESSURE (MM HG) [a]	75	81	78	77	70	79	74	74	76
PE	1,496	910	150	2,556	1,458	948	146	2,552	5,108
PREVALENCE OF HBP [b] (%)	8.4	21.6	6.1	13.0	2.9	24.4	37.9	12.8	12.9
PE	124	193	8	325	41	230	50	321	646

(a) Based on the mean of the blood pressure measurements.

(b) High blood pressure is defined as a diastolic pressure ≥ 90 mm Hg and/or being on pharmacological or non-pharmacological treatment (i.e., restriction of salt intake/weight watching). The group of individuals considered here does not include those whose blood pressure was taken but who did not take part in the individual interview.

With respect to awareness, treatment and control status, a little over half (53%) the hypertensives were aware of their condition (Table 5.2). Almost half (47%) of those who were aware, however, had an elevated blood pressure, whether they were undergoing treatment or not. More women than men were aware of their condition (79% vs 27%). When age was factored in, hypertension awareness was twice as high in Quebecers in the south than in the Cree (comparative index = 0.45).

When asked if they had ever had their blood pressure checked by a nurse or doctor, nearly seven out of ten people (68%) in the survey said yes (Table 5.3). The proportion increased with age and was greater in women (73%) than men (63%). In Quebec, as in the other provinces of Canada, the proportion of people who had ever had their blood pressure taken by a nurse or a doctor was 96% or greater. Less than half (47%) the Cree had had their blood pressure taken in the course of the preceding year, the proportion being greater in women (55%) than men (39%).

TABLE 5.2

Awareness, treatment and control status of high blood pressure by sex (%), Cree population 18 to 74 years of age, 1991

STATUS[a]	MALES	FEMALES	TOTAL	
			%	PE
AWARE OF CONDITION:	27.4	78.9	52.9	342
• TREATED AND CONTROLLED[b]	14.2	42.1	28.0	181
• TREATED AND NOT CONTROLLED[c]	6.5	18.3	12.3	80
• NOT TREATED AND NOT CONTROLLED[d]	6.7	18.5	12.6	81
UNAWARE OF CONDITION[e]:	72.6	21.1	47.1	304
TOTAL	100.0	100.0	100.0	646

(a) An estimated 764 persons had been informed they were suffering from high blood pressure. There were also 304 individuals who had never been told that they were hypertensive but whose average diastolic blood pressure was ≥ 90 mm Hg. Individuals who had been told that they had high blood pressure (PE = 422) but were receiving no treatment and whose diastolic pressure was < 90 mm Hg at the time of the survey were excluded from this table as being normotensive. (PE = (764 + 304) - 422 = 646)

(b) Individuals who had been told that they had high blood pressure, were under treatment and whose average diastolic pressure was < 90 mm Hg (PE = 181).

(c) As in (b), with an average diastolic pressure of ≥ 90 mm Hg (PE = 80).

(d) Individuals who had been told that they had high blood pressure, were not under treatment and whose average diastolic pressure was ≥ 90 mm Hg (PE = 81).

(e) Individuals who had never been told that they had high blood pressure, and whose average diastolic pressure was ≥ 90 mm Hg (PE = 304).

TABLE 5.3

Proportion of individuals who had ever had their blood pressure measured, by age and sex (%), Cree population 18 to 74 years of age, 1991

SEX	MALES				FEMALES				TOTAL
AGE	18-34	35-64	65-74	TOTAL	18-34	53-64	65-74	TOTAL	
BLOOD PRESSURE MEASURED PREVIOUSLY									
%	55.1	69.8	100.0	63.2	67.0	81.1	84.1	72.9	68.1
PE	832	632	169	1,633	1,053	768	111	1,932	3,565
BLOOD PRESSURE MEASURED IN THE COURSE OF THE PRECEDING YEAR									
%	32.4	43.5	71.5	38.9	46.9	67.2	66.3	55.2	47.2
PE	478	390	121	989	724	637	83	1,444	2,433

Overall, 15% of the Cree population 18-74 years of age had already been told by a health professional that they were hypertensive (table not shown). The proportion was greater in women (21%) than men (8%). A treatment had been suggested to more than one half (59%) the individuals who had been informed of their hypertension, of whom 51% stated that they were under medication at the time of the survey. Medication was the most often suggested means of lowering blood pressure.

5.2 CHOLESTEROL AND SERUM LIPIDS

5.2.1 Scope and limits of the data

In this section, blood cholesterol and serum lipid levels were analyzed according to procedures similar to those used in Santé Québec's heart health survey. Categories for total cholesterol and lipid fractions were also the same. Before having their blood samples taken, all individuals had been asked to abstain from eating for at least 12 hours. This instruction, however, was not followed by everyone. It should be noted, therefore, that the analysis of total serum cholesterol includes all individuals regardless of their fasting status, but that of serum HDL, LDL and triglycerides includes only people who had fasted for at least eight hours. For more detailed information, see the *Cahiers techniques* (Guyon et al., 1994).

In this study, three classes of total cholesterol were defined: less than 5.2 mmol/L; between 5.2 but less than 6.2 mmol/L (corresponding to a moderate increase in the risk of ischemic heart disease), and greater than or equal to 6.2 mmol/L (corresponding to a more significant increase in the risk of ischemic heart disease).

Total cholesterol is made up of lipid fractions, namely low density lipoproteins (LDL) and high density lipoproteins (HDL), the latter often referred to as "good cholesterol". A LDL cholesterol level greater than 3.4 mmol/L is associated with a moderate increase in the risk of ischemic heart disease, while a HDL cholesterol level below 0.9 mmol/L is associated with a greater increase in the risk of ischemic heart disease. The ratio of total cholesterol to the HDL fraction is more and more widely used as an indicator of coronary risk; a ratio greater than or equal to 5.0 indicates an increased risk .

5.2.2 Results

The average total cholesterol level in the Cree population was found to be 4.8 mmol/L (Table 5.4). The rate was higher in men than women. It was also higher in the 35-74 year-olds than

18-34 years-olds. The average total cholesterol level in all age groups and both sexes was, however, lower than that observed in other Quebecers (5.2 mmol/L).

The average HDL cholesterol level was 1.3 mmol/L, with no age-related variation. In comparison to the rest of Quebec, Cree women had a lower average HDL level (1.3 mmol) than other women in Quebec (1.4 mmol/L).

The average LDL cholesterol level was 2.9 mmol/L. It was higher in men than women, and in 35-74 year-olds compared to 18-34 year-olds. Overall, the average LDL cholesterol level was lower in the Cree than in the rest of the Quebec population (3.2 mmol/L), in all age groups and both sexes.

The study also found that the average triglyceride level was 1.4 mmol/L. In both men and women, this rate was highest in 35-64 year-olds. However, Cree men had a lower average triglyceride level (1.4 mmol/L) than other Quebec males (1.8 mmol/L).

TABLE 5.4

Average values for total cholesterol, HDL cholesterol, LDL cholesterol and triglycerides, by age and sex, Cree population 18 to 74 years of age, 1991

SEX	MALES				FEMALES				TOTAL
AGE	18-34	35-64	65-74	TOTAL	18-34	35-64	65-74	TOTAL	
AVERAGE TOTAL CHOLESTEROL (MMOL/L)[a]	4.7	5.3	5.1	5.0	4.4	5.0	5.2	4.7	4.8
AVERAGE HDL CHOLESTEROL (MMOL/L)[b]	1.3	1.2	1.3	1.2	1.2	1.3	1.5	1.3	1.3
AVERAGE LDL CHOLESTEROL (MMOL/L)[b]	2.9	3.4	3.3	3.1	2.6	3.0	3.2	2.8	2.9
AVERAGE TRIGLYCERIDES (MMOL/L)[b]	1.2	1.6	1.2	1.4	1.3	1.4	1.2	1.4	1.4

(a) Results for all individuals, regardless of fasting status.

(b) Results for individuals who fasted for at least eight hours.

In the Cree population, the prevalence of total cholesterol levels greater than or equal to 5.2 mmol/L was 31% (Table 5.5). It increased with age for both sexes, remaining higher

among men than women. In the Quebec population, the prevalence was higher (48%) in all age groups and sexes. Indeed, the aged-adjusted prevalence was found to be 25% lower in the Cree than in the rest of Quebec (comparative index = 0.75). The difference was greater in women, for whom the comparative index was 0.59.

Approximately 6% of the Cree had a total cholesterol level greater than or equal to 6.2 mmol/L. Elsewhere in Quebec, the prevalence was 19%. Once again, the age-adjusted prevalence was lower in the Cree than in other Quebecers.

TABLE 5.5

Prevalence of total cholesterol according to risk level, by age and sex (%), Cree population 18 to 74 years of age, 1991

SEX	MALES				FEMALES				TOTAL	
AGE	18-34	35-64	65-74	TOTAL	18-34	35-64	65-74	TOTAL	%	PE
TOTAL CHOLESTEROL LEVEL										
< 5.2 MMOL/L	72.1	45.4	53.9	61.5	86.0	66.5	47.4	76.5	69.0	3,507
≥ 5.2 AND < 6.2 MMOL/L	24.7	41.0	34.5	31.1	11.8	24.6	42.6	18.4	24.8	1,258
≥ 6.2 MMOL/L	3.2	13.6	11.6	7.4	2.2	8.9	10.0	5.1	6.3	319
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	5,084

Just under two out of every ten individuals (19%) had a ratio of total cholesterol to HDL greater than or equal to 5.0, indicating an elevated risk (Table 5.6). This lipid ratio held for men in all age groups, and was especially high in 35-64 year-olds. Compared to other Quebecers, however, the ratio was lower in the Cree (comparative index = 0.79).

5.3 COMBINED RISK FACTORS

Two thirds (66%) of the Cree population had at least one of the major risk factors for heart disease, i.e. smoking, high cholesterol or high blood pressure (Table 5.7). The proportion was greater in men than women. For women, the probability of having more than one major risk factor increased with age. Overall, 34% of the Cree had none of the three risks, 49% had one risk factor, 16%, two and 1%, three.

TABLE 5.6

Ratio of total cholesterol to HDL cholesterol according to risk level, by age and sex (%), Cree population 18 to 74 years of age, 1991

SEX	MALES				FEMALES				TOTAL	
AGE	18-34	35-64	65-74	TOTAL	18-34	35-64	65-74	TOTAL	%	PE
RATIO OF TOTAL CHOLESTEROL /HDL CHOLESTEROL										
< 3.5	39.8	19.6	27.1	31.9	46.7	32.4	45.5	41.2	36.6	1,834
3.5 - 4.9	40.0	46.3	57.1	43.2	40.4	54.8	43.9	46.0	44.6	2,237
≥ 5.0	20.2	34.1	15.8	24.9	12.9	12.8	10.6	12.8	18.8	945
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	5,016

TABLE 5.7

Frequency of individuals presenting 0, 1, 2 or 3 of the major risk factors, by age and sex (%), Cree population 18 to 74 years of age, 1991

SEX	MALES				FEMALES				TOTAL	
AGE	18-34	35-64	65-74	TOTAL	18-34	35-64	65-74	TOTAL	%	PE
NUMBER OF RISK FACTORS[a]										
NONE	26.4	25.0	27.7	25.9	44.3	41.3	22.8	42.1	34.0	1,687
ONE	53.0	52.2	55.5	52.9	48.2	40.3	50.5	45.3	49.1	2,436
TWO	18.8	20.9	20.9	19.4	7.5	18.4	26.7	12.6	16.0	794
THREE	1.8	1.9	---	1.8	---	---	---	---	0.9	43
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	4,960

(a) The risk factors were defined as follows:

High cholesterol level : ≥ 5.2 mmol/L (200 mg/dl)

High blood pressure : diastolic ≥ 90 mm Hg, with or without treatment

Regular cigarette smoking : at least one cigarette per day every day

5.4 DIABETES

5.4.1 Scope and limits of the data

Data on diabetes were collected in two ways: first during the individual interview, where people were asked whether a health professional had ever told them that they had diabetes, without distinguishing between gestational and other types; and secondly, during the clinical visit, where blood sugar levels were determined from the person's venous plasma.

The clinical results were interpreted according to criteria developed by the National Diabetes Data Group (1979): blood sugar levels below 6.4 mmol/L were considered normal; values greater than or equal to 7.8 mmol/L were indicative of a possible diabetic condition; and values greater than or equal to 6.4 but less than 7.8 mmol/L were considered suspicious. A diabetes prevalence index was also developed to take into account both the blood sugar level and any treatment being followed; in this case, diabetes was defined as a blood sugar level greater than or equal to 7.8 mmol/L, or being treated with insulin or an oral hypoglycemic.

It is well known that blood sugar levels are affected by food intake. As previously mentioned, all participants were asked to fast for at least 12 hours before having their blood samples taken; however, not all of them followed this instruction. Comparison of the blood sugar levels (averages and proportions) of participants who had fasted for more than 12 hours with those who had not, revealed no difference between the two groups. Three people who had fasted for less than six hours, had blood sugar levels less than 6.4 mmol/L. Therefore all individuals who were tested for blood sugar were included in the analysis. Data on pregnant women were excluded.

5.4.2 Results

Of the roughly 10% of the Cree 18 to 74 years of age who had ever been informed by a health professional that they were diabetic (table not shown), there were more women than men (15% vs 4%). The prevalence reported by Cree women was higher than that reported by other Quebec women (5%), the age-adjusted rate in Cree females being three times higher (comparative index = 3.2). Nearly two out of every three persons (65%) reporting a diagnosis of diabetes, had apparently been diagnosed after the age of 30. No difference was observed between men and women. Nearly six out of every ten people (59%) who had been informed by a health professional of their blood sugar problem stated that they were under treatment for diabetes, the proportion increasing with age. Two-thirds (69%) said that they were taking an oral hypoglycemic, 54% were on a diet, 27% were on insulin and 24% were trying to lose weight.

With respect to clinical measures, the average blood sugar level in the Cree was found to be 5.2 mmol/L (Table 5.8). Seven percent (7%) of the Cree had blood sugar levels suggestive of diabetes (greater than or equal to 7.8 mmol/L) or were on pharmacological treatment. Prevalence was higher in women than men for all age groups. For both sexes, the prevalence was lowest in those 18-34 years of age and in the elderly (65 years and over).

The prevalence of diabetes estimated in this survey was slightly greater than that found in previous studies. According to the 1983-84 Plasannouq survey, 4.4% of Cree women and 1.2% of Cree men had blood sugar levels consistent with a diabetic condition (Ékoé et al., 1990; Thouez et al., 1990). In the study carried out by Brassard in 1989, the prevalence of non-insulin-dependent diabetes was 5.2% among individuals aged 20 years and over in eight Cree communities (Brassard et al., 1993). However, in all these studies, including this one, prevalence was greater in women than men.

TABLE 5.8

Average blood sugar level, prevalence of blood sugar by risk level and prevalence of diabetes, by age and sex (%), Cree population 18 to 74 years of age, 1991

SEX	MALES				FEMALES				TOTAL
AGE	18-34	35-64	65-74	TOTAL	18-34	35-64	65-74	TOTAL	
AVERAGE BLOOD SUGAR LEVEL (MMOL/L)	4.7	5.5	5.6	5.0	4.7	6.3	5.7	5.4	5.2
BLOOD SUGAR									
< 6.4 MMOL/L									
%	98.6	91.3	83.8	95.2	96.7	74.7	83.9	87.5	91.5
PE	1,413	817	112	2,342	1,261	663	123	2,047	4,389
≥ 6.4 AND < 7.8 MMOL/L									
%	0.8	4.2	11.6	2.6	0.9	8.9	5.1	4.2	3.4
PE	11	37	16	64	12	79	7	98	162
≥ 7.8 MMOL/L									
%	0.6	4.5	4.5	2.2	2.4	16.5	11.0	8.3	5.1
PE	9	40	6	55	31	146	16	193	248
DIABETES[a]									
%	1.3	6.4	11.1	3.7	2.1	23.8	16.1	11.1	7.4
PE	19	58	16	93	31	225	23	279	372

[a] Diabetes is defined as a blood sugar level greater than or equal to 7.8 mmol/L or on pharmacological treatment with insulin or an oral hypoglycaemic. The definition excludes individuals whose diabetes was under control solely by diet.

5.5 KNOWLEDGE OF THE POSSIBLE CAUSES OF HEART DISEASE

Knowledge of the possible causes of heart disease was determined using the same question asked in Santé Québec's heart health survey, namely: "Can you tell me the major causes of heart diseases or heart problems?" (included in the Individual Questionnaire). All answers were noted.

The two causes of heart disease most frequently cited by the Cree population 18 to 74 years of age were excess weight or obesity (36%) and smoking (33%) (Table 5.9). High blood pressure was only named by 13%, compared to 23% for cholesterol-related factors. However, almost a third (31%) of the Cree of both sexes and in all age groups stated that they did not know what the main causes of heart disease were.

TABLE 5.9

Frequency of possible reported causes of heart disease by sex (%), Cree population 18 to 74 years of age, 1991

REPORTED CAUSES[a]	MALES	FEMALES	TOTAL	
			%	PE
EXCESS WEIGHT/OBESITY	34.4	37.3	35.9	1,886
SMOKING	32.7	33.0	32.9	1,728
DOES NOT KNOW	30.3	30.9	30.6	1,607
EXCESS FATS	14.2	20.7	17.5	918
FOODS WITH HIGH CHOLESTEROL	14.6	16.6	15.6	821
LACK OF EXERCISE	15.4	11.1	13.2	695
HIGH BLOOD PRESSURE	13.5	11.9	12.7	667
OVERWORK OR FATIGUE	12.0	13.4	12.7	667
HIGH BLOOD CHOLESTEROL LEVEL	13.3	11.7	12.5	657
EXCESS STRESS, WORRY OR TENSION	12.0	12.6	12.3	645
POOR DIET	9.5	10.1	9.8	516
EXCESS SALT	7.0	7.9	7.5	392
HARDENING OF THE ARTERIES	4.9	4.8	4.9	255
HEREDITY	2.2	2.0	2.1	109

(a) Spontaneous answers, more than one response accepted.

The study also found that the proportion of people who mentioned smoking as a possible cause of heart disease or heart problems was higher among smokers (40%) than non-smokers (25%) for both males and females (table not shown). This phenomenon has been observed in the rest of the Quebec population.

5.6 CONCLUSION

5.6.1 Summary

In this study, the prevalence of high blood pressure in men was comparable to that found in males elsewhere in Quebec; the rate in Cree women, however, was higher than that of other females Quebecers. Extrapolating the results to the whole Cree population, the number of hypertensive males would be about 325, of whom roughly 46 would be undergoing treatment to control their blood pressure. Also, because fewer Cree men than males elsewhere in Quebec had had their blood pressure checked, they were more likely to be unaware of their hypertensive status (the number was estimated at 236). The situation is quite different among the roughly 321 hypertensive Cree women, 135 of whom were apparently being treated to control their blood pressure.

The various results for total cholesterol and lipid fractions suggest that there is less hypercholesterolemia in the Cree than in other Quebecers. Nevertheless, the synergy between risk factors continues to pose a threat to cardiovascular health in the Cree population.

The survey also suggests that 7% of Cree adults (approximately 372 individuals) may be suffering from diabetes as defined by a high blood sugar level or on pharmacological treatment. This seemingly high prevalence should be checked against the results of a similar survey in the rest of Quebec.

Two out of every three Cree had at least one of the major risk factors for ischemic heart disease, i.e., smoking, high blood pressure or high cholesterol. After adjustment for age, proportionately more Cree men than other Quebec males had at least one of the risk factors.

The data on the knowledge of the possible causes of heart disease show that the Cree are relatively ill-informed on the subject. One third of them were unable to name a single cause of heart disease. The proportion is only 6% elsewhere in Quebec. The Cree also knew little about the major risk factors for cardiovascular disease, since only one person out of three named smoking, one out of four, cholesterol and a mere one out of eight, high blood pressure.

5.6.2 Avenues for further research and action

The findings of this study show that in comparison to Cree women, Cree men tended to be less aware of their hypertensive state and their condition was less often treated and controlled. Programs to increase awareness of this problem should be considered for health care personnel and the Cree male population.

Although diabetes is a relatively recent condition among the Cree (Brassard et al., 1993), it is more prevalent than elsewhere in Quebec. Moreover, the diabetic Cree do not have as much access to the kinds of educational programs that are readily available in the large hospitals in southern Quebec. Additional funds should therefore be directed toward strengthening curative and preventive services.

The study found that average cholesterol levels seemed to be lower in the Cree than in other Quebecers. The results of the 24-hour diet recall (publication forthcoming) also indicate that the Cree consume less saturated fat. It might be worthwhile to compare the cholesterol levels found in this study with those observed in an earlier study (Foggin and Rannou, 1987) to see how the situation has evolved over time.

It would also be useful to analyze the data in this chapter by the various lifestyle factors (i.e., smoking, physical activity, excess weight, etc.) outlined in Chapter 3 in order to develop a more general cardiovascular risk profile in the Cree. These results could then be compared with those of Santé Québec's heart health survey, as well as to data from other provinces and other surveys on aboriginal peoples.

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CHAPTER 6

HEALTH STATUS AND ITS CONSEQUENCES

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6.0 INTRODUCTION

This chapter is devoted to the health status of the Cree population and its consequences on ability to function and use of health or social services.

The data, derived from personal assessments or third-person reports, served to describe the subjective state of health among the Cree using the following indicators: perceived health status, prevalence of reported health problems and the comprehensive health index.

The consequences on ability to function were assessed on the basis of the restriction of activities during the two weeks preceding the survey (by duration, severity and external causes), and on the prevalence of long-term disability. It was also measured by the number of health consultations and use of medication.

6.1 PERCEIVED HEALTH STATUS

The perception people have of their health, compared with other individuals the same age, is considered to be a good indicator of their general state of health. It has been linked to health status as measured by self-reported symptoms, chronic conditions or restrictions of activity (Liang et al., 1991; Fylkesnes and Forde, 1992). The 1987 Santé Québec survey found such an association between perceived health status and the comprehensive health index (constructed from reported health problems and disabilities).

6.1.1 Scope and limits of the data

The question on perceived health status, included in the Individual Questionnaire, was asked only to respondents 15 years of age and older. Four answers to this question were possible in this survey, as opposed to five in the 1987 Santé Québec survey. Consequently, the data of the two studies are not comparable on this point.

6.1.2 Results

Over three quarters of the Cree considered themselves to be in either very good (25%) or good health (52%) (Table 6.1). The majority of the remaining people described their health status as fair (21%); 2% stated that their health was poor.

Generally speaking, Cree men and women gave similar assessments of their health status, and age did not seem to significantly affect their perceptions. Fewer Cree from the inland villages than those from the coastal villages stated that their health was very good (17% vs 31%). The same phenomenon was mentioned in the report of the 1983-1984 Cree survey (Clarkson and Foggin, 1991).

TABLE 6.1

Perceived health status by age and sex (%), Cree population 15 years of age and over, 1991

AGE/SEX	VERY GOOD		GOOD		FAIR		POOR	
	%	PE	%	PE	%	PE	%	PE
15 TO 24								
• MALES	26.4	284	54.9	592	17.7	191	1.0	11
• FEMALES	25.4	273	55.2	592	18.1	194	1.3	14
• TOTAL	25.9	557	55.0	1,184	17.9	385	1.2	25
25 TO 44								
• MALES	23.2	278	54.5	654	17.4	232	2.9	34
• FEMALES	23.5	251	54.1	576	20.0	213	2.4	26
• TOTAL	23.3	529	54.4	1,230	19.7	445	2.6	60
45 TO 64								
• MALES	31.9	161	43.4	219	23.7	119	1.0	5
• FEMALES	30.9	165	38.6	206	28.1	150	2.4	13
• TOTAL	31.4	326	41.0	425	25.9	269	1.7	18
65 AND OVER								
• MALES	21.1	50	41.1	97	34.6	82	3.2	8
• FEMALES	17.0	36	50.1	107	29.9	64	3.0	6
• TOTAL	19.1	86	45.3	204	32.5	146	3.1	14
TOTAL								
• MALES	25.6	773	51.8	1,562	20.7	625	1.9	58
• FEMALES	25.1	725	51.3	1,481	21.5	622	2.0	59
• TOTAL	25.3	1,498	51.6	3,043	21.1	1,245	2.0	117

Compared to the way Canadians as a whole evaluated their health in the 1985 General Social Survey (Statistics Canada, 1987), the Cree had a more negative perception of their health status in all age groups except in individuals aged 65 years and over. The widest divergences were found among the under 45 year-olds. The proportion of young Cree aged 15 to 24 who said that they were in "fair or poor" health was 19%, compared to 13% among Canadians of the same age. In 25 to 44 year-olds, the percentages were 22% and 11% respectively.

6.2 HEALTH PROBLEMS

This section examines health problems that were reported either because they were chronic, caused a temporary or permanent restriction of activity, resulted in an consultation with a

health professional or in the use of medication. The problems could thus be acute or chronic, or acute episodes of a chronic condition.

6.2.1 Scope and limits of the data

The questions on health problems can be found in the following sections of the Household Questionnaire: Section I - last two weeks of disability, Section II - health care or social service utilization, Section III - use of medication, Section V - restriction of activities, Section VI - chronic health problems and Section VII - hearing. Section VIII, where the duration of the various health problems was recorded, served as the basis for calculating prevalence.

One limitation of the data is that the information on many of the health problems was provided by a third person. Reported conditions were those experienced or perceived by the person responding on behalf of the household. These conditions may or may not have been diagnosed by a health professional, nor was their severity assessed.

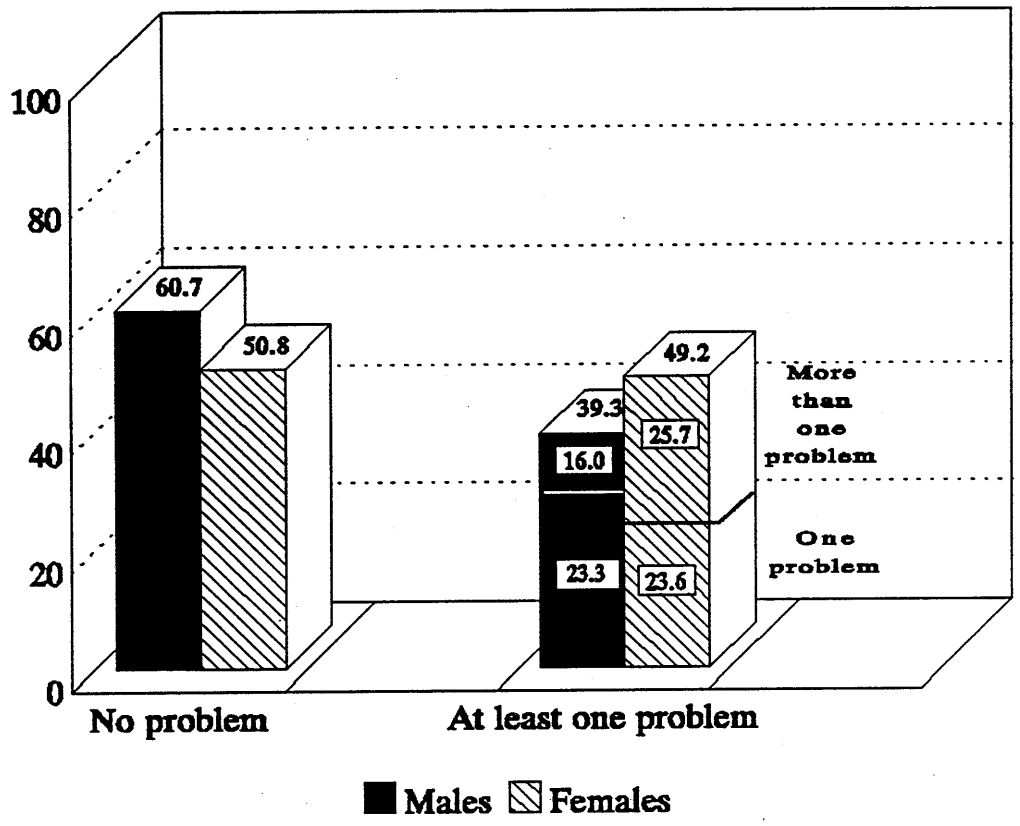
Most of the questions on health problems were taken from the 1987 Santé Québec survey, thereby making comparisons between the two surveys possible. Moreover, the coding of these problems according to the 9th edition of the International Classification of Diseases (ICD-9) was consistent with that of the 1987 survey. However, because a previous study (Foggin and Lauzon, 1987) reported higher levels of hearing deficiencies in the Cree population, one of the objectives of this survey was to measure the extent of the problem. This was done by devoting a section to hearing in the Household Questionnaire (Section VII) as well as including a question on the subject in Section VI on chronic health problems. The data on hearing, therefore, are not comparable between the two studies.

Although comparisons for most of the health problems can be made, they are not completely bias-free. To begin with, the cultures and physical environments of the two populations are different. Also, the Cree survey was conducted during the summer, while the 1987 survey took place four years earlier and extended over an entire year. Moreover, because of a lack of equivalent terminology in Cree for some of the health problems, the Cree vocabulary differed slightly from that used in the French or English questionnaires.

As the majority of sociodemographic characteristics of the Cree population were associated with age (see Chapter 2), it will be used along with sex and subregion of residence in the analysis of the data.

FIGURE 6.1

Proportion of individuals reporting or not reporting health problems, by sex (%), Cree population, 1991

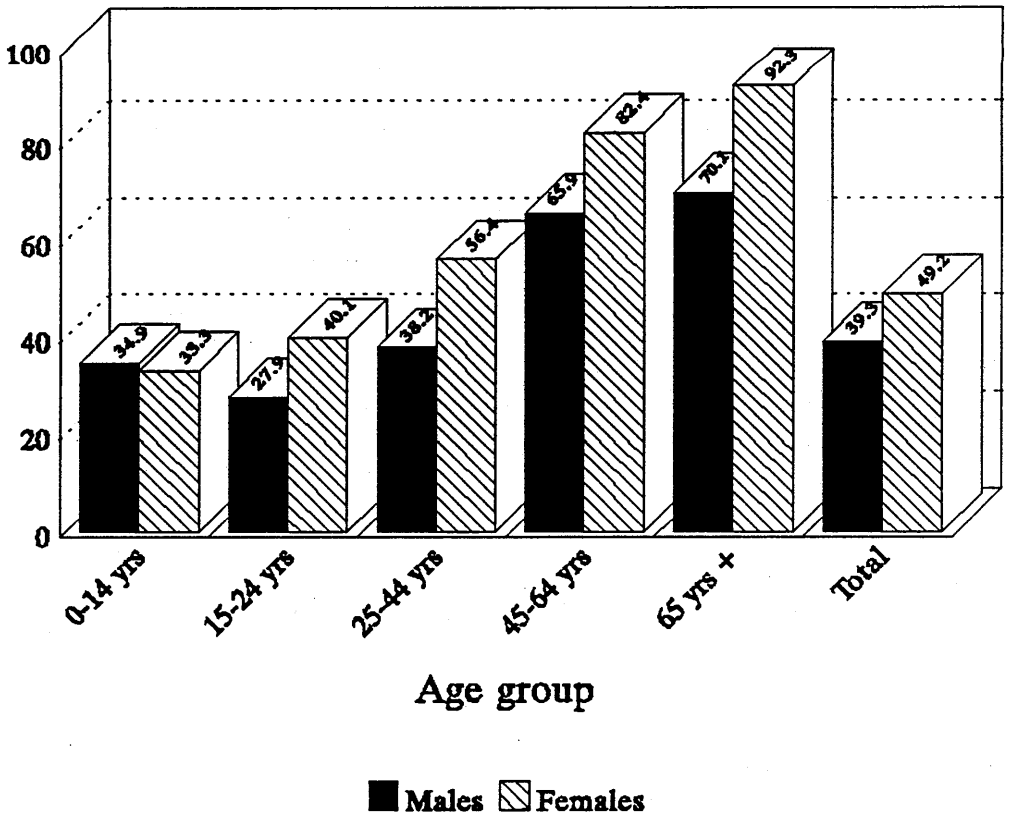


6.2.2 Results

Forty-four percent (44%) of the Cree population reported having at least one health problem. By sex, there were proportionately more women (49%) than men (39%) with at least one problem, and 1.6 times as many women as men with more than one problem (Figure 6.1). The proportion of individuals with at least one health problem also increased with age, from one-third in the under 25 year-olds to 81% in those 65 years of age and over (Figure 6.2). Fewer Cree than southern Quebecers reported health problems (comparative index = 0.92); the difference in this respect was greater in men than in women (comparative index = 0.87 vs 0.97).

FIGURE 6.2

Proportion of individuals reporting at least one health problem (%), by age and sex, Cree population, 1991



The most frequently reported problems were hearing-related, which affected nearly 8% of the Cree population. When other ear problems, usually otitis, were considered, 9% of the Cree appeared to have some kind of ear or hearing problem (Table 6.2). About one percent (1%) of the people were wearing a hearing aid; nearly 40% of them stated that they had difficulty hearing even with their aid on.

TABLE 6.2

Prevalence of health problems by sex (%), Cree population, 1991

HEALTH PROBLEMS	MALES	FEMALES	TOTAL		COMP. INDEX*
			%	PE	
HEARING PROBLEMS	8.5	6.5	7.5	698	N.C.
HEADACHES	3.7[1]	9.4[1]	6.6	611	0.96
ALLERGIES	5.8	7.2	6.5	605	0.95
ARTHRITIS AND RHEUMATISM	5.0	7.6	6.3	587	0.99
BACKACHES	5.9	4.1	5.0	470	0.89
HIGH BLOOD PRESSURE	2.3[1]	6.6[1]	4.5	416	1.21
SKIN DISEASES AND ALLERGIES	3.8	4.4	4.1	381	0.49**
ACUTE RESPIRATORY AILMENTS	2.9	4.7	3.8	358	1.00
DIABETES	1.6[1]	5.5[1]	3.5	326	3.43**
ASTHMA	3.1	3.4	3.3	305	1.29
DIGESTIVE PROBLEMS	1.6[1]	4.5[1]	3.0	282	1.02
INJURIES	3.4	1.5	2.5	229	0.51**
HEART DISEASE	1.9	2.7	2.3	218	0.95
MENTAL DISORDERS	1.4	2.3	1.9	175	0.35**
OTHER EAR PROBLEMS	1.2	1.7	1.5	137	N.C.
ANEMIA	0.7	2.1	1.4	130	1.35
DENTAL PROBLEMS	1.0	1.8	1.4	127	1.12
THYROID PROBLEMS	0.5	2.1	1.3	123	1.58
URINARY PROBLEMS	0.6	2.0	1.3	124	N.C.
HAY FEVER	0.8	1.4	1.1	101	0.18**
GASTRIC AND DUODENAL ULCERS	1.1	1.1	1.1	105	0.96
EYESIGHT PROBLEMS	1.1	***	0.8	70	0.78
FLU	0.7	0.6	0.6	57	0.17
OTHER PROBLEMS	7.2	11.7	9.4	881	--

* Comparative index: the number of cases observed in the Cree population divided by the number of cases which could be expected if the Quebec rate was applied to the age distribution of the Cree population.

** Percentages differed significantly between the Cree and the 1987 Santé Québec survey ($p < 0.01$).

*** Less than 0.5%.

1: The indexed percentages differed significantly between men and women ($p < 0.01$.).

NC: Not comparable.

The other most prevalent health problems found in the Cree were headaches (7%) and allergies (7%), followed by bone and joint conditions (arthritis, rheumatism and backaches), high blood pressure and skin allergies or diseases. These conditions accounted for half the health problems documented in the study. In general, women reported more health problems than men in each of the categories, except hearing, backaches, injuries and eyesight, for which the prevalence was higher in men.

TABLE 6.3

Prevalence of reported health problems among children under 15 years of age by sex (%), Cree population, 1991 and Quebec, 1987

HEALTH PROBLEMS	MALES	FEMALES	TOTAL		QUEBEC 1987
			%	PE	
ALLERGIES	6.3	6.6	6.4	209	6.6
SKIN DISEASES AND ALLERGIES	5.4	6.9	6.1	199	8.4
ACUTE RESPIRATORY AILMENTS	4.0	6.0	5.0	163	6.0
ASTHMA	6.7	2.9	4.8	157	3.4
OTHER EAR PROBLEMS	2.7	4.1	3.4	110	N.C.
INJURIES	4.4	1.6	3.0	98	3.6
HEARING PROBLEMS	2.0	2.6	2.3	75	N.C.
DENTAL PROBLEMS	2.0	1.7	1.8	59	1.7
ANEMIA	2.1	1.0	1.6	51	***
HEADACHES	1.4	1.4	1.4	44	1.6

*** Less than 0.5%

N.C. Not comparable

With the exception of hearing problems, the most frequently reported conditions in the Cree were similar to those reported in the 1987 Santé Québec survey. Noteworthy is the finding that mental disorders ranked second in southern Quebecers, but fourteenth in the Cree. Only 1.4% of men and 2.3% of women in the Cree survey reported such problems, compared to 5.1% and 9.6% respectively in the 1987 survey.

Stratifying the data by age revealed that at least one health problem was reported for a third of Cree children **under 15 years of age** (Figure 6.2) . The most prevalent conditions were allergies, skin diseases and allergies, respiratory tract ailments, ear or hearing-related problems, injuries (especially in boys), and dental problems (Table 6.3). Both the proportion of children with at least one health problem and the prevalence of problems themselves were similar to the results found in the 1987 survey.

In the category of **15-24 year-olds**, nearly 40% of young Cree women and 28% of young Cree men reported at least one health problem (Figure 6.2). Allergies, headaches, hearing problems, backaches and acute respiratory ailments comprised half of the conditions reported (Table 6.4). Compared to the 1987 survey, a proportionately smaller number of Cree men and women in this age group reported having at least one health problem. However, the most frequently reported conditions were similar between the two studies.

TABLE 6.4

Prevalence of reported health problems among 15 to 24 year-olds by sex (%), Cree population, 1991 and Quebec, 1987

HEALTH PROBLEMS	MALES	FEMALES	TOTAL		QUEBEC 1987
			%	PE	
ALLERGIES	5.0	8.3	6.7	148	8.8
HEADACHES	1.1	11.8	6.5	145	7.4
HEARING PROBLEMS	4.3	5.6	5.0	111	N.C.
BACKACHES	5.0	1.6	3.3	74	4.0
ACUTE RESPIRATORY PROBLEMS	3.2	3.5	3.3	74	3.3
SKIN DISEASES AND ALLERGIES	3.6	2.6	3.1[1]	69	8.7[1]
INJURIES	3.2	1.2	2.2[2]	50	5.9[2]
ARTHRITIS AND RHEUMATISM	2.1	2.3	2.1	46	2.6

N.C. Not comparable

1,2: Percentages differed significantly between this study and the 1987 Santé Québec survey ($p \leq 0.01$).

In the category of **25-44 year-olds**, proportionally more Cree women (56%) than Cree men (38%) reported having at least one health problem (Figure 6.2). In addition to headaches, hearing problems, backaches, allergies, arthritis and rheumatism typically reported in younger age groups, individuals aged 25 to 44 also had digestive problems, high blood pressure, urinary problems and diabetes (self-reported) (Table 6.5). Hypertension and diabetes (self-reported) which predominated in the Cree of this age group, ranked only 13th and 25th respectively in the rest of the Quebec population 25-44 years of age.

TABLE 6.5

Prevalence of reported health problems among 25 to 44 year-olds by sex (%), Cree population, 1991 and Quebec, 1987

HEALTH PROBLEMS	MALES	FEMALES	TOTAL		QUEBEC 1987
			%	PE	
HEADACHES	6.5	15.1	10.7	248	13.1
HEARING PROBLEMS	9.2	6.8	8.1	187	N.C.
BACKACHES	9.1	6.7	7.9	184	10.4
ALLERGIES	6.8	8.1	7.4	172	7.2
ARTHRITIS AND RHEUMATISM	4.2	8.0	6.0	140	6.4
DIGESTIVE PROBLEMS	2.6	7.4	5.0	116	3.7
HIGH BLOOD PRESSURE	2.0	5.8	3.8	89	2.2
SKIN DISEASES AND ALLERGIES	2.0	4.3	3.1[1]	72	8.6[1]
DIABETES	1.6	4.3	2.9	67	0.7
URINARY PROBLEMS	***	3.8	1.9	43	N.C.

*** Less than 0.5%.

1: Percentages differed significantly between this study and the 1987 Santé Québec survey ($p < 0.01$).

N.C. Not comparable

In Cree adults **45-64 years of age**, three-quarters reported having at least one health problem; this figure was 82% in women and 66% in men (Figure 6.2). Accounting for more than half the problems (Table 6.6) were high blood pressure, arthritis and rheumatism, hearing problems, diabetes (self-reported) and backaches. Heart disease was among the 10 most

frequently mentioned conditions. Diabetes (self-reported) was 3.7 times higher in women than in men. Here again, the most prevalent conditions in this population were similar to those reported for the same age group in the 1987 survey, with the exception of self-reported diabetes, which was greater in the Cree. Finally, it should be noted that, diabetes, while not among the most frequently reported conditions in 45 to 64 year-olds in the 1987 Santé Québec survey, ranked fourth in the Cree, with a prevalence of 18%.

TABLE 6.6

Prevalence of reported health problems among 45 to 64 year-olds by sex (%), Cree population, 1991 and Quebec, 1987

HEALTH PROBLEMS	MALES	FEMALES	TOTAL		QUEBEC 1987
			%	PE	
HIGH BLOOD PRESSURE	13.7	29.7	22.0	236	14.5
ARTHRITIS AND RHEUMATISM	17.1	25.1	21.2	228	19.8
HEARING PROBLEMS	25.0	12.6	18.6	200	N.C.
DIABETES	7.7[1]	28.3[1]	18.4[2]	197	3.5[2]
BACKACHES	16.5	13.2	14.8	159	12.2
HEADACHES	10.8	16.9	14.0	150	9.8
HEART DISEASE	7.2	7.8	7.5	81	7.6
ALLERGIES	6.1	7.1	6.6	71	4.3
DIGESTIVE PROBLEMS	6.1	6.8	6.5	69	5.2
ASTHMA	1.6	9.0	5.4	58	2.3

1,2: Percentages differed significantly between the indexed groups ($p < 0.01$).

N.C. Not comparable

Four out of five individuals **65 years of age and over** were experiencing health problems (Figure 6.2); one out of two had more than one problem. The conditions most frequently noted were arthritis and rheumatism, hearing problems, heart disease, high blood pressure, digestive problems and diabetes (Table 6.7). While over one third (34%) of women reported that they suffered from high blood pressure and 37% from arthritis and rheumatism, men were primarily affected by hearing problems (33%). A comparison of the Cree results to the 1987 survey revealed little or no difference in the proportion of elderly people reporting health problems or in the prevalence of the conditions themselves.

TABLE 6.7

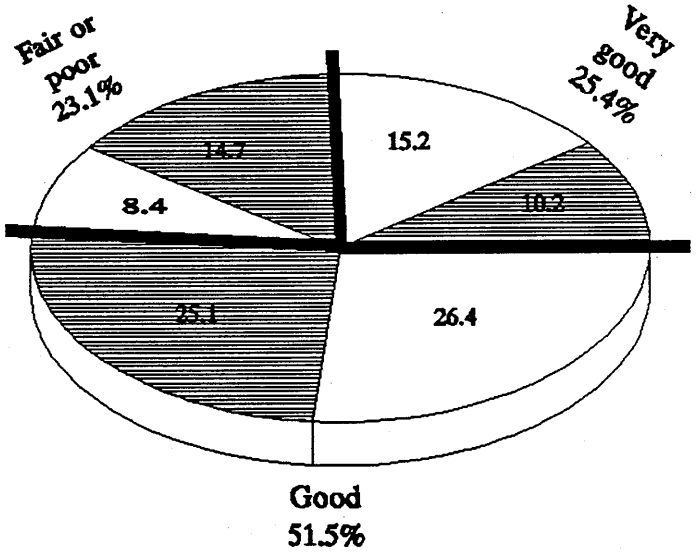
Prevalence of health problems among individuals 65 years of age and over by sex (%), Cree population, 1991 and Quebec, 1987

HEALTH PROBLEMS	MALES	FEMALES	TOTAL		QUEBEC 1987
			%	PE	
ARTHRITIS AND RHEUMATISM	27.2	37.0	31.9	146	34.9
HEARING PROBLEMS	33.4	21.0	27.4	125	N.C.
HEART DISEASE	15.5	26.2	20.7	95	21.5
HIGH BLOOD PRESSURE	6.5	34.3	20.0	91	27.9
DIGESTIVE PROBLEMS	2.9	22.9	12.6	57	10.8
DIABETES	6.1	17.6	11.7	53	6.6

N.C. Not comparable.

FIGURE 6.3

Perceived health status and presence/absence of reported health problems (%), Cree population 15 years of age and over, 1991



As shown in Figure 6.3, an agreement was found between perceived health status and reported health problems. Individuals who felt their health was fair or poor reported proportionally more health problems than those who felt that their health was good or very good.

6.3 COMPREHENSIVE HEALTH INDEX

The comprehensive health index (CHI), employed in the 1987 Santé Québec survey, was developed by the Human Population Laboratory of the California State Department of Public Health (Belloc et al., 1971). In this index, health is seen as a continuum, ranging from a minimal to an optimal state, which can be affected by restrictions of activity, chronic conditions or other symptomatic states. The continuum is a chain of mutually exclusive categories that can be used to classify each of the individuals for whom data has been gathered.

TABLE 6.8

Categories of the comprehensive health index

CATEGORIES	QUESTIONS OR VARIABLES
1. Severe disability Person having difficulty eating, dressing, climbing stairs, going out or unable to work or go to school for the preceding 6 months or more	• Usually incapable of leaving the house without assistance • Usually confined to a bed or chair • Needs help looking after him/herself and moving around in the house • Unable to perform daily household chores for the preceding 6 months or more in the village or the bush • Unable to work outside of the home, go into the bush or attend school for the preceding six months or more
2. Less severe disability Person who has changed the number of hours or type of work, ceased certain activities or been incapable of working or attending school during the preceding 6 months	• Restricted in activities to the home, but not in housework • Restricted in ability to work outside of the home or to attend school, but not incapable • Restriction in other activities • Unable to do everyday household chores during the preceding 6 months in the village or in the bush • Unable to work outside of the home or to go into the bush during the preceding 6 months • Unable to attend school during the preceding 6 months

CATEGORIES	QUESTIONS OR VARIABLES
3. Multiple chronic conditions Person with no disability but presenting at least two chronic problems or conditions during the preceding 12 months	• "Is there anyone in the household who has: anemia, skin allergies or other diseases, other allergies, hay fever, serious trouble with the back or spine, arthritis or rheumatism, other serious problems with the joints or bones, cancer, cerebral palsy, diabetes, emphysema or chronic bronchitis or persistent cough or asthma, mental retardation or severe intellectual retardation, depression, epilepsy, high blood pressure, heart disease, urinary problems or kidney disease, stomach ulcers, other digestive problems, goiter or thyroid trouble, migraines or recurring headaches, incapacity or handicap due to the loss of a limb, paralysis due to accident, paralysis due to a stroke or intracerebral haemorrhage, periods of excessive nervousness or irritability, periods of confusion or frequent memory losses, incapacity or handicap due to obesity, periods of 6 months or more when he (she) has visions or hears voices or is afraid without reason, the belief that his (her) mind is affected by a curse, hearing troubles".
4. Chronic condition Person with no disability but presenting a chronic problem or condition during the 12 preceding months	
5. At least one symptomatic state Person with no disability, chronic problem or condition but presenting at least one symptomatic state in the course of the 12 preceding months	• Reported health problems did not result in disability or chronic condition.
6. No illness Person reporting no health problems in the course of the 12 preceding months	• No disability, chronic condition or health problem.

Table 6.8 shows the six CHI categories employed in this survey and the questions or variables in the Household Questionnaire used to assign the subjects to each of them. For each of the categories, a weight was calculated which, depending on the severity of the condition, ranged between 0 and 1 (from less severe to more severe). The gross average score for the population was set at 0.5. Each individual was assigned a score (or weight) for the category in which he or she was classified. This score was particularly useful for comparing subgroups within the population.

6.3.1 Scope and limits of the data

When comparing the results on subjective health status in the Cree with those of the 1987 Santé Québec survey, it is important to remember that the way individuals see their health

may be greatly influenced by cultural factors; hence certain problems of translation and the wording of the questions.

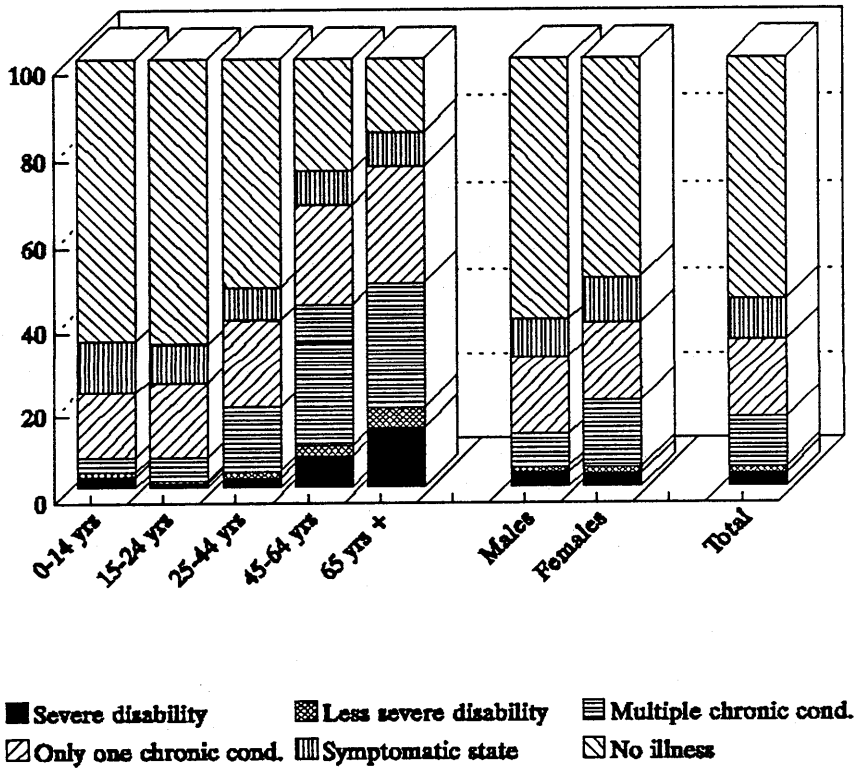
Because all of the questions used in the construction of the CHI were answered, it was possible to fully assign 99% of the subjects to one of the six categories. One difference should be mentioned: the 1987 survey offered a choice of 28 chronic health problems, whereas 30 choices were given in this survey. One of the items added was done so for cultural reasons, the other to take into account the high prevalence of hearing problems in the Cree population.

6.3.2 Results

More than half (55%) of the Cree population (Figure 6.4) reported no health problems; 30% reported at least one chronic condition (see the list in Table 6.8), but only 3% had severe disabilities and 1%, less severe disabilities. The main difference between the sexes was that twice as many Cree women as men reported more than one chronic condition.

FIGURE 6.4

Proportion of individuals in each category of the comprehensive health index, by age and sex (%), Cree population, 1991

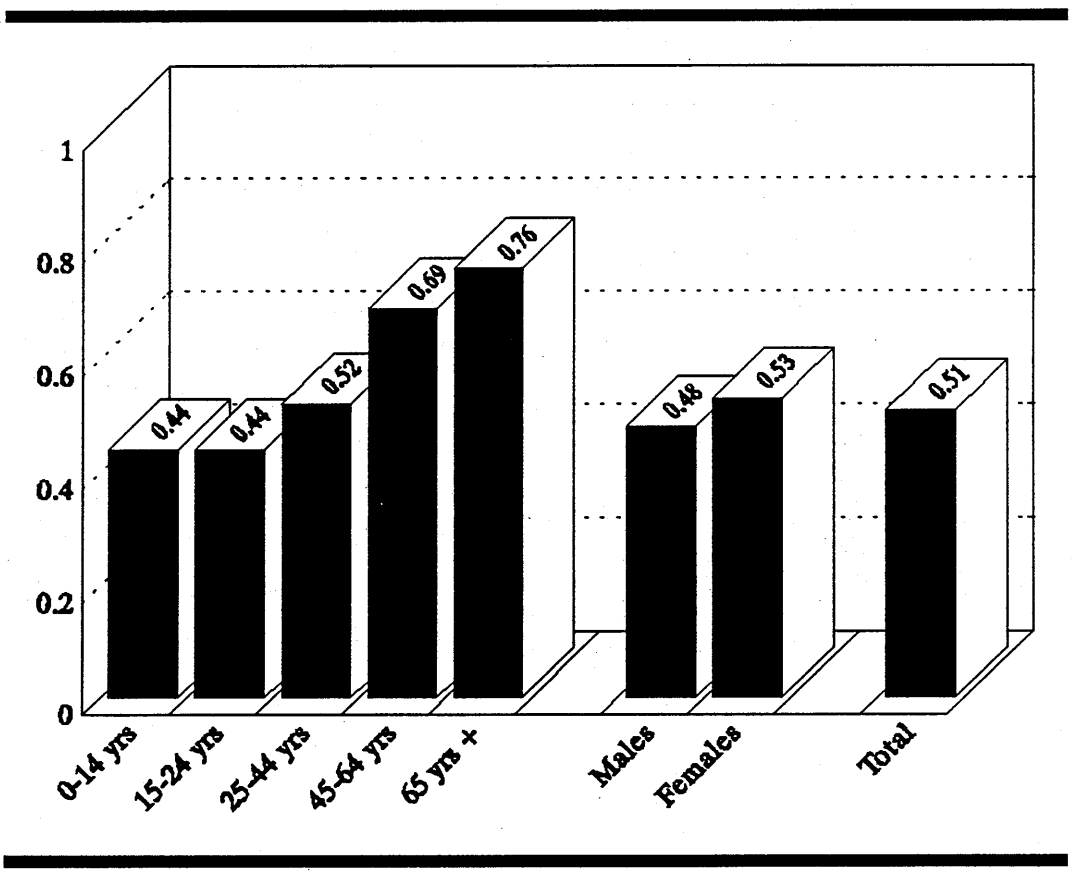


The proportion of individuals whose reported health status was poor (severe or less severe disability, one or more chronic conditions) increased with age (Figure 6.4), whereas the proportion of people with no illness decreased with age. Compared to the population of southern Quebec, a smaller percentage of Cree reported disabilities (4% vs 7%), and a greater percentage of Cree reported no illness whatsoever (55% vs 46%). The latter result is particularly surprising given that the slight difference in the construction of the index between the two surveys could have favoured a tendency to report more health problems among the Cree. The difference may indeed be real, but it may also be a consequence of a cultural propensity to understate one's health problems to outside observers or to give a different meaning to the concept of disability.

Another way of comparing the results for the CHI across age groups is to use the average individual scores, as shown in Figure 6.5.

FIGURE 6.5

Comprehensive health index by age and sex (average scores), Cree population, 1991



6.4 DISABILITIES

A disability is defined as the inability to perform activities of daily living, such as taking care of one's personal needs, working, attending school, hunting, etc. - the disability, itself, having been caused by disease, injury, birth defect or impairment of some sort. Measuring disabilities can therefore provide a picture of the impact of diseases and injuries in a population (Chamie, 1989). Their prevalence, however, will vary according to the instruments or indicators used in a survey. In this study, the questions on disability were identical to the ones used in the 1987 Santé Québec survey and the 1978-79 Health Canada survey (Health and Welfare, Statistics Canada, 1981).

Statistic Canada's 1986 Health and Activity Limitation Survey (HALS), which asked a battery of questions on disabilities, found that 13% of all Canadians and 10% of aboriginal Canadians living on a reserve had at least one type of long-term disability (Hamilton, 1990). However, these figures are not comparable to the results of this or the 1987 Santé Québec surveys, which asked fewer questions on the subject (Statistics Canada, 1990).

6.4.1 Scope and limits of the data

The questions on disabilities can be found in Sections I and V of the Household Questionnaire. Section I referred to disabilities during the two weeks preceding the interview, capturing information on the number of days confined to bed or the number of days restricted in the accomplishment of everyday activities. Section V covered only long-term disabilities.

In order to obtain a yearly average per person, the number of disability days during the two preceding weeks was multiplied by 26. Unlike the 1987 Santé Québec survey, which extended over an entire year, the present survey was conducted during the summer, a fact which may have resulted in a different estimation of the number of disability days. Any comparison with the rest of Quebec must also take into consideration the fact that the Cree population was significantly younger, and would therefore be expected to yield a lower number of disability days.

A disability was considered severe if the person was hospitalized or confined to bed at home; moderate, if the person was unable to go to work or to do housework; and mild, if the person only had to cut back his or her activities. Disabilities of external origin were those caused by an injury.

6.4.2 Results

Only 5% of the Cree population reported disability days during the two weeks preceding the survey. The yearly average number of disability days per person shown in Table 6.9 was estimated to be 6.5 days, a figure lower than that found in the 1978-79 Health Canada Survey

(14.6 days) and the 1987 Santé Québec survey (15.0 days). However, consistent with the trend observed in both the national and provincial surveys, the yearly average was greater in women (9.8 days) than men (3.3 days).

TABLE 6.9

Yearly average number of disability days per person by degree of severity (days), proportion of individuals with a long-term disability (%), and disability of external origin (%), by sex, Cree population, 1991

	SEX		TOTAL
	MALES	FEMALES	
YEARLY AVERAGE NUMBER OF DISABILITY DAYS BY DEGREE OF SEVERITY (DAYS)			
• SEVERE	1.9	4.0	3.0
• MODERATE	0.6	1.7	1.2
• MILD	0.7	4.1	2.4
TOTAL	3.3	9.8	6.5
PROPORTION OF TOTAL NUMBER OF DISABILITY DAYS (%)			
• AMONG THOSE WITH A LONG-TERM DISABILITY	47.4	56.6	54.3
• EXTERNAL ORIGIN	22.7	7.4	11.2

In the category of severe disabilities, a yearly average of 3.0 days per person was reported, a result similar to that of the 1987 Santé Québec Survey (3.6 days); however, contrary to the findings of the 1987 survey, fewer days in this study were attributable to moderate or mild disabilities (11.4 days, as opposed to 3.6 days in the present survey).

The study also revealed that more than half (54%) the disability days were reported by people with a long-term disability, compared to 49% in the 1987 survey. Unlike the 1987 survey, however, a higher proportion of these disability days were reported by women (57%) than men (47%). This proportion increased with age, ranging from 21% in individuals aged 15 to 24 to 90% in those aged 65 years and over.

Disabilities of external origin (injuries) accounted for 11% of the disability days, compared to 12% in the 1987 survey. More than a third (35%) of the disability days in boys under the age of 15 were due to injuries; this figure nearly doubled (65%) in young men aged 15 to 24.

In Section V of the Household Questionnaire, people were asked if any member of the household was limited in the kind or amount of activity he or she could do because of a long-

term physical or mental condition. Five percent (5%) of the Cree responded yes; this figure was almost 3% in individuals under 15 years of age (population estimate of 93 people) and 6% in those 15 years of age and over (population estimate of 342 people). For southern Quebec, the 1987 survey found a prevalence of 7%. When the data were adjusted for the difference in age structure between the two populations, the proportion of Cree limited because of a long-term physical or mental condition was only 82% of that observed in the rest of Quebec. Among the adult Cree who were limited by one long-term condition or another, a third were unable to go into the bush; one out of five reported that their disability was due to an injury.

6.5 HEALTH CARE OR SOCIAL SERVICES UTILIZATION

Utilization of health care or social services is influenced not only by one's health status, but also by the way services are organized or distributed. While all the Cree villages are served by at least two nurses, only two communities have general practitioners on a continuous basis; medical specialists are available only for periodic visits. It was therefore expected that visits to a doctor would be less frequent than those to a nurse.

6.5.1 Scope and limits of the data

The questions on health care or social services utilization in the Household Questionnaire, were put to the entire population sampled and refer to consultations during the two weeks preceding the interview. The period was summertime, when a higher percentage of the population are in the villages. The survey also examined the type of health professional consulted, where the consultation took place, and for what reason.

Data were analyzed by age, sex and subregion. Use of health care and social services was also examined by the variable, perceived health status. Where the data permitted, comparisons were made with the findings of the 1987 Santé Québec survey.

6.5.2 Results

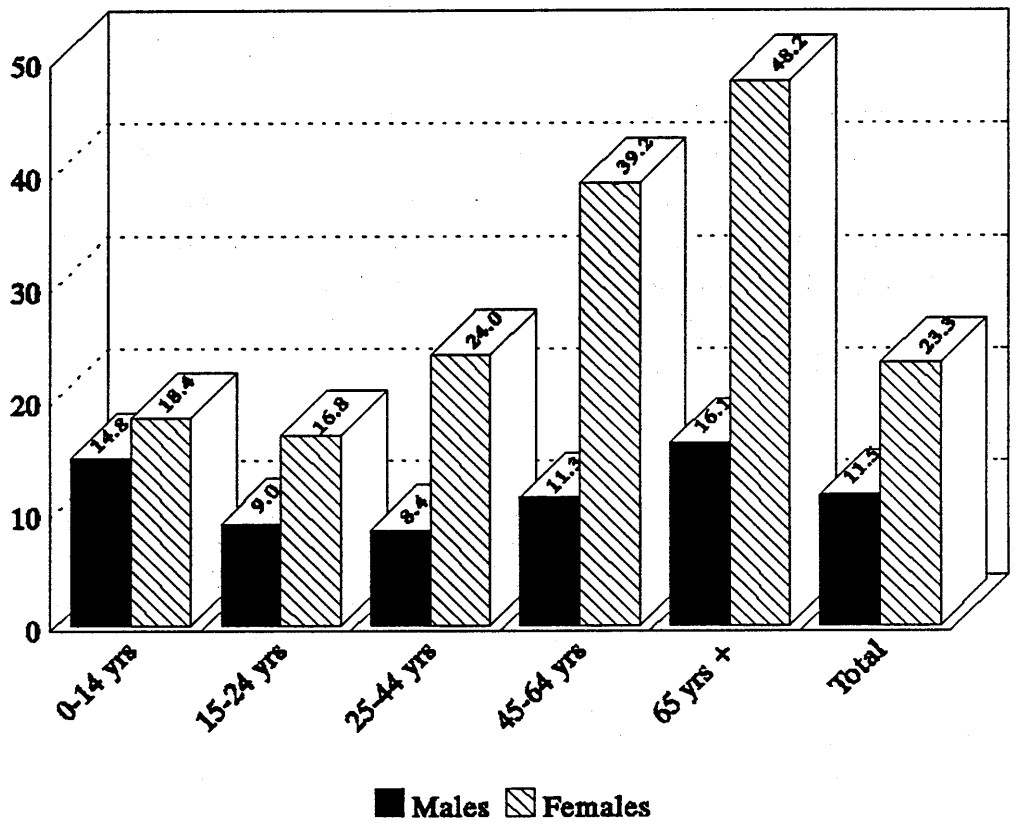
In the two weeks preceding the survey, 13% of the Cree made use of the services of a health professional once and 4%, more than once, for a total of 17%.

Twice as many women (23%) as men (12%) used health or social services during the above-mentioned two-week period (Figure 6.6). Utilization by men was U-shaped, the proportions being similar and highest for those under 15 years of age and those 65 years and over. Utilization in younger women was relatively stable, but doubled in the age group of 45-64

years, reaching 48% in women 65 years and over. No significant differences were found between residents of the coast and those of the inland communities.

FIGURE 6.6

Proportion of individuals reporting consultations during the two weeks preceding the survey, by age and sex (%), Cree population, 1991

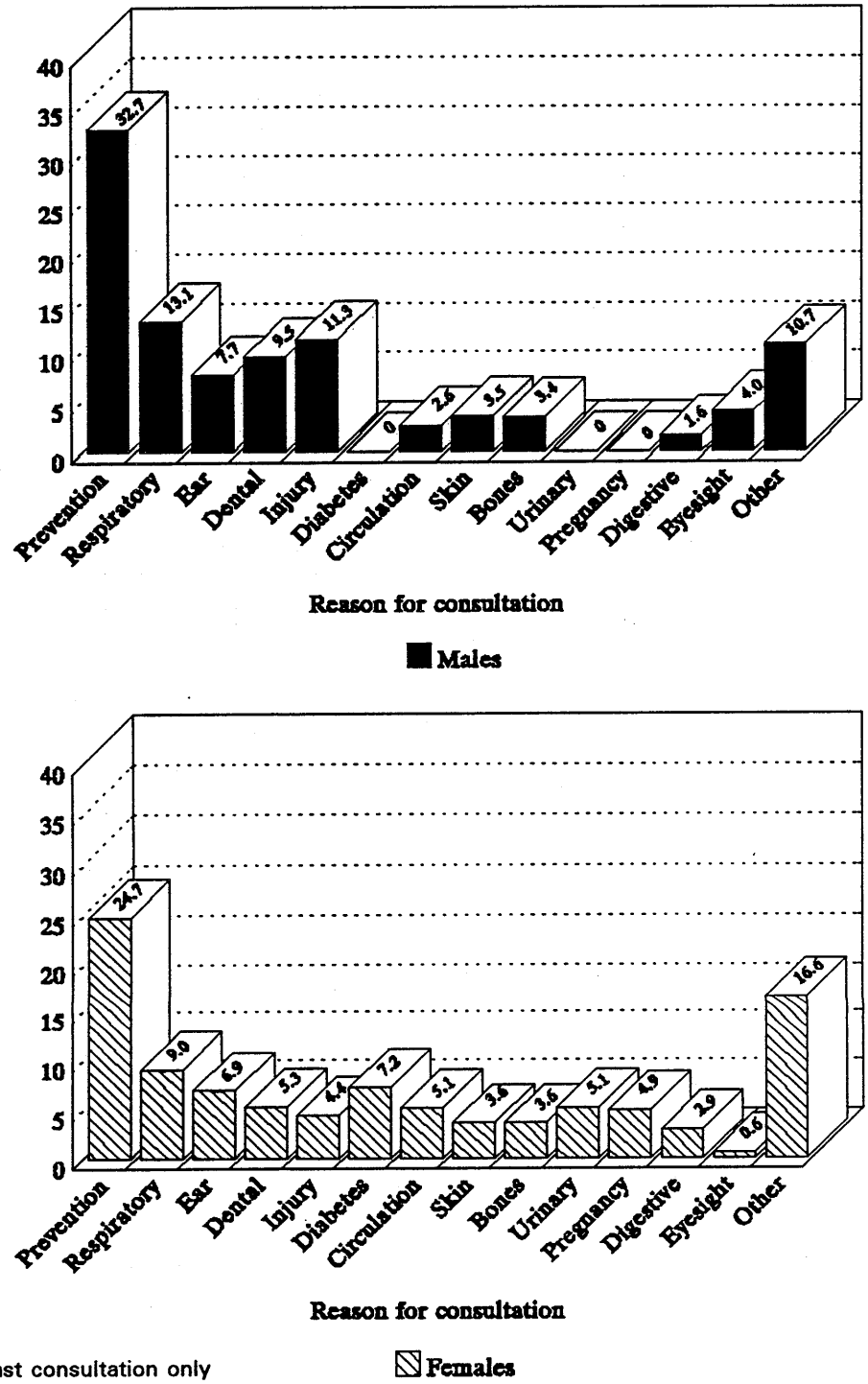


Perceived health status was found to be associated with use of health and social services. More people who felt that their health was fair or poor went to see a health professional (25%) than those who stated that they were in very good health (13%).

When compared to the rest of the Quebec population, proportionately fewer Cree had consulted a health or social service professional at least once (comparative index = 0.83).

FIGURE 6.7

Break-down of consultations* during the two weeks preceding the survey, by reason and sex (%), Cree population, 1991



* Last consultation only

This difference was due to the much lower consultation rate in Cree men (comparative index = 0. 61), the rate in women being similar in the two populations.

Almost all consultations involved a health-care professional. Those most often visited in the two weeks preceding the survey were, by order of importance, nurses (seen by 11% of the population), general practitioners (6%), dentists (3%) and specialists (2%). Most consultations took place in the local clinics (72%) or hospital outpatient clinics (23%). Very few home visits were made.

Over one quarter of the consultations (27%) were related to "prevention and examination", which also includes visits of an administrative (certificates, renewal of prescriptions, etc.) or psycho-social nature. The most frequently cited reasons for consultations were respiratory ailments (10%), followed by ear problems (7%), dental problems (7%), injuries (7%), diabetes (5%), circulation problems (4%), bone/joint problems (4%), skin conditions (4%) and urinary problems (3%).

In men, two thirds of the visits fell into four categories: "prevention and examinations" (33%), respiratory ailments (13%), injuries (11%) and dental problems (10%) (Figure 6.7). In women, eight different reasons were given for two thirds of the consultations : "prevention and examinations" (25%), respiratory ailments (9%), diabetes (7%), hearing problems (7%), dental problems (5%), circulation problems (5%), urinary problems (5%) and pregnancy (5%) (Figure 6.7).

With the exception of "prevention and examinations", which ranked first in all age groups, the primary reasons for seeking care varied according to age. Up until the age of 24, the other most frequently given reasons were respiratory ailments, hearing problems, dental problems and injuries. Between the ages of 25-44 years, the main reasons for visits were routine pregnancy monitoring, and for urinary, bone/joint and skin problems. Diabetes, circulatory and digestion problems were the main reasons cited by individuals 45 years of age and over.

While the classification of reasons for consultation is not entirely comparable between this study and the 1987 Santé Québec survey, both reported an elevated frequency of visits for "prevention and examinations" and respiratory problems.

6.6 USE OF MEDICATION

There are no commercial pharmacies in the Cree villages. Prescriptions are filled at the local clinic or at the Chisasibi hospital pharmacy. A few types of medication such as aspirin can be purchased in local grocery stores. Beneficiaries of the James Bay Agreement receive any medication prescribed by a doctor or obtained at the community clinic, free of charge.

6.6.1 Scope and limits of the data

The questions on medication use, found in the Household Questionnaire (Section III), relate to medications taken by household members during the two days preceding the interview. Data were collected on the number and type of medication(s) taken, whether the medication was obtained on the advice of health professional (doctor, dentist or nurse), the regularity of use and the health problem that gave rise to it.

It should be noted that not all categories of medications are comparable between this study and 1987 Santé Québec survey. To take into account certain aspects of health and Cree culture, two questions were added to the list of those asked in 1987, and one, removed.

6.6.2 Results

More than one out of four Cree (28%) had taken at least one form of medication during the two days preceding the interview. Most of them (17%) had taken only one medication. Those who had taken two medications or more than two, made up 6% and 5% of the population respectively.

In all age groups, except the under 15 year-olds, more females (35%) than males (22%) used medications (Figure 6.8). The difference was most pronounced in the 25-44 year-old group, where females taking medication outnumbered the males two to one.

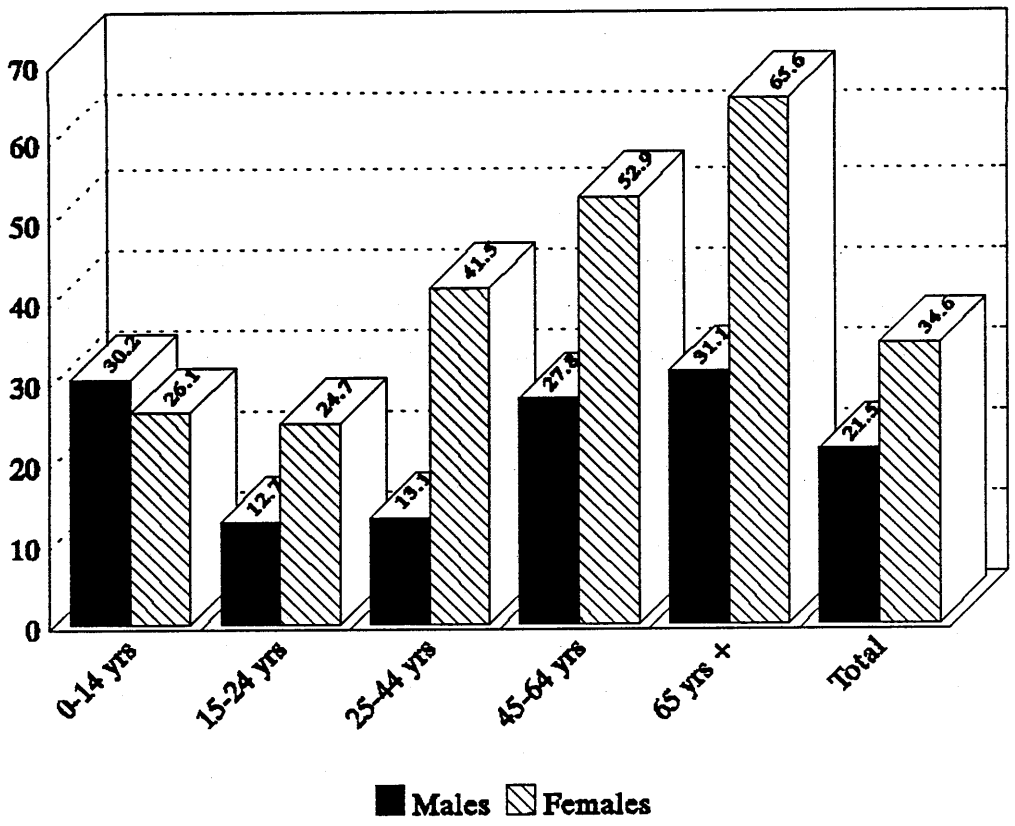
Stratifying the data by age revealed that the profile of medication use was similar to that found for consultations. In males, the highest rates were found in the extreme age groups: in the under 15 year-olds and 65 year-olds and over. In females, after a levelling off in 15-24 year-olds, the rates increased with age.

The most frequent forms of medication taken were "vitamins and minerals" (9%), pain relievers (7%), ointments (5%), antibiotics (4%), medications for the heart and high blood pressure (4%) and diabetes (4%). In women, rates were higher for pain relievers and diabetic medication (Figure 6.9). Noteworthy is the finding that the rates of reported use of tranquilizers and sleeping pills (0.3%) and traditional Cree remedies (0.1%) were low in both females and males.

Most medications (82%) were obtained on the recommendation of a health professional and were being taken on a regular basis (79%), i.e. at least once a week during the month preceding the survey.

FIGURE 6.8

Proportion of individuals reporting the use of at least one medication*, by age and sex (%), Cree population, 1991

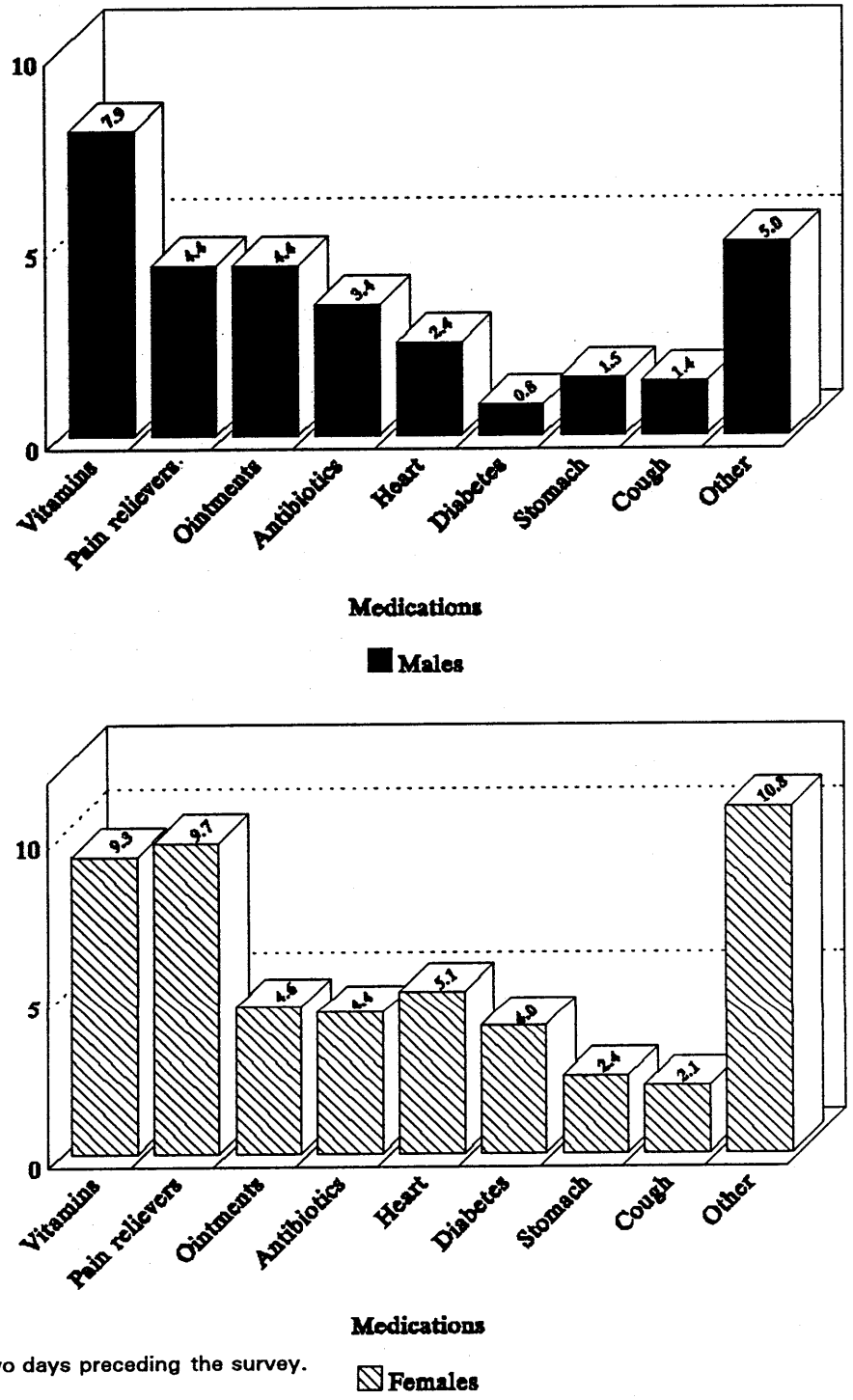


* During last two days preceding the survey.

In both the present study and 1987 Santé Québec survey, more women than men took medications, this being true for all comparable categories. The proportion of medications taken on the recommendation of a doctor, however, was greater in the Cree (82%) than in other Quebecers (60%). This difference can be attributed to the fact that vitamins and minerals were more often prescribed for the Cree (82%) than for southern Quebecers (25%).

FIGURE 6.9

Proportion of individuals reporting the use of medications*, by class of medication and sex (%), Cree population, 1991



* During last two days preceding the survey.

6.7 CONCLUSION

6.7.1 Summary

While most Cree (77%) considered themselves to be in good or very good health, nearly one quarter of the population perceived their health as being fair or poor. It should be noted that the Cree did not perceive their health status as worsening with age to the same extent as elsewhere in the population of Quebec. In this regard, Adelson (1991) has shown that Cree health (*miyupimaatisiiun*) is a reflection of individual, social and environmental factors that includes the possibility of continuing to live according to traditional ways.

Aside from a measurement-linked overestimation of hearing problems, the Cree of northern Quebec reported fewer health problems than did Quebecers in the southern part of the province in 1987. Part of the difference may be due to a seasonal factor, this survey having taken place during the summer months while the 1987 survey having been conducted over a whole year. Reporting may also have been affected by the fact that Cree household respondents were reporting for a larger number of people than their counterparts in southern Quebec (6 persons per household compared to 3).

In general, the major health problems reported by the Cree were similar to those observed in the population of southern Quebec. In both cases, women reported more health problems than men. There were, however, a number of noteworthy differences: the prevalence of ear and hearing problems, although not directly comparable between the two studies, ranked among the five most frequently reported health conditions in all age groups in the Cree population; self-declared diabetes was reported 3.4 times more often in the Cree than in southern Quebecers. Many more women than men declared they were suffering from diabetes. (Actual prevalence figures can be found in Chapter 5).

Allergies also topped the list of the most frequently reported health problems in children under 15 years of age and in teenagers and young adults 15 to 24 years of age.

As reported by the household respondents, the prevalence of mental disorders was particularly low in the Cree population. This may be the result of under-reporting or a culture-related difference in the concept of mental health.

Fewer Cree reported days of moderate or mild disability, but the number of days of severe disability (confinement to bed) was just as high as among southern Quebecers. The Cree also reported fewer long-term disabilities.

The higher rate of consultations in women was consistent not only with the 1987 Santé Québec survey, but also with the findings of the 1978 Health Canada and 1985 General Social

surveys. Striking was the result, that while the consultation rate in Cree women was similar to that of women elsewhere in Quebec, it was twice as high as that found in Cree men. Indeed, there were 40% fewer consultations by Cree men than by their counterparts elsewhere in the province, the highest rates being found in young males under 15 years of age and men, 65 years of age and older.

Nurses were the health professionals most often consulted in approximately half the cases, followed by general practitioners, dentists and medical specialists. Lavallée (1988) reported a comparable break-down of professionals consulted in the James Bay Cree territory during the summer of 1987-88. Not surprisingly, most consultations took place in clinics, the only place available for health care in the villages, except in Chisasibi, where there is a hospital.

Consultations relating to "prevention and examinations" made up the largest category (27%), as was the case in the 1987 Santé Québec survey (21%). After this, the most frequently mentioned reasons for consulting were respiratory, ear and dental problems and injuries.

Over one quarter of the Cree population had taken at least one form of medication in the two days preceding the survey. As in southern Quebec, more women then men were taking medications in all age groups except in the under 15 year-olds. Overall, medication consumption was greatest in the youngest age group and in individuals aged 45 years and over. The finding that the health-care utilization profile was similar to that found for medication use is probably related to the fact that over 80% of all medications were being taken on the recommendation of a health professional, thereby having required a visit to a clinic.

6.7.2 Avenues for further research and action

The Cree reported fewer health problems than southern Quebecers. However, studies of mortality (Courteau, 1989) and hospitalizations (Pelchat and Wilkins, 1986) covering the first half of the decade of the 1980's show that the life expectancy among the Cree is five years shorter than that of Quebecers as a whole, and that the Cree are hospitalized more often. These contradictions warrant further investigation.

The data presented in this chapter suggest that Cree men consult much less frequently than men in southern Quebec, and less often than Cree women, a phenomenon noted in the 1985-86 study of health and social service data of the Cree Health Board (Allaire and Lavallée, 1986). An assessment of the need to do outreach to Cree males would be useful.

As suggested earlier, the fewer health problems reported by the Cree may be related to the fact that household respondents were being asked to provide information on a larger number of people than elsewhere in Quebec. It would therefore be of interest to conduct a study

evaluating the impact of the number of persons per household on the validity of third-person reporting of health problems.

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CHAPTER 7

INJURIES AND RISK FACTORS

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7.0 INTRODUCTION

Prior to the late 1960's, people believed that accidents and the resulting injuries were inevitable, as if willed by some uncontrollable and unpredictable power. Research done after that time showed that the immediate cause of an injury was always a transfer of energy too intense to be absorbed by the human body (Haddon, 1972). For example, people thrown from a vehicle in a collision with a tree would be injured if they hit the tree, but would probably not if they were thrown into neighbouring bushes that absorbed the energy of their movement.

This research led to the development of preventive measures and devices designed to absorb energy that would otherwise be harmful to the organism. It also gave rise to a distinction between the words accident and injury. An accident is generally an unforeseen event that may or may not result in injury. An injury, however, is damage caused to the body by the transfer of energy which occurs during an accident. In this text the word "accident" refers solely to circumstances in which injuries have occurred. Injuries refer to both intentional (assaults, suicides or homicides) and unintentional trauma.

As the understanding of how injuries occur has improved, a number of approaches have been developed to prevent accidents and to reduce the seriousness of potential injuries in the event of one (Brown and Massé, 1991). An individual's efforts to avoid placing him- or herself in dangerous situations have been combined with strategies to create a safer environment.

The data on mortality and hospitalizations are a first indication of the level of injuries in a population. Between 1982 and 1986, injuries were responsible for one out of every five deaths in the Cree population, a rate twice as high as that found for Canada as a whole (data standardized for age and sex); drowning was the major cause of traumatic death, at a rate 10 times greater than that for the whole of Canada (Courteau, 1989). From 1988 to 1990, injuries caused 13% of all deaths in the Cree, as compared to only 8% in all Quebecers (Choinière et al., 1993). Hospitalization rates for the treatment of injuries were also higher among the Cree than Quebecers as a whole (Pelchat and Wilkins, 1986). For the periods 1989-1990 and 1990-1991, the hospitalization rate for injuries, adjusted for Quebec's age and gender structure, was 1302 per 100,000 for the Cree and 864 per 100,000 for all Quebecers (Choinière et al., 1993).

While injury-related deaths and hospitalizations are more numerous in the Cree than in the general Quebec population, they are comparable to the rates found in other remote regions of the province such as Abitibi-Témiscamingue and the North Shore of the St. Lawrence; on the other hand, they are much lower than the rates recorded in the Inuit living in the Kativik region (Choinière et al., 1993).

Excess injury-induced mortality has often been found in aboriginal populations, both in Canada (Hislop et al., 1987; Young, 1983) and in the United States (U.S. Department of Health and Human Services, 1990a, Baker et al., 1992). It would seem, however, that injury-related mortality rates are lower in the Cree (1 per 1000 in 1985-1987; Choinière et al., 1993) than in most aboriginal populations in Canada, where the overall rate is 1.83 per 1000 (Muir, 1991).

In addition to environmental conditions, excess mortality by injury in aboriginal populations has often been explained by excessive alcohol consumption and limited access to health services (May, 1992; Hislop et al., 1987). Similarly, excess mortality and morbidity in remote non-aboriginal regions have also been linked with these same factors. Alcohol consumption, in particular, is frequently associated with intentional or unintentional self- or other-inflicted injuries, and as seen in Chapter 3, it has been implicated in certain violent situations.

The topics covered in this chapter are, in part, the same as those examined in the 1987 Santé Québec survey, i.e., risk factors for injuries related to transportation by automobile, truck and all-terrain vehicles, injuries sustained during the 12 months preceding the survey, and injuries resulting in restrictions of activity and medical consultations.

Also covered here are subjects of special interest suggested by public health officials in the Cree communities, including the presence of firearms in the home, unvaccinated and loose dogs in the villages and transportation by boat or snowmobile.

7.1 RISK FACTORS FOR INJURIES

7.1.1 Scope and limits of the data

The risk factors for injuries were examined in two ways: by exposure to risk and by use of preventive measures. As in any survey where people are questioned about their own preventive practices, one can expect the responses to be biased in the direction of the more socially acceptable behaviours. For example, the rates of seat-belt use reported here are in all likelihood higher than the rates one would actually observe in the communities. The same reservations apply to the 1987 Santé Québec data.

The questions in this section were addressed to individuals aged 15 years and over. Several of them were taken from the self-administered questionnaire of the 1987 Santé Québec survey. They relate to the use of motor vehicles such as automobiles, trucks and all-terrain vehicles (ATV), and to the use of seat belts (in cars, trucks or vans) and helmets by people driving or riding on an ATV. Wherever possible, they were adapted to Cree situations in such

a way as to maintain comparability with the 1987 data. For example, the number of kilometres travelled was replaced by the frequency of use of a given mode of transportation (as a measure of exposure to risk); the questions on automobile, truck or van use were combined, vans being more frequently used than cars in Cree communities.

Several other items of specific interest to the Cree population were also added. These included new questions on snowmobiles and boats, added to the Individual Questionnaire; and on guns and unvaccinated and loose dogs in the villages, added to the Household Questionnaire.

In the case of injuries related to drowning and transportation, the risk factors were expressed in terms of exposure (e.g., how often a given mode of transportation was used), and in terms of the use of safety equipment (eg. wearing a seat belt when riding in a car, truck or van, or a helmet when riding on a snowmobile or ATV).

The risk factors for each type of accident were studied, first by age, then by sex, and finally by subregion. The villages were divided into "isolated" and "non-isolated" ones; the "isolated" villages being those which were not connected year-round to the Quebec road and highway network. The purpose of this distinction was to enable us to look at villages with more comparable means of transportation, the expectation being that cars, trucks and vans would be more widely used in the non-isolated communities, where the road network is more developed.

7.1.2 Results

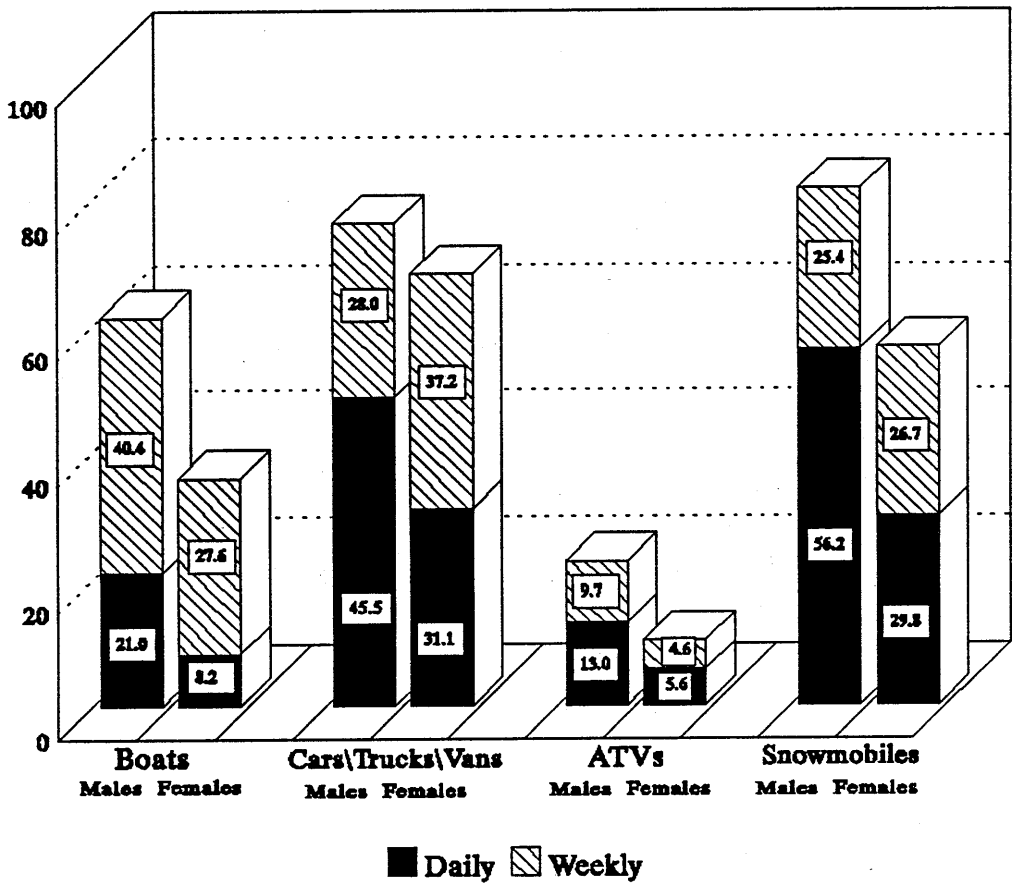
7.1.2.1 Transportation by boat

Ninety-one percent (91%) of the Cree answered yes to the question "Do you ever ride in a boat?" Half of the population rode in one at least once a week during the period of the year when travel by water is possible. Men used boats more frequently than women (Figure 7.1). Frequency of use increased with age, reaching 63% in 45-64 year-olds. When asked if they rode in a boat at least once a day, 21% of the people in the inland villages said yes, compared to only half as many (10%) in the coastal villages. Those who spent time in the bush used boats more often than those who did not.

The Cree who used boats were not in the habit of wearing life-jackets. Only 8% of them stated that they wore one "always" or "most of the time". Proportionately fewer women than men used this safety device (6% vs 10%) (Figure 7.2).

FIGURE 7.1

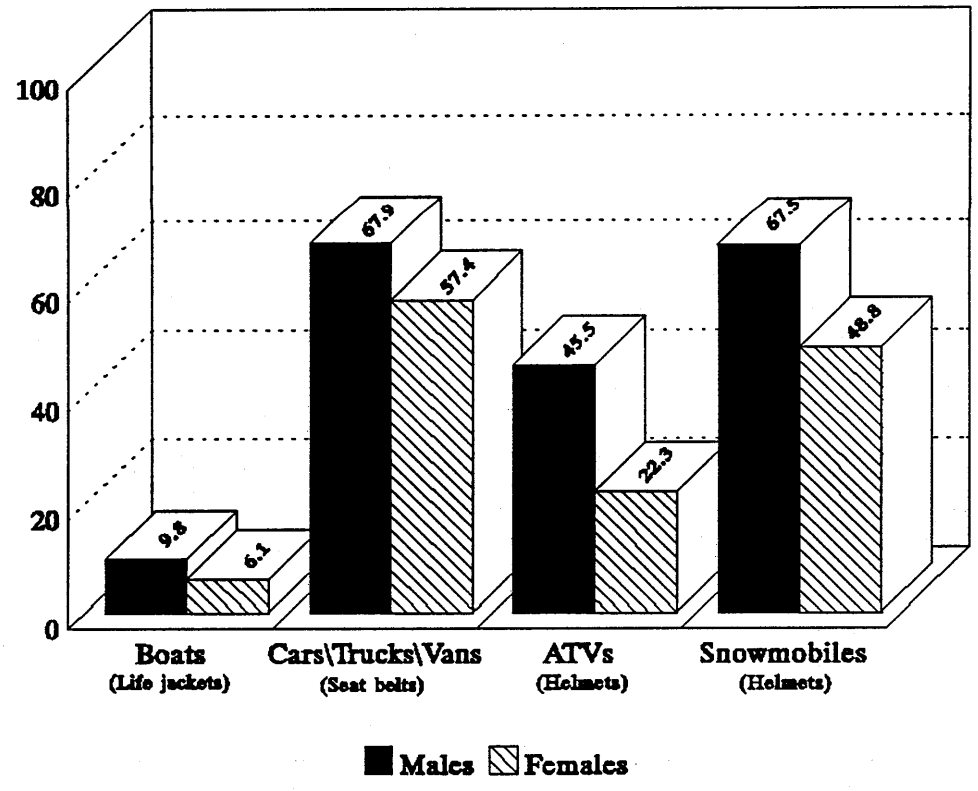
Daily and weekly utilization of vehicles by sex (%), Cree population 15 years of age and over, 1991



There has been some controversy over how useful knowing how to swim is in preventing drownings in the North. Hypothermia is, of course, a danger for anyone who finds himself involuntarily in the region's ice-cold waters, but not enough is known about the circumstances under which people drown in the northern rivers and lakes for any conclusions to be drawn. When asked about their ability to swim, 45% of the Cree said that they knew how. Three times more men (68%) than women (21%) said they could swim, and the proportion of those who knew how was greater in the young. More inhabitants of the inland villages (58%) knew how to swim than people living in villages along the coast (36%).

FIGURE 7.2

Use of transportation safety devices* by sex (%), Cree population 15 years of age and over, 1991



* Always or usually.

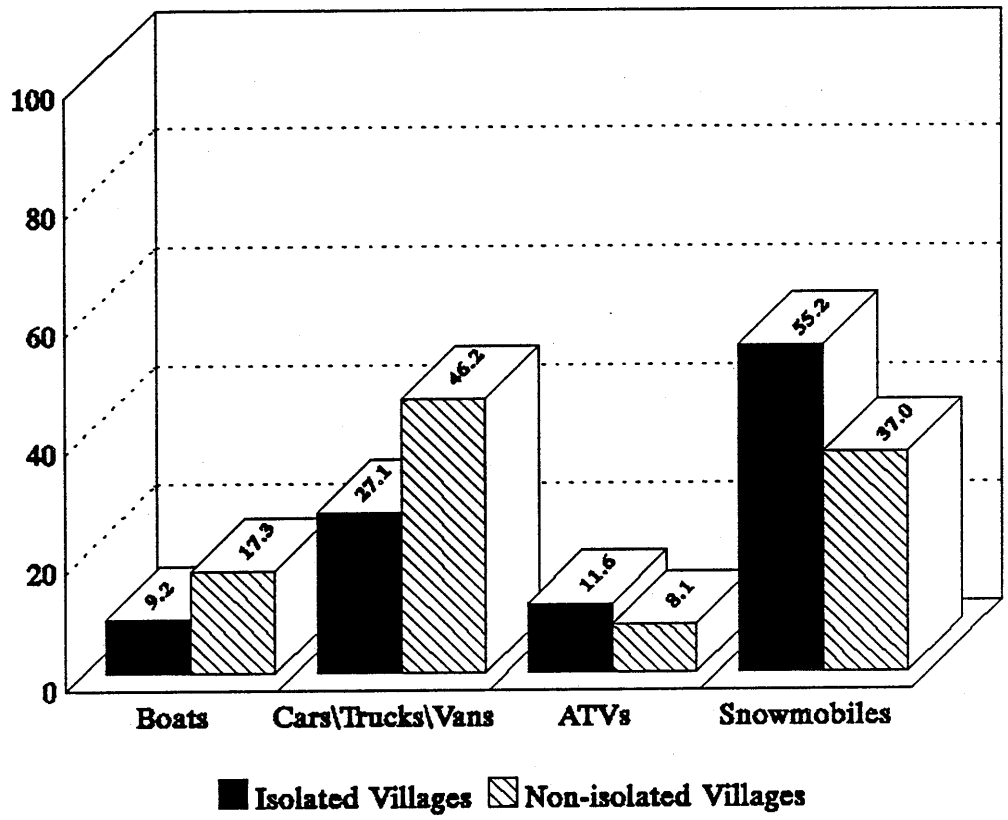
7.1.2.2 Transportation by automobile, truck or van

Automobiles (cars), trucks or vans were used more frequently in non-isolated villages, connected year-round to the provincial road and highway network, than in isolated villages linked only by local roads during the summer. Only 27% of the Cree in isolated villages rode daily in a car, truck or van, as opposed to 46% in non-isolated villages (Figure 7.3).

Forty percent (40%) of the Cree population reported that they rode in one or another of these types of vehicles daily shown in Figure 7.3. More men did so than women (49% vs 31%). The frequency of use also appeared to be age-related being highest (59%) in 35-44 year-olds. Also, proportionately more individuals with a post-secondary education (72%) rode in one of these vehicles at least once a day.

FIGURE 7.3

Daily utilization of vehicles by isolated and non-isolated villages (%), Cree population 15 years of age and over, 1991

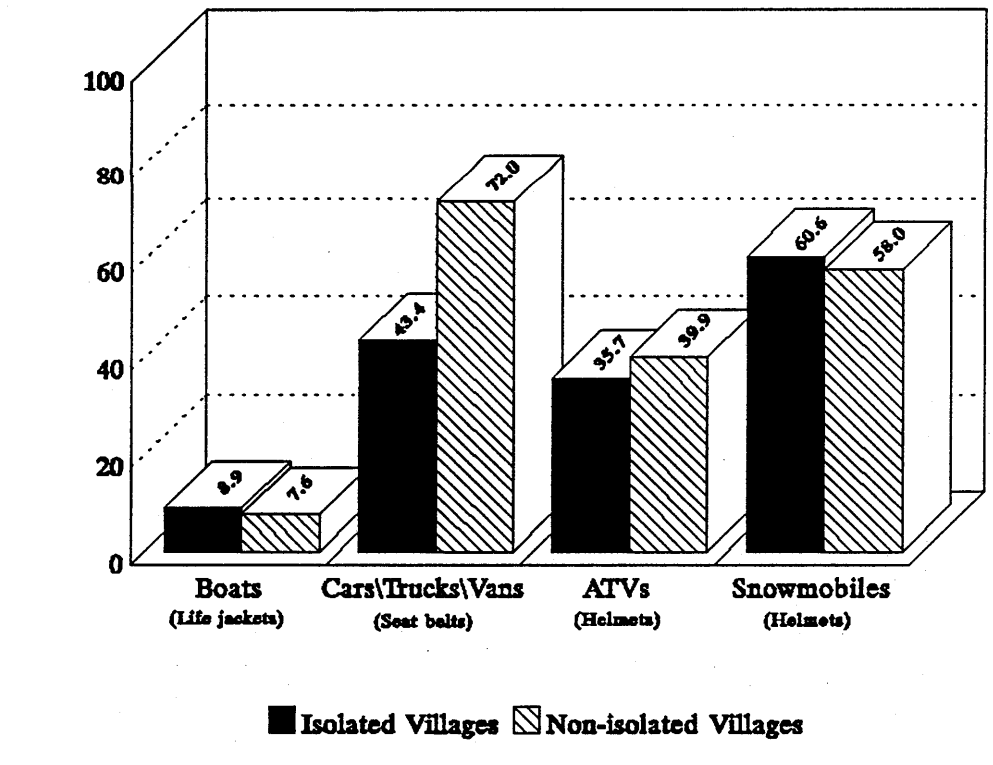


On the subject of seat-belt use, 63% of the people who rode in a car, truck or van stated that they wore their belt "always" or "most of the time". The rate of seat-belt use was much lower (43%) in the isolated villages than in the non-isolated ones (72%) (Figure 7.4). More men (68%) than women (57%) wore seat belts (Figure 7.2), and young people 15-24 years of age less often (49%) than their elders (71%). The use of seat belts was also associated with being the driver (83%); more men than women drove automobiles; young people, however, were more often passengers.

In the 1987 Santé Québec survey, the reported rates of seat-belt use were 91% for cars and 30% for trucks or vans; province-wide, more women (94%) than men (89%) declared wearing their seat belt when riding in a car.

FIGURE 7.4

Use of transportation safety devices* by isolated and non-isolated villages (%), Cree population 15 years of age and over, 1991



* Always or usually.

7.1.2.3 Transportation by all-terrain vehicle (ATV)

Nearly one third of the Cree population (29%) used ATVs, and close to 10% rode on one at least once a day. Their use was slightly higher in the isolated villages. Twice as many men as women reported using an ATV (40% vs 18%). The proportion of users reached 43% in 15-19 year-olds and then declined with age to only 15% in individuals aged 65 and over. Because the Individual Questionnaire addressed only those 15 years of age and over, no figures on ATV use in younger Cree are available. However, the fact that the under 15 year-olds also use them is beyond dispute, given that nearly half of all ATV-related deaths in Quebec occurred among children under the age of 15 (*Bureau du coroner*, 1990 and 1991).

When asked about wearing a safety helmet, 38% of ATV users stated that they wore one "always" or "most of the time". The question did not distinguish between drivers and

passengers. Proportionately more men than women wore a helmet (46% vs 22%) (Figure 7.2). Helmets were also worn more frequently by people in the inland villages (51%) than along the coast (30%). Nine percent (9%) of Cree 15 years of age and over rode at least once a day on an ATV without wearing a helmet, and were therefore exposed to a greater risk of injury.

ATV use was more widespread in the Cree (29%) than in the rest of the Quebec population (11%) in 1987. Yet fewer Cree wore helmets than their counterparts in southern Quebec, be they male (46% vs 53%) or female (22% vs 44%), and this, despite the fact that ATV users have been required to wear a safety helmet under the Quebec Highway Safety Code since 1988. Although the head is not the only part of the body vulnerable to injury in an ATV accident, wearing a helmet cuts the probability of death or serious injury by about 50% (Rogers, 1990).

7.1.2.4 Transportation by snowmobile

The use of snowmobiles is very widespread in the Cree population 15 years of age and older. The overall rate of use was 85%, with a slight decrease with age. Forty-three percent (43%) of the population used a snowmobile daily (see Figure 7.1); this was true for nearly twice as many men (56%) as women (30%). Figure 7.3 shows that daily use was higher in isolated villages (55%) than non-isolated ones (37%).

The majority of people who rode on a snowmobile (59%) stated that they wore a safety helmet "always" or "most of the time". More men than women wore helmets (68% vs 49%) (Figure 7.2); the practice seemed more prevalent in individuals under the age of 35 (68%) and decreased in older age groups. In addition, more people in the inland than coastal villages wore helmets (68% vs 53%).

Snowmobiles are frequently used for travelling outside the villages. As a safety measure, snowmobile drivers are advised not to venture far from the village unaccompanied, so that in the event of a breakdown or accident, they could be reached by another snowmobile. This precaution, however, is not taken very seriously, judging by the 25% of drivers who indicated that they were "rarely" or "never" accompanied by another snowmobile. Men were more inclined to travel alone outside the villages than women (30% vs 17%).

Overall, 6% of the Cree population aged 15 years and over had the following concurrent risk factors: frequent use of snowmobile, lack of safety-helmet use and travel outside the village without being accompanied by another snowmobile.

7.1.2.5 Firearms

Firearms are part of day-to-day reality for the Cree. The way in which guns are stored in the home can pose a potential risk for intentional or unintentional injuries. In this survey, guns were reported in 93% of the Cree households, a third of which (34%) kept the guns under lock and key "always" or "most of the time". In the remaining households which "rarely" or "never" kept their guns under lock and key, 43% had children less 10 years of age living under the same roof, and 28% had teenagers 10-14 years of age.

7.1.2.6 Dogs

Another risk factor studied was the presence of dogs that had not been vaccinated for rabies. Only 41% of the households interviewed reported owning one or more dogs. Of these, only 38% were able to state that all their dogs had been vaccinated for rabies during the three preceding years. More households in the inland villages owned dogs (49%) than in the coastal villages (34%), but vaccination rates were identical in both subregions.

The household respondent was asked how serious a problem he or she felt loose dogs in the community to be. One third (33%) saw them as a major problem; 16% of them felt they were not a problem at all. Paradoxically, it was in the coastal villages, where fewer families owned dogs, that concern about them was the most widespread. It may be that there were more abandoned dogs in these communities. No difference, however, was found in the perception of how serious a problem loose dogs were between households that owned dogs and those that did not.

7.2 INJURIES AND THEIR IMPACTS

What types of accidents occur among the Cree and how do past injuries affect their daily lives? First, the circumstances of accidents resulting in a restriction of activity during the 12 months preceding the survey will be described. Second, the impact of the injuries on day-to-day activities and number of health consultations will also be examined.

7.2.1 Scope and limits of the data

Injury rates were calculated by age, sex and community (inland vs costal). Questions on health status and its consequences, taken from the Household Questionnaire of the 1987 survey, were modified slightly to better reflect the reality of the Cree. However, the number of people reporting events was small. The results should therefore be interpreted with caution.

7.2.2 Results

The rate of injury in the preceding year, serious enough to cause a restriction of activity for at least one day, was 39 per 1000. The rate in men was 53 per 1000, in women, 25 per 1000, both of which were relatively similar to the results found throughout the rest of Quebec in 1987 (Table 7.1). These figures, however, are crude rates as they do not take the age structure of the populations into account. In Cree males, the highest rate was observed in 15-34 year-olds (79 per 1000). Sixteen percent (16%) of people who had been injured in the course of the preceding year had to be hospitalized.

TABLE 7.1

Comparison of crude rates of injury causing a restriction of activity, per 1000 inhabitants a year, by sex, Cree population 15 years of age and over, 1991 and Quebec 1987

	CREE (1991)	QUEBECERS (1987)
MALES	53	59
FEMALES	25	36
TOTAL	39	47

Source: Santé Québec Health Survey of the James Bay Cree, 1991 and Santé Québec Health Survey, 1987

In Table 7.2 it can be seen that the largest number of injuries were related to transportation over land, for which the rate was 12 per 1000 per year. These included injuries related to the use of two-wheel vehicles, i.e., motorcycles and bicycles, as well as snowmobiles, cars, trucks, vans and ATVs. No injury was associated with transportation by boat, which suggests that this means of travel is not a major cause of morbidity, although drowning has been found to be an important cause of mortality (Courteau, 1989).

Most of the injuries (68%) occurred in the village where the injured person lived; 22% occurred outside the village, and only 10% occurred in another village. The rate of injury was higher among residents of the inland communities (57 per 1000) than residents of the coastal villages (26 per 1000).

Seasonally speaking, the largest proportion of injuries in the past year serious enough to cause a restriction of activity for at least one day, occurred during the summer (41%), followed by winter (25%) and spring (24%). Only 11% of the cases occurred in the fall.

TABLE 7.2

Injuries during the 12 preceding months resulting in a restriction of activity, per 1000 inhabitants a year, by type of circumstance, Cree population, 1991

CIRCUMSTANCES IN WHICH ACCIDENTS TOOK PLACE	RATE/1000/YR
TRANSPORTATION ON LAND	12.0
• TWO-WHEEL VEHICLES	4.5
• SNOWMOBILES	4.0
• CARS/TRUCKS/VANS	3.0
• ALL-TERRAIN VEHICLES	0.5
WORK	7.5
SPORT	7.0
FALL	7.0
FIGHT	2.0
BOAT	0.0
OTHER	3.5
TOTAL	39.0

In the two weeks preceding the interview, 277 individuals[1] of all ages reported that they had been confined to bed for a whole day, or almost, because of their health. In 8% of the cases, the restriction of activity had been caused by an unintentional injury which had occurred recently or some time before. Of the 335 adults[1] identified as having a long-term restriction of activity, 68 or 20% attributed it to an accident, compared to 23% in the rest of Quebec in 1987.

During the two weeks prior to the interview, 1617 individuals[1] consulted a professional or another person they trusted for reasons of health. Eight percent (8%) of these consultations were related to injuries, compared to 6% found in the 1987 Santé Québec survey.

Comparison of percentages of short-term and long-term restrictions of activities and consultations for injury-related health reasons, revealed that the Cree situation was quite comparable to that found throughout the rest of Quebec.

[1] Population estimate.

7.3 CONCLUSION

7.3.1 Summary and implications for planning

Contrary to solidly entrenched notions on the subject, research has shown that accidents and injuries are, to a large extent, avoidable. As the understanding of their causes has improved, new means of preventing accidents and the resulting injuries have been developed.

Several risk factors for drowning were found to be present in the Cree population. Fully 91% of all individuals aged 15 years and older reported riding in boats, but 55% of them did not know how to swim and only 8% were in the habit of wearing a life jacket. Excess mortality from drowning has been documented in the Cree population and a study is underway to determine precisely under what circumstances these deaths occur (Barss, 1992). If drownings occur when people are travelling by boat, it would be important to know whether life jackets would be an effective means of prevention in regions where hypothermia is likely, and if so, to start promoting their use.

Only 63% of the Cree who rode in automobiles, trucks or vans stated that they wore their seat belt "always" or "most of the time", compared to 91% (cars) and 30% (trucks or vans) in the rest of the Quebec population five years earlier. Given the effectiveness of seat belts in preventing serious injury, it would be important to discuss the relevancy and feasibility of promoting their use with the band council and local police, as well as to push for the adoption of local regulations to that effect. Any promotion campaign of this sort should target 15-24 year-olds, given that only 49% of them reported using them.

In the United States, the presence of alcohol was detected in 40% of the cases of motor vehicle fatalities in 1991 (Insurance Institute for Highway Safety, 1992); the risk of death per kilometre travelled has been estimated at as much as eight times higher for drunk drivers than sober ones (U.S. Department of Health and Human Services, 1990b). Now that the road network is being developed around several of the isolated Cree villages, the time has come to take a serious look at the problem of drinking and driving.

In view of the frequent use of ATVs and snowmobiles, and the under-utilization of safety helmets, it is suggested that the local authorities be approached to discuss ways of encouraging people to take this simple and time-tested precaution.

Despite the fact that guns are present in 93% of all Cree households, two thirds of the homes rarely or never keep their firearms under lock and key. In instances where gun-related injuries are caused by inexperienced or impulsive use of weapons by children or teenagers, proper storage would be a safety measure to be considered; it might also contribute to reducing the number of attempted suicides.

One third of the Cree indicated that loose dogs in their communities were a major problem; the survey also showed that three out of five domestic dogs were not being vaccinated for rabies. The current increase in the number of rabies cases in Quebec (Rivard, 1994) suggests that more dogs should be vaccinated.

7.3.2 Avenues for further research

In cooperation with local authorities, qualitative studies should be done in each of the communities to identify ways of increasing the use of safety devices that have been recognized as effective.

Observational surveys focusing on the use of life jackets, seat belts, children's car seats and helmets would provide the basis for a more objective estimate of the rates of safety equipment usage complying with Quebec and Canadian standards. More information is also needed on the safety behaviours of children under the age of 15 when riding on ATVs and snowmobiles.

It has been shown that mortality rates in aboriginal Canadians are closer to the rates of populations living near reserves than they are to those for the Canadian population as a whole (Mao et al., 1992). It would therefore be of interest to compare the Cree findings to Santé Québec's data on other outlying regions in the province. Such a comparison might prove helpful in identifying what is specific about the Cree accident and injury profile.

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CHAPTER 8

MENTAL HEALTH

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8.0 INTRODUCTION

Not a great deal of information is available on the mental health status of the James Bay Cree. Little attention was paid to the subject in an earlier health survey of the Cree and Inuit of Nouveau-Québec (Foggin and Lauzon, 1987). Lavallée et al. (1991) examined reasons for medical visits related to mental health problems within the Cree territory between 1986 and 1988. Their study provided prevalence rates for treated mental disorders, the most common being depression in women and alcohol abuse in men; however, being based on health service utilization, they could not ascertain the actual frequency of mental disorders in the general population. By reaching out directly to a sample of individuals, a survey such as this one can also gather information on people who are not using health services.

A recent psychiatric epidemiology study of an aboriginal population on the west coast of the United States, using an approach similar to the one used here (face-to-face interviews), revealed lifetime prevalences of emotional problems of 37% for females and 19% for males. Although these figures are lower than those found in the same village 19 years earlier, the authors note that mental health problems remain more prevalent in the aboriginal population than in the general U.S. population (Kinzie et al., 1993).

A study of mortality among the aboriginal peoples of Canada conducted from 1977 to 1982 (Mao et al., 1986) found that suicide ranked third among the major causes of death for males, and fifth for females. Compared to other Canadians, suicide rates were three times higher in these populations, for both men and women. Having continued its work, the Mao team has shown (1992) that the difference in suicide rates between aboriginal and non-aboriginal Canadians remains undiminished even when the data are compared to isolated rural populations. This excess mortality from suicide, however, was not found in other studies of the Cree for the periods 1975-1981 (Robinson, 1985) or 1982-1986 (Courteau, 1989).

8.1 SCOPE AND LIMITS OF THE DATA

The evaluation of mental health of the Cree population presented in this chapter was based on two indicators: 1) severe non-specific psychological distress and 2) suicidal thoughts and suicide attempts.

To measure psychological distress, it was planned to use either the Psychological Distress Index developed and validated for the 1987 Santé Quebec survey (IDPESQ-29) (Santé Québec, 1988), which itself relied heavily on the Psychiatric Symptoms Index constructed by Ilfeld (1976), or a version of the same index abridged to 14 questions (IDPESQ-14) whose reliability and validity had also been demonstrated in southern Quebecers. A group interview of

representatives of the Cree community served to test the validity of the content of both versions of the scale; however, it did indicate that certain items in the IDPESQ-29, which were not included in the IDPESQ-14, might be negatively perceived or poorly understood by the Cree. In addition to deciding to use the abridged version of the scale for the survey, one of the scale's items was modified as a result of the group discussion. The question "How often have you felt lonely?" was replaced by "How often have you felt like being alone?", in view of the fact that among the Cree, the desire to withdraw is, according to our informers, a sign that a person is feeling depressed. This change aside, the Cree IDPESQ is identical to the IDPESQ-14 and can therefore serve as a basis for comparisons between the Cree and the general population of Quebec.

The Cree IDPESQ items are a series of statements covering various aspects of the symptomatology of psychological distress (questions 84 to 97 in the Confidential Questionnaire). Each question had four possible answers, to which a different weight was assigned depending on the frequency of symptoms during the preceding week: never (0), once in a while (1), fairly often (2) and very often (3). The index was calculated by summing the answers and dividing by 100.

The Cree IDPESQ is part of a family of scales that define mental health along a continuum using quantitative differences in the symptoms frequently experienced by people suffering from a mental health disorder. Although they do not give the prevalence of psychiatric disorders in the target population, the answers do provide an indirect measure of the presence of psychiatric disorders among survey respondents, thereby enabling researchers to identify subgroups within the population that are the most at risk. Tests of construct validity and internal coherence of the Cree IDPESQ version, used in this study, showed it was consistent with the findings previously reported for the general Quebec population (Préville et al., 1992).

As was the case in the 1987 Santé Québec survey, a high level of psychological distress was defined as any level above the 80th percentile of the distribution for this index. The choice of the 80th percentile was also supported by a major epidemiological study on the American population (Robins and Regier, 1992) which reported an annual prevalence of 20% for all selected psychopathologies. Thus, the 20% of Cree adults displaying the highest level of psychological distress were considered to be the most "at risk".

The four questions relating to suicidal thoughts and suicide attempts (or parasuicides) used in the 1987 Santé Québec survey were also used in this survey (Section XVI of the Confidential Questionnaire). In order to eliminate the ambiguity associated with the expression "suicide attempt", the term "parasuicide", which refers to the whole set of suicidal acts not resulting in death, was used. It would have been inappropriate to use the expression "suicide attempt" in a general health survey such as this, because the intention to die is very difficult

to establish; and because the survey made no attempt to assess the severity of the reported suicidal acts.

The first question on suicidal thoughts read as follows: "Did you ever SERIOUSLY think about committing suicide (taking your life?)". If the answer was yes, the person was asked to indicate whether or not those thoughts occurred during the preceding 12 months. This was followed by the question "Did you ever attempt suicide (try to take your life)?". If the answer was yes, the person was asked to indicate whether the attempt had occurred during the preceding 12 months. This section was designed, therefore, to estimate the prevalence of suicidal thoughts and parasuicides over the past year and throughout an individual's lifetime.

Data on suicidal thoughts and parasuicides were set up in a such a way that they could be compared to the results of the 1987 Santé Québec survey (Boyer et al., 1992) and those of other studies dealing separately with suicidal thoughts and "suicide attempts". Two variables were created: 1) a dichotomous variable distinguishing individuals reporting only suicidal thoughts from those reporting no suicidal thoughts or parasuicides, and 2) a dichotomous variable distinguishing between individuals reporting a parasuicide from those reporting neither suicidal thoughts nor parasuicides. In other words, for the purposes of this study, the group of individuals who had suicidal thoughts does not include those who had committed a suicidal act; the group who reported parasuicides does not include individuals who had only suicidal thoughts.

In this section, the following subject areas were examined: psychological distress, suicidal thoughts and parasuicides in relation to several sociodemographic variables, stressful events experienced during the preceding 12 months, the presence of friends, satisfaction with relationships to other members of the community, and alcohol consumption. Psychological distress was also evaluated with respect to suicidal thoughts and parasuicides.

8.2 RESULTS

8.2.1 Factors associated with psychological distress

The data show that a much higher proportion of 15-44 year-old Cree were experiencing a high level of psychological distress than their elders (Table 8.1); this was particularly true for young women 15 to 24 years of age. However, no significant difference was found between the sexes, either for the population as a whole or within the various age groups.

TABLE 8.1

Proportion of individuals rated as having a high level of psychological distress, by age and sex (%), Cree population 15 years of age and over, 1991

SEX	MALES		FEMALES		TOTAL	
AGE GROUP	%	PE	%	PE	%	PE
15-24	21.8	231	32.5	358	27.2	590
25-44	20.7	240	20.8	226	20.7	466
45-64	2.7	14	5.5	31	4.2	45
65 AND OVER	0.0	0	3.4	8	1.7	8
TOTAL	16.3	485	21.0	623	18.6	1,109

TABLE 8.2

Proportion of individuals rated as having a high level of psychological distress by sociodemographic variables (%), Cree population 15 years of age and over, 1991

	HIGH LEVEL OF PSYCHOLOGICAL DISTRESS	
	%	PE
MARITAL STATUS		
• MARRIED	14.9	490
• SEPARATED/DIVORCED	26.0	14
• WIDOWED	3.1	8
• SINGLE	25.1	588
EDUCATION		
• ELEMENTARY	7.6	158
• SECONDARY	24.9	857
• POST-SECONDARY	23.0	93
TYPE OF OCCUPATION		
• PROF/MANAGERIAL/WHITE COLLAR	24.2	437
• BLUE COLLAR/SELF-EMPLOYED	18.0	162
• TRAPPER	8.9	116
• HOUSEKEEPER	15.2	113
• NOT WORKING	22.4	263
SATISFACTION WITH RELATIONSHIPS IN COMMUNITY		
• VERY SATISFIED	10.6	291
• MODERATELY SATISFIED, DISSATISFIED OR VERY DISSATISFIED	26.2	784

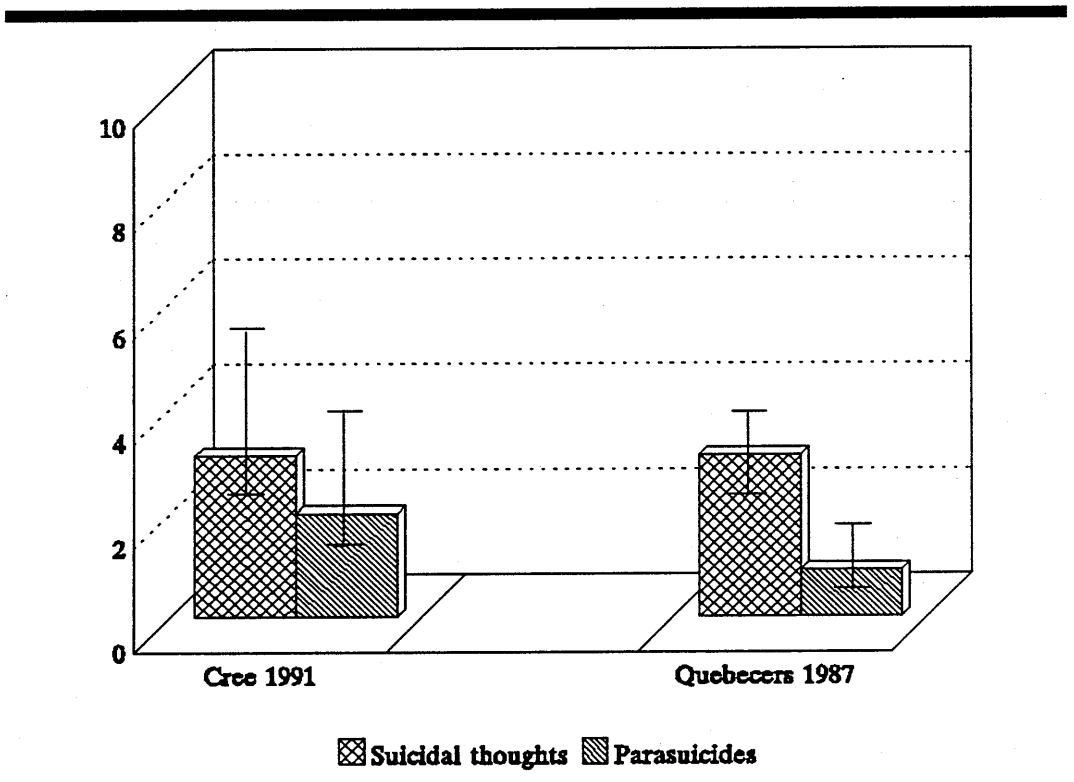
The level of psychological distress appears to be related to a number of sociodemographic factors (Table 8.2). In general, its frequency was twice as high in the Cree who had never married than in those who were married. When controlling for sex, this difference remained significant only in females.

Three times as many Cree with a secondary education or more as those with only elementary school, were rated as having a high level of psychological distress (approximately 25% and 8% respectively); the association was particularly strong in those 25 years of age and over.

A greater proportion of Cree in professional or white collar jobs were highly psychologically distressed (24%) than those who trapped for a living (9%). Finally, a high level of distress was found among 26% of the Cree who stated that they were dissatisfied with their relationships with other members of the community, compared to only 11% who reported being very satisfied.

FIGURE 8.1

Prevalence of suicidal thoughts and parasuicides during the 12 months preceding the survey (%), Cree population 15 years of age and over, 1991 and Quebec, 1987



Note: The vertical bars correspond to the confidence intervals.

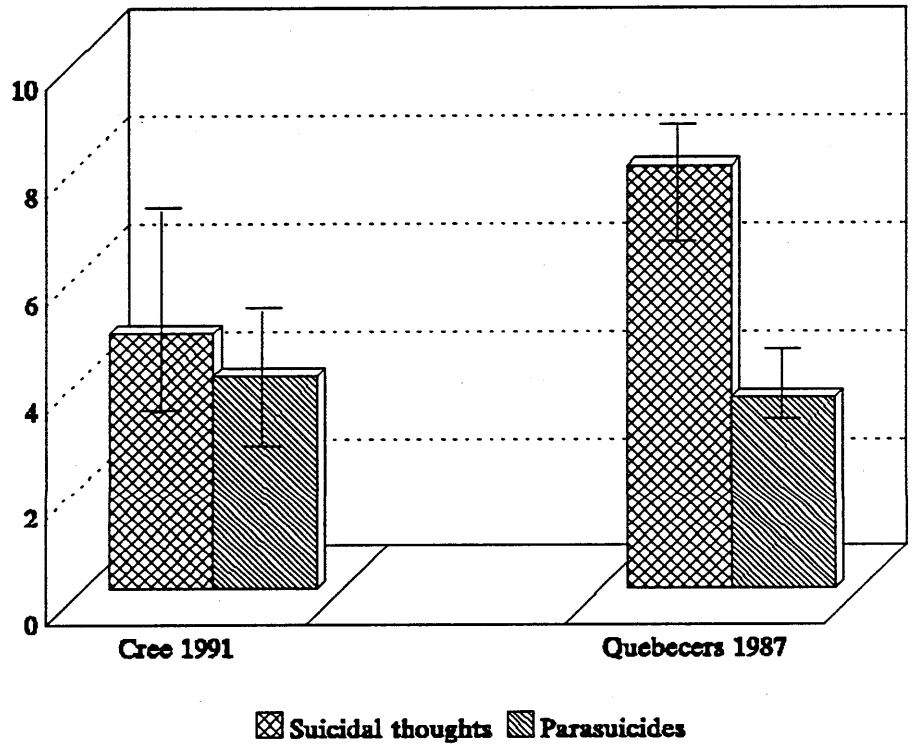
8.2.2 Suicidal thoughts and parasuicides

Figure 8.1 shows the prevalence of suicidal thoughts and parasuicides during the 12 months preceding the survey. Three per cent (3%) of the Cree reported having seriously thought about suicide in the course of the year without acting on their thoughts, compared to 2% who reported a parasuicide. Even after standardization, these rates were not statistically different from those found elsewhere in Quebec in 1987.

In looking at the lifetime prevalence of suicidal thoughts and parasuicides (Figure 8.2), nearly 5% of the population stated that they had already thought about suicide and 4% had attempted to take their life. When standardized for age, the lifetime prevalence of suicidal thoughts was significantly lower in the Cree than in the rest of the Quebec population.

FIGURE 8.2

Lifetime prevalence of suicidal thoughts and parasuicides (%), Cree population 15 years of age and over, 1991 and Quebec 1987



Note: The vertical bars correspond to the confidence.

With respect to suicidal thoughts during the 12 months preceding the survey, no significant difference was found between males and females or for the other sociodemographic variables studied. However, 8% of individuals experiencing a high level of psychological distress reported having suicidal thoughts in the past year compared to 2% whose distress level was lower (Table 8.3).

TABLE 8.3

Prevalence of suicidal thoughts during the 12 months preceding the survey by level of psychological distress (%), Cree population 15 years of age and over, 1991

	SUICIDAL THOUGHTS (12 PRECEDING MONTHS)	
	%	PE
LEVEL OF PSYCHOLOGICAL DISTRESS		
• NORMAL	2.0	93
• HIGH	8.4	91

TABLE 8.4

Prevalence of parasuicides during the 12 months preceding the survey by age and level of psychological distress (%), Cree population 15 years of age and over, 1991

	PARASUICIDES (12 PRECEDING MONTHS)	
	%	PE
AGE GROUP		
• 15-44	2.8	112
• 45 AND OVER	0.0	0
LEVEL OF PSYCHOLOGICAL DISTRESS		
• NORMAL	0.7	34
• HIGH	8.8	78

The same was true for the parasuicides which occurred during the 12 preceding months (Table 8.4). Individuals with high levels of psychological distress reported 12 times as many suicidal acts (9%) as those who were not experiencing severe distress (0.7%). Three percent (3%) of individuals between the ages of 15 and 44 said they had attempted suicide over the past year, compared to none in the elders 45 years and over.

With respect to the lifetime prevalence of suicidal thoughts, no significant differences were found with respect to age or sex. As seen in Table 8.5, proportionately more individuals with a moderate or high stress level, on a scale of stressful events during the 12 months preceding the survey, had had suicidal thoughts (10%) than those having experienced no stress (3%). The stressful events referred to are reported on in chapter 4 and include the death of someone close, moving away from one's family, a serious illness in the household, and others (Table 4.8). Similarly, more individuals whose psychological distress was high had had thoughts of suicide in the course of their lifetime (13%) than those who were not severely distressed (3%). Although this relation refers to different periods in time, it does provide an indication of the chronic nature of psychological distress.

TABLE 8.5

Lifetime prevalence of suicidal thoughts by stressful events and level of psychological distress (%), Cree population 15 years of age and over, 1991

	SUICIDAL THOUGHTS (LIFETIME)	
	%	PE
STRESS LEVEL (ON SCALE OF STRESSFUL EVENTS)		
• NONE	3.2	97
• LOW	1.9	23
• MODERATE OR HIGH	9.9	162
LEVEL OF PSYCHOLOGICAL DISTRESS		
• NORMAL	3.0	142
• HIGH	12.6	136

Among Cree under 45 years of age, 5% reported a parasuicide in the course of their lifetime, while in older Cree, not a single parasuicide was recorded. (Table 8.6). More single than married individuals (7% vs 2%) reported a parasuicide in the course of their lifetime.[1] Educational level also appeared to be associated with suicidal acts: people with a secondary-level education reported eight times more parasuicides (6%) than those who had only elementary school (0.7%). There were also significant associations between parasuicides in the course of one's lifetime and psychological distress during the seven days preceding t he survey: 14% of those with a high level of psychological distress had already thought of committing suicide, compared to 2% whose distress level was normal. Finally, 10% of people

[1] Even though 9% of separated and divorced individuals reported a parasuicide, the estimated population figure was too small to be conclusive (PE: 5).

who stated that they had an average of 10 drinks or more when they drank said that they had already tried to commit suicide, compared to only 2% who did not drink alcohol. It should be noted, however, that age may be a confounding factor for each of these variables.

TABLE 8.6

Lifetime prevalence of parasuicides by age, marital status, education, level of psychological distress and alcohol consumption (%), Cree population 15 years of age and over, 1991

	PARASUICIDES (LIFETIME)	
	%	PE
AGE GROUP		
• 15-44	5.4	226
• 45 AND OVER	0.0	0
MARITAL STATUS		
• MARRIED	1.8	58
• SEPARATED/DIVORCED	9.4	5
• WIDOWED	0.0	0
• SINGLE	7.3	164
EDUCATION		
• ELEMENTARY	0.7	15
• SECONDARY	5.7	186
• POST-SECONDARY	6.6	26
LEVEL OF PSYCHOLOGICAL DISTRESS		
• NORMAL	2.1	98
• HIGH	13.6	128
AVERAGE ALCOHOL CONSUMPTION PER OCCASION		
• 0 DRINKS	1.7	27
• 1 TO 9 DRINKS	6.3	91
• 10 DRINKS OR MORE	10.0	84

8.3 CONCLUSION

8.3.1 Summary

The level of psychological distress observed in the Cree was related to factors of a sociocultural nature. Psychological distress was high among Cree who had a secondary or post-secondary education or held a professional or white collar job. All of these factors were age-related, the level of distress being particularly high in the young aged 15-24 years.

Although the prevalences of suicidal thoughts and parasuicides in the Cree were found to be similar to those reported in the 1987 Santé Québec survey, their lifetime suicidal thoughts were somewhat less frequent.

Suicidal thoughts seemed to be related to psychological distress and the occurrence of stressful events. As for parasuicides, they were mainly reported by persons under 45 years of age, single individuals, those with more education, those who were psychologically more distressed, and those who abused alcohol. Parasuicides during the preceding 12 months were 13 times more frequent in Cree whose psychological distress level was high. This association has also been found in other populations, both aboriginal and non-aboriginal.

8.3.2 Avenues for further research

The observed differences between young Cree and their elders may be linked to a phenomenon of acculturation. It is possible that the questioning of values in the younger generation could contribute to the appearance of psychological distress and suicidal thoughts or acts. However, this hypothesis remains to be tested.

8.3.3 Implications for planning

The findings on psychological distress and parasuicides give planners, mental health and suicide-prevention workers a more precise picture of the extent of these phenomena in the Cree population, thereby enabling them to target subgroups for intervention. In particular, there is a need for suicide-prevention work directed at young people who, among the Cree as elsewhere in Quebec, appear to be especially at risk. Finally, the data provide the basis for population-wide values for psychological distress that health and social service workers and planners alike, can use when comparing various subgroups within the Cree population (Boyer et al., 1993).

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GENERAL CONCLUSION

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Our survey of the James Bay Cree revealed similarities between the Cree and southern Quebecers, but also some differences. This applied to Cree both young and old and to those living on the coast and the interior. The summary below highlights the findings and synthesizes the data presented by the various teams of authors in the preceding chapters. The implications for decision-making are also discussed.

9.0 SUMMARY OF THE RESULTS

Certain health problems were more frequent in the Cree than in other Quebecers. Prevalence was higher for self-reported diabetes (approximately 10% vs 5%), high blood pressure in women, obesity, and, cigarette smoking in young people (61% of 15-24 year-old Cree were smokers vs 31% in southern Quebec). Compared to other Quebecers, the Cree under-utilized transportation safety devices (i.e., seat belts and safety helmets). Cree women had fewer Pap tests and breast examinations. Cree men were less likely to have had their blood pressure checked.

In contrast, the Cree reported fewer health problems or long-term disabilities than other Quebecers. Their cholesterol levels were on average lower. Half the Cree stated they consumed no alcohol vs only 20% of southern Quebecers. Also encouraging was the fact that 28% of Cree adults reported they had stopped drinking for at least a year.

However, most Cree who reported drinking, drank heavily, consuming five drinks or more at a sitting. Young Cree were more likely to drink alcohol than their elders. In inland villages, 35% of the residents stated that they drank regularly, compared to 21% in coastal villages. It would be of interest to determine whether these observations correspond to those of the people working in alcohol abuse prevention in the region.

Cigarette smoking was more predominant in young Cree compared to their elders. Furthermore, 33% of young men aged 15-19 years and 45% of men 20-24 years reported smoking marijuana or hashish during the 12 months preceding the survey. In addition, 12% of men in the latter age category had used cocaine or crack during the same period. With respect to the frequency of drug use, roughly half as many women as men consumed drugs more than once a week.

Living in a sparsely-populated northern region implies frequent use of snowmobiles and all-terrain vehicles (ATVs) as means of transportation. Despite the special risks associated with using these, only 59% of the Cree reported wearing a helmet when they rode on a snowmobile, and 38% when they rode on an ATV.

Firearms were present in 93% of Cree households, but only one-third of firearm owners reported keeping their guns and rifles under lock and key. It can be suggested that if guns were not so readily accessible, there might be fewer accidents or suicide attempts.

Indeed, the combination of substance abuse (alcohol, drugs, etc.), transportation safety problems and regular use of firearms may lead to an increased risk of injury and death among the Cree.

Comparisons between subgroups in the Cree population showed that young Cree reported higher levels of psychological distress than their elders, whereas, elsewhere in Quebec, distress levels were similar in all age groups. In Cree over the age of 45, none reported attempting suicide and very few reported taking drugs during the 12 months preceding the survey.

Though the frequency of suicidal thoughts and attempted suicides in young people were similar to that in other Quebecers, these problems still remain a matter of concern for the Cree.

Older Cree appeared to have more friends than younger Cree. Women, however, declared having fewer friends than men. They were also less satisfied in their relationships with other people in the village. In addition, they reported more health problems than men, and had a higher prevalence of diabetes.

As mentioned earlier, residents of inland villages were more likely to consume alcohol regularly, and drank more heavily that their coastal counterparts. Therefore it is not surprising that 88% of Cree living in the interior perceived alcohol abuse as a serious problem compared to 78% in coastal villages. More inland residents than coastal viewed various social problems (juvenile delinquency, drug abuse, loss of respect for elders....) as being serious in their community. In contrast, coastal residents felt that they could count on more people if they had a problem. They were also more satisfied in the relationships with other people compared to those living in the interior.

Though previously less frequent in the Cree and other aboriginal populations, cardiovascular disease is on the rise. Higher prevalence of diabetes (self-reported), obesity and hypertension, especially in women, indicate that the Cree have a risk profile different from that of other Quebecers. In a soon to be published report on 24-hour diet recalls, the findings may indicate that eating habits among the Cree play a key role in their increased risk of cardiovascular disease. The impact of the various risk factors on the incidence of heart disease has been well documented in non-aboriginal populations, and it is reasonable to assume that the associated risk is just as great in the Cree.

9.1 IMPLICATIONS FOR DECISION-MAKING

This survey has brought various aspects of the health of the Cree population into sharper focus. Disseminating the results in each of the Cree communities should stimulate discussion of questions such as: What are the most important health and social problems in the region? For which problems do effective means of prevention and control exist? How can services and programs be fine-tuned to better respond to needs identified in this study and elsewhere? And, which problems, services and programs should be considered high priority in the region? A concerted effort on behalf of the entire community (band council, schools, women's and youth groups, councils of elders, etc.) is essential to the development of health services that would more effectively improve the health and well-being of the Cree population.

ANNEX 1

LIST OF SURVEY COLLABORATORS

LIST OF SURVEY COLLABORATORS

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Manon Rouleau	Direction de la méthodologie Bureau de la statistique du Québec
Richard Saint-Jean	Cree Board of Health and Social Services of James Bay
Françoise Tarte	Direction de la méthodologie Bureau de la statistique du Québec

Interviewers and nurses who took part in the survey

Village	Nurse's name	Interviewer's name
Whapmagoostui	Louise Lamarche	Emily Petagumskum George Petagumskum
Chisasibi	Luce Bernard Michelle Guittot Nicole Sirois	Lorraine Spencer Daisy Head Emily Waskapabano Jeannie Pelletier Connie Bellefleur
Wemindji	Guylaine Leblanc	Emma Georgekish Clara Visitor
Eastmain	Suzanne Ally	Elma Moses Florence Cheezo
Waskaganish	Elisabeth Poirier	Sarah Cowboy Sheila Hester Pearl Weitscher
Nemaska	Julie Théorêt	Annie Iserhoff Caroline Joly
Mistissini	Michel Poulin Johanne Blouin	Emily Rabbitskin Betsy Longchap Juliana Matouch Annie Mapache
Waswanipi	Hélène Loubier	Hattie Bosum-Kitchen Mary Gull
Oujé-Bougoumou	Nicole Sirois	Winnie Bosum Caroline Mianscum Suzan Kitchen Wapachee

Survey consultants

Robert Imrie
Health and Welfare Canada

Bella Petawabano
Council of the Mistissini Band

ANNEX 2

IDENTIFICATION CHART

SANTÉ QUÉBEC

IDENTIFICATION CHART (1)

(this chart is confidential)

1. File no. 1 | | | | | |

2. Address: _____

_____

3. Telephone: (____) _____

4. One family = 1
More than one family = 2 | |

5. Interviewer no. | |

6. IDENTIFICATION CHART result | |

7. NO. of persons in the household					
8. Include all persons now living or staying in this dwelling, who have no usual place of residence elsewhere, and/or are temporarily away (such as on business, at school, in hospital etc.).	Given name Family name	Given name Family name	Given name Family name	Given name Family name	Given name Family name
9. What is_____ birth date Calculate the age	month year	month year	month year	month year	month year
10. That means he(she) is __ years old.	age	age	age	age	age
11. Verify the sex of each person and code 1= male 2= female					
12. Show reference card "A" What is your relationship with ___ (If other specify)	0 1 9 9				
13. HOUSEHOLD Are there answers 1= yes 2= no					
14. Reasons for no reply:					

CONTINUED ON THE BACK

SANTÉ QUÉBEC

IDENTIFICATION CHART (2)

(this chart is confidential)

	Given name / Family name	Given name / Family name	Given name / Family name	Given name / Family name	Given name / Family name
5. INDIVIDUAL Are there answers 1= yes 2= no 3= NA	☐	☐	☐	☐	☐
6. Reasons for no reply:	☐☐	☐☐	☐☐	☐☐	☐☐
7. Clinical appointment delivered 1= yes 2= no 3= NA	☐	☐	☐	☐	☐

Date and time of appointment for individual interviews:

First person : _____

Second person : _____

Third person : _____

Fourth person : _____

Fifth person : _____

DATE ☐☐ ☐☐ CHART NUMBER ☐ OF ☐

INTERVIEWER'S COMMENTS

ANNEX 3

HOUSEHOLD QUESTIONNAIRE

2 | | | | | |

FILE NUMBER

| |

INT. NO.

ᐊᑭᐧᑲᒋᑭᓇᐊᑎ ᐃᔨᐅᑎ ᓴᐧᑲᓱ ᒥᔅᐱᒪᑎᑭᐅᑲᓱᔨ ᐅᐦᐃ ᐅᑦ ᐁᑕᑭᐦᐃᓵ

Santé Québec CREE Health Survey

HOUSEHOLD

Interviewer-Completed Questionnaire

| | *of* | | |

CREE BOARD OF HEALTH
AND SOCIAL SERVICES
CHISASIBI (QUÉBEC) J0M 1E0
(819) 855-2844

SANTÉ QUÉBEC
800, PLACE VICTORIA
C.P. 164
SUCC. TOUR DE LA BOURSE
MONTRÉAL (QUÉBEC) H4Z 1C8
(514) 873-4749

IDENTIFICATION SECTION

INTERVIEWER:
TRANSCRIBE FROM IDENTIFICATION CHART :

GIVEN NAME

AGE___

SEX: male=1 female=2

participant no.

Recording Zone

participant no.

Recording Zone

participant no.

Recording Zone

participant no.

Recording Zone

participant no.

Recording Zone

SECTION I - LAST TWO WEEKS DISABILITY

The following questions refer to the health of the household members over the past two weeks.

ASK THE FOLLOWING QUESTIONS FOR EACH PERSON

10. a) During the past two weeks, did _____ stay in bed all or most of the day (including nights spent in hospital) because of illness?

1- Yes
2- No
8- DNK
9- NR/R

-------> Go to 11a)

b) How many days? NO OF DAYS

OMIT PHRASES WITHIN PARENTHESES IF NOT APPLICABLE

11. a) (Not counting those days in bed...) Were there any (other) days during those 2 weeks that _____ was unable to go hunting or in the bush, to work, attend school or do housework because of illness?

1- Yes
2- No
8- DNK
9- NR/R

-------> Go to 12a)

b) How many days? NO OF DAYS

12. a) (Not counting any of the days already mentioned...) Were there any (other) days during those 2 weeks that_____ cut down on things he(she) usually does because of illness?

1- Yes
2- No
8- DNK
9- NR/R

-------> Go to 13a)

b) How many days? NO OF DAYS

SECTION I - LAST TWO WEEKS DISABILITY (CON'T)

13. a) That makes a total of _____ days during the past two weeks that _____ was restricted in his(her) activities for reasons of illness or sickness.

SPECIFY THE NUMBER OF DAYS IF 0 CODE 00 (10a, np)

b) What was the main sickness or health problem responsible for stopping or restricting _____'s activities on those days?

SPECIFY PROBLEM AND ENTER IN THE ZONE

c) Was this problem the result of an accident?

1- Yes
2- No
8- DNK (np, 10a)
9- NR/R

d) What type of accident did _____ have?

SPECIFY ACCIDENT AND ENTER IN THE ZONE

e) What type of injury was it?

SPECIFY INJURY DO NOT ENTER IN THE ZONE

NP 10a)

SECTION II- HEALTH CARE OR SOCIAL SERVICES UTILIZATION

The next few questions refer to consultations during the <u>past 2 weeks</u>.

**CIRCLE THE ANSWER "1", "NO" OR "8".
IF 1 OR 8, ENTER IN THE APPROPRIATE COLUMN,
SHOW CARD "B" AND ASK:**

14. <u>During those 2 weeks</u>, did anyone in the household see or talk to any of the following persons about their health or social problems:

a- A nurse..... 1=yes (WHO?) No 8=don't know

b- A doctor..... 1=yes (WHO?) No 8=don't know

c- A specialist (specify) 1=yes (WHO?) No 8=don't know

d- Community health representative..... 1=yes (WHO?) No 8=don't know

e- A dentist or a denturologist..... 1=yes (WHO?) No 8=don't know

f- Eye doctor..... 1=yes (WHO?) No 8=don't know

g- Dietician..... 1=yes (WHO?) No 8=don't know

h- A social or community worker or other counsellor of the same type..... 1=yes (WHO?) No 8=don't know

(IF YES) SPECIFY THE PROFESSION

i- Any other person who treats people or gives advice..... 1=yes (WHO?) No 8=don't know

(IF YES) SPECIFY THE PROFESSION

IF NO HOUSEHOLD MEMBER HAD A CONSULTATION, GO TO QUESTION 16

SECTION II- HEALTH CARE OR SOCIAL SERVICES UTILIZATION (CON'T)

FOR EACH PERSON WHO INDICATED ONE CONSULTATION OR MORE DURING THE PAST 2 WEEKS, ASK:

15. a) Which person did _____ see or talk to most recently?

SPECIFY THE PROFESSION □□

b) Where did _____'s most recent consultation take place?

SPECIFY PLACE □□

c) What was the main sickness, health problem or social problem for this contact?

SPECIFY PROBLEM AND ENTER IN THE ZONE □□□□

d) How long has _____ had the problem?

1- Day
2- Week
3- Month
4- Year
8- DNK
9- NR/R

UNITS □

NO OF: □□

NP 15a)

SECTION III - USE OF MEDICATIONS

The following questions refer to the medications that household members have taken in the <u>past 2 days</u>, (pills, ointments or syrup).

CIRCLE THE ANSWER "1", "NO" OR "8".
IF 1 OR 8, ENTER IN THE APPROPRIATE COLUMN,
SHOW CARD "C" AND ASK:

16. <u>Yesterday or the day before</u>, has anyone in the household taken any of the following products:

01-a	Pain relievers such as aspirin?.....	1=yes (WHO?)	No	8=don't know
02-b	Tranquilizers, medication for the nerves or sleeping pills?.....	1=yes (WHO?)	No	8=don't know
03-c	Medication for the heart or blood pressure?.....	1=yes (WHO?)	No	8=don't know
04-d	Antibiotics?.....	1=yes (WHO?)	No	8=don't know
05-e	Stomach remedies or medication?.....	1=yes (WHO?)	No	8=don't know
06-f	Laxatives?.....	1=yes (WHO?)	No	8=don't know
07-g	Cough or cold remedies?.	1=yes (WHO?)	No	8=don't know
08-h	Skin ointments?.....	1=yes (WHO?)	No	8=don't know
09-i	Vitamins or minerals?...	1=yes (WHO?)	No	8=don't know
10-j	Any Cree medicine or bush medicine?.....	1=yes (WHO?)	No	8=don't know
11-k	Energy or mood improving stimulants?.....	1=yes (WHO?)	No	8=don't know
12-l	Medication for diabetes?	1=yes (WHO?)	No	8=don't know
13-m	Any other medication?...	1=yes (WHO?)	No	8=don't know

(IF YES) SPECIFY THE TYPE OF MEDICATION

14-n	Birth control pills?.... (<u>Women only</u>)	1=yes (WHO?)	No	8=don't know

IF NO ONE IN THE HOUSEHOLD HAS TAKEN ANY MEDICATION,
GO TO QUESTION 23a

SECTION III - USE OF MEDICATIONS (CON'T)

For each medication taken in the past two days, we would like some additional information.

1st medication

TRANSCRIBE MEDICATION CODE

17. a) Was this medication obtained on the advice of a doctor, a dentist or a nurse?

1- Yes
2- No
8- DNK
9- NR/R

b) During the past month, did _____ take this medication at least once a week?

(ATTENTION IF ANTIBIOTICS)

1- Yes
2- No
8- DNK
9- NR/R

c) What was the main health problem or sickness for which _____ took this medication?

SPECIFY PROBLEM AND ENTER IN THE ZONE

d) Could you tell us the exact name of the medication you were referring to (look on the jar, tube or box)?

SPECIFY NAME OF MEDICATION

SECTION III - USE OF MEDICATIONS (CON'T)

2nd medication

TRANSCRIBE MEDICATION CODE

18. a) Was this medication obtained on the advice of a doctor, a dentist or a nurse?

1- Yes
2- No
8- DNK
9- NR/R

b) During the past month, did _____ take this medication at least once a week?

(ATTENTION IF ANTIBIOTICS)

1- Yes
2- No
8- DNK
9- NR/R

c) What was the main health problem or sickness for which _____ took this medication?

SPECIFY PROBLEM AND ENTER IN THE ZONE

d) Could you tell us the exact name of the medication you were referring to (look on the jar, tube or box)?

SPECIFY NAME OF MEDICATION

SECTION III - USE OF MEDICATIONS (CON'T)

3rd medication

TRANSCRIBE MEDICATION CODE

19. a) Was this medication obtained on the advice of a doctor, a dentist or a nurse?

1- Yes
2- No
8- DNK
9- NR/R

b) During the past month, did _____ take this medication at least once a week?

(ATTENTION IF ANTIBIOTICS)

1- Yes
2- No
8- DNK
9- NR/R

c) What was the main health problem or sickness for which _____ took this medication?

SPECIFY PROBLEM AND ENTER IN THE ZONE

d) Could you tell us the exact name of the medication you were referring to (look on the jar, tube or box)?

SPECIFY NAME OF MEDICATION

SECTION III - USE OF MEDICATIONS (CON'T)

4th medication

TRANSCRIBE MEDICATION CODE

20. a) Was this medication obtained on the advice of a doctor, a dentist or a nurse?

1- Yes
2- No
8- DNK
9- NR/R

b) During the past month, did _____ take this medication at least once a week?

(ATTENTION IF ANTIBIOTICS)

1- Yes
2- No
8- DNK
9- NR/R

c) What was the main health problem or sickness for which _____ took this medication?

SPECIFY PROBLEM AND ENTER IN THE ZONE

d) Could you tell us the exact name of the medication you were referring to (look on the jar, tube or box)?

SPECIFY NAME OF MEDICATION

SECTION III - USE OF MEDICATIONS (CON'T)

5th medication

TRANSCRIBE MEDICATION CODE

21. a) Was this medication obtained on the advice of a doctor, a dentist or a nurse?

1- Yes
2- No
8- DNK
9- NR/R

b) During the past month, did _____ take this medication at least once a week?

(ATTENTION IF ANTIBIOTICS)

1- Yes
2- No
8- DNK
9- NR/R

c) What was the main health problem or sickness for which _____ took this medication?

SPECIFY PROBLEM AND ENTER IN THE ZONE

d) Could you tell us the exact name of the medication you were referring to (look on the jar, tube or box)?

SPECIFY NAME OF MEDICATION

SECTION III - USE OF MEDICATIONS (CON'T)

6th medication

TRANSCRIBE MEDICATION CODE

22. a) Was this medication obtained on the advice of a doctor, a dentist or a nurse?

1- Yes
2- No
8- DNK
9- NR/R

b) During the past month, did _____ take this medication at least once a week?

(ATTENTION IF ANTIBIOTICS)

1- Yes
2- No
8- DNK
9- NR/R

c) What was the main health problem or sickness for which _____ took this medication?

SPECIFY PROBLEM AND ENTER IN THE ZONE

d) Could you tell us the exact name of the medication you were referring to (look on the jar, tube or box)?

SPECIFY NAME OF MEDICATION

IF ANY PERSON IN THE HOUSEHOLD HAS TAKEN MORE THAN 6 KINDS OF MEDICATION, WRITE IN THE ANNEX AT THE END OF QUESTIONNAIRE

SECTION IV - ACCIDENTS AND INJURIES

"The following questions refer to injuries which were serious enough to limit someone's usual activities; injuries such as a broken bone, a bad cut, a sprained ankle, etc".

23. a) During the <u>past 12 months</u>, did anyone in the household have any injuries that resulted in limitations of his(her) activities?

1- Yes (WHO?)
2- No ----------> Go to 27
8- DNK
9- NR/R

FOR EACH PERSON WHO WAS INJURED, ASK:

b) Was _____ injured in:

		Yes	No	DNK	NR/R
01)	Boat accident	1	2	8	9
02)	All terrain vehicle accident	1	2	8	9
03)	Car / truck / van accident	1	2	8	9
04)	Snowmobile accident	1	2	8	9
05)	Fight	1	2	8	9
06)	Other kind of accident (specify)	1	2	8	9

_____

c) Which of these caused the <u>main</u> injury that ____ had?

		Yes	No	DNK	NR/R
01)	Boat accident	1	2	8	9
02)	All terrain vehicle accident	1	2	8	9
03)	Car / truck / van accident	1	2	8	9
04)	Snowmobile accident	1	2	8	9
05)	Fight	1	2	8	9
06)	Other kind of accident (specify)	1	2	8	9

_____

SECTION IV - ACCIDENTS AND INJURIES (CON'T)

24. a) Where did this accident occur?

1- In the village -----> Go to 24 c)
2- Outside the village
8- DNK
9- NR/R

b) 1- In the bush
2- Elsewhere (specify) _____

8- DNK
9- NR/R

c) During which season?

1- Spring
2- Summer
3- Fall
4- Winter
8- DNK
9- NR/R

25. Did ____ have to be hospitalized during the <u>past 12 months</u> as a result of that injury?

1- Yes
2- No
8- DNK
9- NR/R

FOR <u>EACH PERSON</u> WHO HAD AN ACCIDENT OR AN INJURY, ASK:

26. How many times was _____ injured during the past 12 months?

SECTION IV - ACCIDENTS AND INJURIES (CON'T)

27. a) How bad is the problem of loose dogs in your community as far as they might hurt someone?

READ FROM 1 TO 4

1- Not a problem
2- A minor problem
3- A somewhat important problem
4- A major problem
8- DNK
9- NR/R

☐

b) Are there one or more dogs in your household?

1- Yes

2- No
8- DNK
9- NR/R

------> Go to Q. 28

☐

c) Have all your dogs been vaccinated against rabies in the last three years?

1- Yes
2- No
8- DNK
9- NR/R

☐

28. a) Are there one or more guns in your household?

1- Yes

2- No
8- DNK
9- NR/R

------> Go to Q. 29a)

☐

b) When not in use, are all of the guns kept under lock and key?

1- All the time
2- Most of the time
3- Sometimes
4- Never
8- DNK
9- NR/R

☐

SECTION V - RESTRICTION OF ACTIVITIES

The following questions deal with the limitations that each individual's health can impose on the normal activities he(she) performs in his(her) daily life.

ASK THESE QUESTIONS FOR EACH PERSON IN THE HOUSEHOLD

29. a) Did _____ go outside of the house during the last two weeks?

READ RESPONSES

1- Yes, without assistance (np 29a)
2- Yes, but only with assistance (Go to 29b)
3- No, (Go to 29b)

BABY LESS THAN 2 YEARS

4- Yes (np, 29a)
5- No, due to sickness or health problems (Go to 29b)
8- DNK
9- NR/R

☐

b) Is _____ usually able to go outside in good weather?

READ RESPONSES

1- Yes, without assistance (np, 29a)
2- Yes, but only with assistance (Go to 29c)
3- No, (Go to 29c)

BABY LESS THAN 2 YEARS

4- Yes, (np, 29a)
5- No, due to sickness or health problem (Go to 29c)
8- DNK
9- NR/R

☐

c) Is _____ usually confined to bed or to a chair for most of the day because of his(her) illness?

1- Yes (np, 29a)
2- No (np, 29a)

☐

SECTION V - RESTRICTION OF ACTIVITIES (CON'T)

CHILDREN UNDER 15

ASK THESE QUESTIONS FOR EACH CHILD UNDER 15 YEARS OF AGE
FOR PERSON 15 YEARS OF AGE AND OVER, GO TO 39a

30. a) Compared to other children of the same age in good health is _____ limited in the kind or amount of activity he(she) can do because of a long-term physical or mental condition or a sickness or health problem?

1- Yes
2- No (np, 30a)
8- DNK
9- NR/R

--------> If nobody answer yes, go to Q.39

X

b) (If yes) How long has _____ been limited in his(her) activities?

X

1- Since birth
2- For _____ years
3- For _____ months
4- Less than a month
8- DNK
9- NR/R

NUMBER OF YEARS
NUMBER OF MONTHS

X X

31. a) Does _____'s illness limit the kind or amount of play he(she) can participate in?

1- Yes
2- No
8- DNK
9- NR/R

-------> Go to Q. 32

X

b) Is _____ unable to participate in ordinary play for children his(her) age?

1- Yes
2- No
8- DNK
9- NR/R

X

SECTION V - RESTRICTION OF ACTIVITIES (CON'T)

CHILDREN UNDER 15

32. a) Does _____'s illness limit his(her) activities at home?

1- Yes
2- No
8- DNK
9- NR/R

FOR CHILDREN UNDER SCHOOL AGE GO TO Q.35a):

FOR CHILDREN OF SCHOOL AGE ASK:

b) Is _____ unable to do most everyday household chores?

1- Yes
2- No
8- DNK
9- NR/R

33. a) Is _____ limited in his(her) ability to attend school?

1- Yes
2- No
3- He(she) attends a special school or a special class -----> Go to Q.34
8- DNK
9- NR/R

b) Is _____ unable to attend school?

1- Yes
2- No
8- DNK
9- NR/R

34. Is _____ limited in other activities such as leisure time pursuits or transportation to and from school?

1- Yes
2- No
8- DNK
9- NR/R

SECTION V - RESTRICTION OF ACTIVITIES (CON'T)

CHILDREN UNDER 15

35. a) What is the main sickness or health problem causing these limitations?

SPECIFY THE PROBLEM AND ENTER IN THE ZONE — X X X X

b) Was that problem the result of an accident or an injury?

1- Yes
2- No
8- DNK
9- NR/R ------> Go to Q.36

X

c) (If yes) What was the accident?

SPECIFY ACCIDENT AND ENTER IN THE ZONE — X X X X

d) What type of injury was it?

DO NOT ENTER IN THE ZONE — X X X X

36. a) Are there any other illness or health problem that limit _____'s activities?

1- Yes
2- No
8- DNK
9- NR/R ------> Go to Q.37

X

b) (If yes) What is the most important of these other problems?

SPECIFY THE PROBLEM AND ENTER IN THE ZONE — X X X X

c) Was this problem the result of an accident or injury?

1- Yes
2- No
8- DNK
9- NR/R ------> Go to Q.37

X

SECTION V - RESTRICTION OF ACTIVITIES (CON'T)

CHILDREN UNDER 15

36. d) (If yes) What was the accident?

SPECIFY ACCIDENT AND ENTER IN THE ZONE

X X X X

e) What type of injury was it?

DO NOT ENTER IN THE ZONE

X X X X

37. Because of any sickness or health problem does _____ need the help of another person with his (her) personal care needs such as eating, bathing, dressing or getting about around the house, which a person of his (her) age would normally do for himself (herself)?

1- Yes
2- No (np, 30a)
8- DNK
9- NR/R

X

38. Who takes care of _____ during the day?

X X

(NEXT CHILD, 30a)

IF LAST CHILD, GO TO ADULT Q. 39

SECTION V - RESTRICTION OF ACTIVITIES (CON'T)

PERSONS 15 YEARS AND OVER

ASK THE FOLLOWING QUESTIONS FOR EACH PERSON 15 YEARS OF AGE AND OVER

39. a) Compared to other people of the same age in good health, is _____ limited in the kind or amount of activity he(she) can do because of a long-term physical or mental condition or sickness?

1- Yes
2- No
8- DNK
9- NR/R

(np, 39 a) ☐

IF NOBODY ANSWER YES, GO TO Q. 47

b) (If yes) How long has _____ been limited in his(her) activities? ☐

1- Since birth
2- For ____ years
3- For ____ months
4- Less than a month
8- DNK
9- NR/R

NUMBER OF YEARS OR NUMBER OF MONTHS ☐☐

40. a) Does _____'s sickness or health problem limit his(her) activities at home in the village? ☐

1- Yes
2- No
8- DNK
9- NR/R

------>Go to Q.41a)

b) Does _____'s sickness or health problem make him(her) unable to do most every day household chores in the village? ☐

1- Yes
2- No
8- DNK
9- NR/R

SECTION V - RESTRICTION OF ACTIVITIES (CON'T)

PERSONS 15 YEARS AND OVER

41. a) Is _____ unable to go in the bush because of his(her) sickness or health problem?

1- Yes ----------> Go to Q.41c)
2- No
3- DNA
8- DNK
9- NR/R ----------> Go to Q.41c)

b) Is _____ limited in his(her) ability to carry out the usual activities in the bush because of his(her) sickness or health problems?

1- Yes
2- No
8- DNK
9- NR/R

c) Is _____ limited in his(her) ability to work outside the home because of his(her) sickness or health problem?

1- Yes
2- No
8- DNK
9- NR/R --------> Go to Q.42a)

d) Is _____ unable to work outside because of his(her) health?

1- Yes
2- No
8- DNK
9- NR/R

42. a) Is _____ limited in his(her) ability to further his(her) education because of his(her) sickness or health problem?

1- Yes
2- No
8- DNK
9- NR/R --------> Go to Q.43

b) Is _____ unable to further his(her) education because of his(her) sickness or health problem?

1- Yes
2- No
8- DNK
9- NR/R

SECTION V - RESTRICTION OF ACTIVITIES (CON'T)

PERSONS 15 YEARS AND OVER

43. Is _____ limited in other activities such as leisure time pursuits or transportation to and from work or school?

1- Yes
2- No
8- DNK
9- NR/R

44. a) What is the principal sickness or health problem causing _____ to be limited in his(her) activities?

SPECIFY THE PROBLEM AND ENTER IN THE ZONE

b) Was that problem the result of an accident?

1- Yes
2- No
8- DNK
9- NR/R

------> Go to Q. 45a)

c) (If yes) What was the main accident?

SPECIFY THE PROBLEM AND ENTER IN THE ZONE

d) What type of injury was it?
(Specify : _____)

DO NOT ENTER IN THE ZONE

45. a) Are there any other illness or health problems which limit _____'s activities?

1- Yes
2- No
8- DNK
9- NR/R

------> Go to Q. 46a)

b) (If yes) What is the most significant of those other problems?

SPECIFY THE PROBLEM AND ENTER IN THE ZONE

SECTION V - RESTRICTION OF ACTIVITIES (CON'T)

45. c) Was that problem the result of an accident or injury?

1- Yes

2- No
8- DNK
9- NR/R

------> Go to Q.46a)

d) (If yes) What was the accident?

SPECIFY THE ACCIDENT AND ENTER IN THE ZONE

e) What type of injury was it?
(Specify : _____)

DO NOT ENTER IN THE ZONE

46. a) Because of any sickness or health problem does _____ need the help of other persons with his (her) personal care needs such as eating, bathing, dressing or getting about around the house?

1- Yes
2- No
8- DNK
9- NR/R

b) Because of any sickness or health problem does _____ need the help of other persons in looking after his(her) personal affairs, doing everyday household chores, going shopping or getting around outside of the house?

1- Yes
2- No (np, 39a)
8- DNK
9- NR/R

IF LAST PERSON, GO TO Q. 47

SECTION VI - CHRONIC HEALTH PROBLEMS

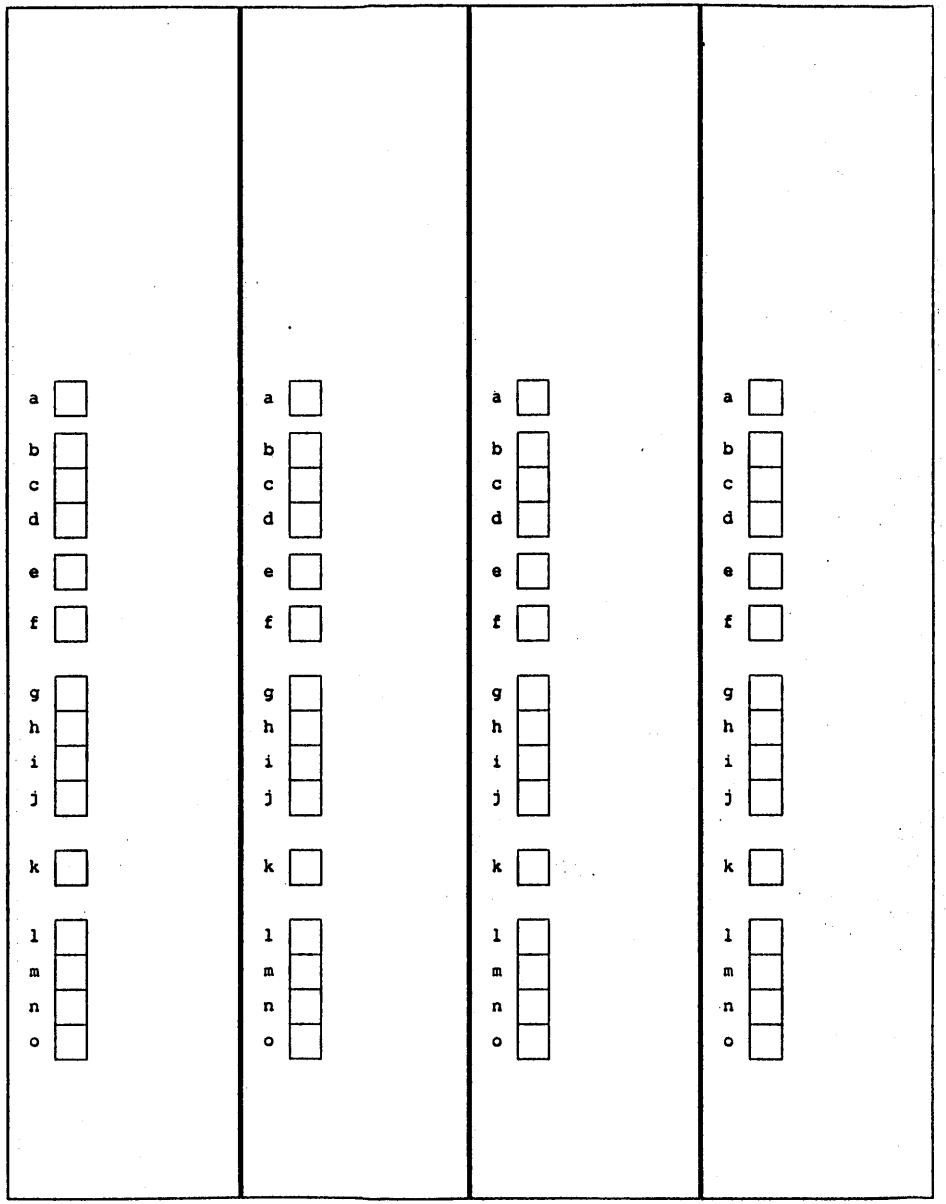
The following questions refer to long term health problems.

CIRCLE THE "1", "NO" OR "8". IF "1" OR "8", TRANSCRIBE IN THE APPROPRIATE COLUMN. FOR EACH PROBLEM FOR EACH PERSON ENTER THE PROBLEM AND THE QUESTION NUMBER IN THE ZONE.

SHOW CARD "D" AND ASK:

47. Is there anyone in the household who has:

a- Anemia.....	1=yes (WHO?) no 8=don't know	a
b- Skin allergies or other skin diseases.....	1=yes (WHO?) no 8=don't know	b
c- Other allergies.....	1=yes (WHO?) no 8=don't know	c
d- Hay fever.....	1=yes (WHO?) no 8=don't know	d
e- Serious trouble with the back or spine.....	1=yes (WHO?) no 8=don't know	e
f- Arthritis or rheumatism.....	1=yes (WHO?) no 8=don't know	f
g- Other serious problems with the joints or the bones.....	1=yes (WHO?) no 8=don't know	g
h- Cancer.....	1=yes (WHO?) no 8=don't know	h
i- Cerebral palsy.....	1=yes (WHO?) no 8=don't know	i
j- Diabetes.....	1=yes (WHO?) no 8=don't know	j
k- Emphysema or chronic bronchitis or persistent cough or asthma.....	1=yes (WHO?) no 8=don't know	k
l- Mental retardation or severe intellectual retardation.....	1=yes (WHO?) no 8=don't know	l
m- Depression.....	1=yes (WHO?) no 8=don't know	m
n- Epilepsy.....	1=yes (WHO?) no 8=don't know	n
o- High blood pressure...	1=yes (WHO?) no 8=don't know	o



SECTION VI - CHRONIC HEALTH PROBLEMS (CON'T)

p- Heart disease.....	1=yes (WHO?) no 8=don't know	p
q- Urinary problems or kidney disease.....	1=yes (WHO?) no 8=don't know	q
r- Stomach ulcer.....	1=yes (WHO?) no 8=don't know	r
s- Other digestive problems.....	1=yes (WHO?) no 8=don't know	s
t- Goitre or thyroid trouble.....	1=yes (WHO?) no 8=don't know	t
u- Migraine or recurring headaches.....	1=yes (WHO?) no 8=don't know	u
v- Incapacity or handicap due to the loss of a limb.....	1=yes (WHO?) no 8=don't know	v
w- Paralysis due to an accident.....	1=yes (WHO?) no 8=don't know	w
x- Paralysis due to a stroke or intracerebral haemorrhage.....	1=yes (WHO?) no 8=don't know	x
y- Periods of excessive nervousness or irritability.....	1=yes (WHO?) no 8=don't know	y
z- Periods of confusion or frequent memory losses.....	1=yes (WHO?) no 8=don't know	z
aa- Incapacity or handicap due to overweight.....	1=yes (WHO?) no 8=don't know	aa
bb- Periods of 6 months or more when he(she) has visions, hears voices, or is afraid without reason.....	1=yes (WHO?) no 8=don't know	bb
cc- The belief that his(her) mind is affected by a curse.....	1=yes (WHO?) no 8=don't know	cc
dd- Hearing troubles.....	1=yes (WHO?) no 8=don't know	dd

p q r s t u v w x y z aa bb cc dd

p q r s t u v w x y z aa bb cc dd

p q r s t u v w x y z aa bb cc dd

SECTION VI - CHRONIC HEALTH PROBLEMS (CON'T)

48. a) And now, is there anyone in the household who has any other chronic health problem, physical or mental, or any other handicap?

1- Yes (Who?)

2- No
8- DNK
9- NR/R

------> Go to Q.49a)

b) (If yes) What is _____ 's sickness or health problem?

SPECIFY THE PROBLEM AND ENTER IN THE ZONE

49. a) Is there one or more members of your household who does not appear on your list because he/she is presently hospitalized, in a hospital, a nursing home or any other institution?

1- Yes

2- No
8- DNK
9- NR/R

------> Go to Q.50

b) (If yes) How many? NUMBER

(IF YES) ASK FOR EACH PERSON:

c) What is his/her age?

d) What is his/her sex?

1- Male
2- Female

e) What is his/her relationship to you?

SHOW CARD «A»

f) In which institution or hospital is he/she?

_____

g) Has he/she been there for more than 3 months?

1- yes
2- no
8- DNK
9- NR/R

SECTION VII - HEARING

50. Does anyone in the family have trouble hearing normal conversation?

1- Yes (Who? _____) ----> ENTER IN THE ZONE
2- No
8- DNK
9- NR/R

51. a) Does anyone in the family use a hearing aid?

1- Yes (who?)
2- No
8- DNK
9- NR/R

------> Go to Next Section (p.55)

FOR EACH PERSON INDICATING A HEARING AID, ASK:

b) Does _____ have any trouble hearing even when he(she) is wearing the hearing aid?

1- Yes ----------> ENTER IN THE ZONE
2- No
8- DNK
9- NR/R

SECTION VIII - HEALTH PROBLEM PROBES (CON'T)

IF THERE ARE NO HEALTH PROBLEMS REPORTED IN THE ZONE FOR ANY MEMBER OF THE HOUSEHOLD GO TO SECTION IX.

FOR EACH HEALTH PROBLEM FOR EACH PERSON, RECORDED IN THE ZONE, ASK THE FOLLOWING QUESTION.

BEGIN BY TRANSCRIBING:

1. THE PROBLEM
2. THE QUESTION NUMBER

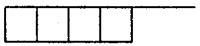
PROBE 1

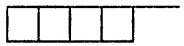
I would now like to ask a question about the sicknesses or health problems you mentioned earlier.

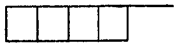
a) How long has _____ had _____ (problem)?

READ THE ANSWERS

1- 2 days or less
2- 3 days to 2 weeks
3- More than 2 weeks to less than a year
4- 1 to 5 years
5- More than 5 years
6- Since birth
8- DNK
9- NR/R







SECTION VIII - HEALTH PROBLEM PROBES (CON'T)

IF THERE ARE NO HEALTH PROBLEMS REPORTED IN THE ZONE FOR ANY MEMBER OF THE HOUSEHOLD GO TO SECTION IX.

FOR EACH HEALTH PROBLEM FOR EACH PERSON, RECORDED IN THE ZONE, ASK THE FOLLOWING QUESTION.

BEGIN BY TRANSCRIBING:

1. THE PROBLEM
2. THE QUESTION NUMBER

PROBE 2

I would now like to ask a question about the sicknesses or health problems you mentioned earlier.

a) How long has _____ had _____ (problem)?

READ THE ANSWERS

1- 2 days or less
2- 3 days to 2 weeks
3- More than 2 weeks to less than a year
4- 1 to 5 years
5- More than 5 years
6- Since birth
8- DNK
9- NR/R

SECTION VIII - HEALTH PROBLEM PROBES (CON'T)

IF THERE ARE NO HEALTH PROBLEMS REPORTED IN THE ZONE FOR ANY MEMBER OF THE HOUSEHOLD GO TO SECTION IX.

FOR EACH HEALTH PROBLEM FOR EACH PERSON, RECORDED IN THE ZONE, ASK THE FOLLOWING QUESTION.

BEGIN BY TRANSCRIBING:

1. THE PROBLEM
2. THE QUESTION NUMBER

PROBE 3

I would now like to ask a question about the sicknesses or health problems you mentioned earlier.

a) How long has _____ had _____ (problem)?

READ THE ANSWERS

1- 2 days or less
2- 3 days to 2 weeks
3- More than 2 weeks to less than a year
4- 1 to 5 years
5- More than 5 years
6- Since birth
8- DNK
9- NR/R

SECTION VIII - HEALTH PROBLEM PROBES (CON'T)

IF THERE ARE NO HEALTH PROBLEMS REPORTED IN THE ZONE FOR ANY MEMBER OF THE HOUSEHOLD GO TO SECTION IX.

FOR EACH HEALTH PROBLEM FOR EACH PERSON, RECORDED IN THE ZONE, ASK THE FOLLOWING QUESTION.

BEGIN BY TRANSCRIBING:

1. THE PROBLEM
2. THE QUESTION NUMBER

PROBE 4

I would now like to ask a question about the sicknesses or health problems you mentioned earlier.

a) How long has _____ had _____ (problem)?

READ THE ANSWERS

1- 2 days or less
2- 3 days to 2 weeks
3- More than 2 weeks to less than a year
4- 1 to 5 years
5- More than 5 years
6- Since birth
8- DNK
9- NR/R

SECTION VIII - HEALTH PROBLEM PROBES (CON'T)

IF THERE ARE NO HEALTH PROBLEMS REPORTED IN THE ZONE FOR ANY MEMBER OF THE HOUSEHOLD GO TO SECTION IX.

FOR EACH HEALTH PROBLEM FOR EACH PERSON, RECORDED IN THE ZONE, ASK THE FOLLOWING QUESTION.

BEGIN BY TRANSCRIBING:

1. **THE PROBLEM**
2. **THE QUESTION NUMBER**

PROBE 5

I would now like to ask a question about the sicknesses or health problems you mentioned earlier.

a) How long has _____ had _____ (problem)?

READ THE ANSWERS

1- 2 days or less
2- 3 days to 2 weeks
3- More than 2 weeks to less than a year
4- 1 to 5 years
5- More than 5 years
6- Since birth
8- DNK
9- NR/R

IF ANY PERSON IN THE HOUSEHOLD HAS MORE THAN 5 KINDS OF HEALTH PROBLEMS, WRITE IN THE ANNEX AT THE END OF QUESTIONNAIRE

SECTION IX - SOCIO-DEMOGRAPHIC INFORMATIONS

FOR EVERY MEMBER OF THE HOUSEHOLD

52. At what age did _____ come to live in the James Bay area?

1- Since birth
2- Later (specify at what age) _____
8- DNK
9- NR/R

53. What was the language that _____ first learned in childhood and that he(she) still understands?

ONE ANSWER ONLY

1- Cree
2- English
3- French
4- Other (specify) _____

8- DNK
9- NR/R

SHOW CARD «E» AND ASK:

54. What was _____'s main occupation for the past two weeks?

01- Working
02- School
03- Keeping house
04- In the bush
05- Not working for health reasons
06- Not working for other reasons (specify) _____
07- Holidays
08- Retired for health reasons
09- Retired for other reasons (specify) _____
10- Under school age
11- Other (specify) _____
98- DNK
99- NR/R

NP 52

55. a) Has anyone in the household lived in this house for less than 12 months? (Excluding babies under 1 year)

1- Yes, who _____

2- No
8- DNK
9- NR/R

------> Go to Q. 56

b) Where did _____ live before? _____

SECTION X - NUTRITION

FOR THE COOK

56. How often would you say you add salt to your food when cooking?

READ LIST FROM 1 TO 4

1- Often
2- Sometimes
3- Occasionally
4- Almost never/Never
8- DNK
9- NR/R

☐

57. When you fry meat in a pan, do you use fat such as lard, butter, margarine or other?

1- Yes
2- Sometimes yes, sometimes no
3- No
4- Never eat meat ----------> Go to Q. 60
8- DNK
9- NR/R

☐

58. What kind of fat do you use most often when <u>frying meat in a pan</u>?

1- Butter
2- Lard or shortening
3- Soft margarine
4- Hard margarine
5- Goose fat or bacon fat
6- Oil
7- PAM or no fat
8- DNK
9- NR/R

SELECT ONLY ONE ANSWER
READ LIST FROM 1 TO 7

☐

59. Do you throw away the cooking fat or do you eat it as is or in a sauce?

1- Throw it away
2- Eat it
3- One as often as the other
8- DNK
9- NR/R

☐

60. What kind of fat do you use most often when <u>deep fat frying</u>?

1- Don't eat fried foods at home
2- Lard or shortening
3- Goose fat or bacon fat
4- Vegetable oil
8- DNK
9- NR/R

SELECT ONLY ONE ANSWER
READ LIST FROM 1 TO 4

☐

SECTION X - NUTRITION (CON'T)

FOR THE COOK

61. What kind of fat do you use most often <u>when baking</u>?

SELECT ONLY ONE ANSWER
READ LIST FROM 01 TO 08

01- Butter
02- Lard or shortening
03- Soft margarine
04- Hard margarine
05- Goose fat or bacon fat
06- Oil
07- PAM or no fat
08- Don't do any baking at home
98- DNK
99- NR/R

62. Which of the following ways do you most often cook your <u>meat and fish</u>?

SELECT ONLY ONE ANSWER
READ LIST FROM 1 TO 5

1- Fried
2- Boiled
3- Roasted (open fire or oven)
4- Broiled
5- Grilled
8- DNK
9- NR/R

63. Which of the following ways do you most often prepare your <u>bannock</u>?

SELECT ONLY ONE ANSWER
READ LIST FROM 1 TO 5

1- Fried
2- In a sauce (loon cake)
3- Baked in oven
4- Open fire
5- Don't prepare bannock
8- DNK
9- NR/R

64. How often do you buy already prepared dishes?

READ LIST FROM 1 TO 4

1- Often
2- Sometimes
3- Occasionally
4- Almost never/never
8- DNK
9- NR/R

-----> Go to Q. 66

SECTION X - NUTRITION (CON'T)

FOR THE COOK

65. What is the most important reason for which you buy already prepared dishes?

DO NOT READ LIST. Write only one answer.

1- Lack of time
2- Don't know how to prepare
3- Don't like preparing non-traditional dishes
4- Tastes better
5- Is easier
6- Other (specify) _____
8- DNK
9- NR/R

☐

☐☐ _____

66. Do you buy the following vegetables regularly or not?

	Regularly	Not Regularly	DNK	NR/R	
a) Broccoli	1	2	8	9	a ☐
b) Brussel sprouts	1	2	8	9	b ☐
c) Carrots	1	2	8	9	c ☐
d) Cauliflower	1	2	8	9	d ☐
e) Cucumber	1	2	8	9	e ☐
f) Green pepper	1	2	8	9	f ☐
g) Leeks	1	2	8	9	g ☐
h) Lettuce	1	2	8	9	h ☐
i) Mushrooms	1	2	8	9	i ☐
j) Onions	1	2	8	9	j ☐
k) Peas	1	2	8	9	k ☐
l) Tomatoes	1	2	8	9	l ☐
m) Zucchini	1	2	8	9	m ☐
n) Potatoes	1	2	8	9	n ☐

SECTION X - NUTRITION (CON'T)

FOR THE COOK

67. For which reason(s) do you not buy vegetables more regularly?

DO NOT READ LIST
CIRCLE ALL THAT APPLY

01- Too expensive	01
02- Don't like the taste	02
03- Don't know how to prepare	03
04- Not available in my community	04
05- Family dislikes them	05
06- Bothers stomach	06
07- Other (specify) _____	07
08- No reason	08
98- DNK	98
99- NR/R	99

03-05-91

ANNEX 4

INDIVIDUAL QUESTIONNAIRE

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Santé Québec CREE Health Survey

INDIVIDUAL

Interviewer-Completed Questionnaire

REE BOARD OF HEALTH
ND SOCIAL SERVICES
HISASIBI (QUÉBEC) J0M 1E0
819) 855-2844

SANTÉ QUÉBEC
800, PLACE VICTORIA
C.P. 164
SUCC. TOUR DE LA BOURSE
MONTRÉAL (QUÉBEC) H4Z 1C8
(514) 873-4749

3					

PERSON NUMBER

INT. NO.

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Santé Québec CREE Health Survey

INDIVIDUAL

Interviewer-Completed Questionnaire

CREE BOARD OF HEALTH
AND SOCIAL SERVICES
CHISASIBI (QUÉBEC) J0M 1E0
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800, PLACE VICTORIA
C.P. 164
SUCC. TOUR DE LA BOURSE
MONTRÉAL (QUÉBEC) H4Z 1C8
(514) 873-4749

I- YOUR HEALTH IN GENERAL

Let us start with a few questions on your health in general.

1. In general, compared to other persons of your age, would you say your health is....

   1- Very good
   2- Good
   3- Fair
   4- Poor
   8- DNK
   9- NR/R

2. In general would you say you are...

   1- Very happy
   2- Pretty happy
   3- Not too happy
   8- DNK
   9- NR/R

3. How satisfied are you with your health? Would you say you are ...

   1- Very satisfied
   2- Somewhat satisfied
   3- Not too satisfied
   4- Not at all satisfied
   8- DNK
   9- NR/R

II- SMOKING

I would like to ask you some questions about smoking.

4. At the present time do you smoke cigarette regularly, occasionally or never?

   1- Regularly
   2- Occasionally
   3- Never
   8- DNK ------> GO TO Q.8
   9- NR/R

5. Do you smoke cigarettes every day?

   1- Yes
   2- No
   8- DNK ------> GO TO Q.8
   9- NR/R

6. How many cigarettes do you smoke each day?

   ☐☐ number of cigarettes

   98- DNK
   99- NR/R

7. At what age did you begin to smoke cigarettes daily?

   ☐☐ age

   98- DNK
   99- NR/R

GO TO Q.12 «YOUR WEIGHT»

II- SMOKING (CON'T)

8. Have you ever smoked cigarette?

READ LIST FROM 1 TO 3

1- Regularly
2- Occasionally
3- Never
8- DNK
9- NR/R

----------› GO TO Q.12

9. How many cigarettes a day did you usually smoke?

☐☐ number of cigarettes

98- DNK
99- NR/R

10. At what age did you begin to smoke regularly?

☐☐ age

98- DNK
99- NR/R

11. At what age did you stop smoking regularly?

☐☐ age

98- DNK
99- NR/R

III- YOUR WEIGHT

Now, I would like to ask you some questions about your weight.

12. What is your weight?

1- ☐☐☐ kg
2- ☐☐☐ pounds
8- DNK
9- NR/R

13. What is your height?

1- ☐ m ☐☐ cm
2- ☐ ft ☐☐ in
8- DNK
9- NR/R

14. What would you like to weigh?

1- ☐☐☐ kg
2- ☐☐☐ pounds
8- DNK
9- NR/R

15. Are you presently trying to lose weight, gain weight or neither?

1- Lose weight
2- Gain weight
3- Neither
8- DNK
9- NR/R

------› GO TO Q.18

III- YOUR WEIGHT (CON'T)

16. Which of the following are you doing to lose weight?

READ LIST FROM 01 TO 05. Circle all that apply.

01- Dieting
02- Exercising
03- Skipping meals
04- Attending weight control programs (ex.: weight watchers)
05- Something else (specify) _____

06- None
98- DNK
99- NR/R

17. Why would you like to lose weight?

DO NOT READ LIST. Circle all that apply.

01- To become more attractive
02- To improve your general health
03- To decrease the risk of heart attack
04- To maintain an acceptable level of blood pressure
05- To maintain an acceptable level of blood cholesterol
06- To slow down the hardening of the arteries
07- To control your blood sugar
08- Something else (specify) _____

98- DNK
99- NR/R

IV- EXERCISE

The next few questions are about your current physical exercise.

18. Which of the following sentences best describes your usual work activities <u>when you are in the village</u>?

SHOW CARD «F» AND READ LIST FROM 1 TO 4

1- I am usually sitting during the day and do not walk around very much.
2- I stand or walk around quite a lot during my day, but I do not have to carry or lift things very often.
3- I usually lift or carry light loads, or I have to climb stairs or hills often.
4- I do heavy work or carry very heavy loads.
8- DNK
9- NR/R

19. Which of the following sentences best describes your usual work activities <u>when you are in the bush</u>?

SHOW CARD «F» AND READ LIST FROM 1 TO 4

1- I am usually sitting during the day and do not walk around very much.
2- I stand or walk around quite a lot during my day, but I do not have to carry or lift things very often.
3- I usually lift or carry light loads, or I have to climb hills often.
4- I do heavy work or carry very heavy loads.
5- DNA
8- DNK
9- NR/R

"Now, we would like to know about your spare time activities, <u>when we exclude activities related to your work or your activities in the bush</u>."

20. How often have you participated in sports or fitness activities in your spare time, for at least 20 minutes at a time, in the last 3 months?

1- More than once a week
2- About once a week
3- About once a month
4- A few times
5- Never
8- DNK ------> GO TO Q.22
9- NR/R

IV- EXERCISE (CON'T)

21. Are these physical activities strenuous enough to cause you sweating or breathing heavily?

READ LIST FROM 1 TO 3

1- Most of the time
2- Sometimes
3- Never
8- DNK
9- NR/R

V - YOUR MODE OF TRANSPORTATION

We would like to know what kind of transportation you use and how often.

22. Have you travelled in a motorized vehicle of any kind <u>in the past 12 months</u>?

1- Yes
2- No
9- NR/R

---------› GO TO Q.27

23. **Automobiles, vans or trucks**

a) In automobile, vans or trucks, are you usually a:

1- Driver
2- Passenger
3- As much one as the other
8- DNK
9- NR/R

b) How often do you fasten your seat belt?

1- Always
2- Most of the time
3- Rarely
4- Never
8- DNK
9- NR/R

24. How often do you travel in automobile, van or truck?

1- At least once a day
2- At least once a week
3- At least once a month
4- Less than once a month
8- DNK
9- NR/R

V- YOUR MODE OF TRANSPORTATION (CON'T)

25. **All terrain vehicles (3 or 4 wheeler)**

a) Do you ever drive or ride on any all terrain vehicle?

1- Yes
2- No
9- NR/R

---------> GO TO Q.26

b) When riding an ATV, do you wear a helmet?

1- Always
2- Most of the time
3- Rarely
4- Never
8- DNK
9- NR/R

c) In season, how often would you say that you use an ATV?

1- At least once a day
2- At least once a week
3- At least once a month
4- Less than once a month
8- DNK
9- NR/R

26. **Snowmobiles**

a) Do you ever ride in a snowmobile?

1- Yes
2- No
8- DNK
9- NR/R

------> GO TO Q. 27

V- YOUR MODE OF TRANSPORTATION (CON'T)

26. b) When riding in a snowmobile, do you wear a helmet?

1- Always
2- Most of the time
3- Rarely
4- Never
9- NR/R

c) In season, how often would you say that you use a snowmobile?

1- At least once a day
2- At least once a week
3- At least once a month
4- Less than once a month
8- DNK
9- NR/R

d) When you use a snowmobile, do you use it to travel?

1- Only in the village -----> GO TO Q. 27
2- Only outside the village
3- Both in and outside the village
9- NR/R

e) When traveling outside the village, is there another snowmobile accompanying you?

1- Always
2- Most of the time
3- Rarely
4- Never
9- NR/R

V- YOUR MODE OF TRANSPORTATION (CON'T)

27. **Boats**

a) Do you ever ride in a boat?

1- Yes
2- No
8- DNK ------> GO TO Q. 28
9- NR/R

b) When so, do you wear a life-jacket?

1- Always
2- Most of the time
3- Rarely
4- Never
9- NR/R

c) In season, how often would you say that you ride in a boat?

1- At least once a day
2- At least once a week
3- At least once a month
4- Less than once a month
8- DNK
9- NR/R

28. **Swimming**

Do you know how to swim ?

1- Yes
2- No
9- NR/R

VI- YOUR LIFE IN GENERAL

29. Which of the following best describes you?

1- I am a person with no friends
2- I am a person with few friends
3- I am a person with some friends
4- I am a person with many friends
8- DNK
9- NR/R

30. How many people are you close to, we mean friends or family you could talk to if you needed help or had a problem?

☐☐ people
98- DNK
99- NR/R

31. How important are prayers and religion in your life? Would you say that they are:

1- Very important
2- More or less important
3- Not at all important
8- DNK
9- NR/R

32. Other than on special occasions, such as weddings, funerals or baptisms, how often did you attend services or meetings connected with your religion <u>in the past 12 months</u>?

1- At least once a week
2- At least once a month
3- A few times a year
4- At least once a year
5- Less than once a year
6- Never
8- DNK
9- NR/R

33. How would you describe your relationship with other people in your community?

1- Very satisfactory
2- Somewhat satisfactory
3- Somewhat unsatisfactory
4- Very unsatisfactory
8- DNK
9- NR/R

VII- PROBLEMS IN YOUR COMMUNITY

34. For each of the following problems, we would like your opinion on how much of a problem it is <u>in your community today</u>.

SHOW CARD «G» AND CIRCLE THE ANSWER

a) Physical or verbal violence between husband and wife?

1- Not at all a problem
2- Relatively small problem
3- Important problem
4- Extremely serious problem
8- DNK
9- NR/R

b) Public fights and disturbances?

1- Not at all a problem
2- Relatively small problem
3- Important problem
4- Extremely serious problem
8- DNK
9- NR/R

c) Illegal drug use?

1- Not at all a problem
2- Relatively small problem
3- Important problem
4- Extremely serious problem
8- DNK
9- NR/R

d) Alcohol abuse?

1- Not at all a problem
2- Relatively small problem
3- Important problem
4- Extremely serious problem
8- DNK
9- NR/R

VII- PROBLEMS IN YOUR COMMUNITY (CON'T)

34. **e) Children neglected by their parents?**

1- Not at all a problem
2- Relatively small problem
3- Important problem
4- Extremely serious problem
8- DNK
9- NR/R

f) Young people getting in trouble with the law because of vandalism or theft?

1- Not at all a problem
2- Relatively small problem
3- Important problem
4- Extremely serious problem
8- DNK
9- NR/R

g) Young people losing respect for the elders?

1- Not at all a problem
2- Relatively small problem
3- Important problem
4- Extremely serious problem
8- DNK
9- NR/R

VIII- THE IMPORTANT CHANGES IN YOUR LIFE

35. When you were a child, under the age of twelve:

a) Did your mother die?

1- Yes
2- No
8- DNK
9- NR/R

b) Did your father die?

1- Yes
2- No
8- DNK
9- NR/R

c) Did another close member of your family die?

1- Yes
2- No
8- DNK
9- NR/R

SHOW CARD «H» AND ASK:

36A. During the past twelve (12) months, did you move away from your family?

1- Yes
2- No
9- NR/R

------> GO TO Q. 36B

If yes, did you find it:

1- Extremely stressful
2- More or less stressful
3- Slightly stressful
4- Not at all stressful
8- DNK
9- NR/R

VIII- THE IMPORTANT CHANGES IN YOUR LIFE (CON'T)

36B. During the past twelve (12) months, did you lose your job?

1- Yes
2- No
9- NR/R

------> GO TO Q. 36C

If yes, did you find it:

1- Extremely stressful
2- More or less stressful
3- Slightly stressful
4- Not at all stressful
8- DNK
9- NR/R

36C. During the past twelve (12) months, did you experience a rejection or disapproval from your community?

1- Yes
2- No
9- NR/R

------> GO TO Q. 36D

If yes, did you find it:

1- Extremely stressful
2- More or less stressful
3- Slightly stressful
4- Not at all stressful
8- DNK
9- NR/R

36D. During the past twelve (12) months, did you have a serious (physical or mental) illness?

1- Yes
2- No
9- NR/R

------> GO TO Q. 36E

If yes, did you find it:

1- Extremely stressful
2- More or less stressful
3- Slightly stressful
4- Not at all stressful
8- DNK
9- NR/R

VIII- THE IMPORTANT CHANGES IN YOUR LIFE (CON'T)

36E. During the past twelve (12) months, did someone else in your household have a serious illness?

1- Yes
2- No
9- NR/R ------> GO TO Q. 36F

If yes, did you find it:

1- Extremely stressful
2- More or less stressful
3- Slightly stressful
4- Not at all stressful
8- DNK
9- NR/R

36F. During the past twelve (12) months, did your husband, wife or partner die?

1- Yes
2- No
9- NR/R ------> GO TO Q. 36G

If yes, did you find it:

1- Extremely stressful
2- More or less stressful
3- Slightly stressful
4- Not at all stressful
8- DNK
9- NR/R

36G. During the past twelve (12) months, did someone very close to you (other than husband or wife or partner) die?

1- Yes
2- No
9- NR/R ------> GO TO Q. 37

If yes, did you find it:

1- Extremely stressful
2- More or less stressful
3- Slightly stressful
4- Not at all stressful
8- DNK
9- NR/R

IX- WOMEN'S HEALTH

**THE FOLLOWING QUESTIONS ARE FOR WOMEN ONLY.
MEN SHOULD GO TO QUESTION NUMBER 44 (NEXT SECTION).**

37. a) When did you last have a Pap test?

1- Less than 12 months ago
2- One to two years ago ------> GO TO Q. 38
3- More than two years ago

4- Never

8- DNK
9- NR/R ------> GO TO Q. 38

b) If never, can you tell me why?

DO NOT READ LIST, CIRCLE ALL THAT APPLY.

1- Was not offered
2- Never goes to the clinic
3- Not interested
4- Other (specify) _____

☐

8- DNK
9- NR/R

38. a) Have you ever had a breast examination by a doctor or a nurse?

1- Yes ------> GO TO Q. 39
2- No
8- DNK
9- NR/R ------> GO TO Q. 39

IX- WOMEN'S HEALTH (CONT'T)

38. b) If no, can you tell me why?

DO NOT READ LIST, CIRCLE ALL THAT APPLY.

1- Was not offered
2- Never goes to the clinic
3- Not interested
4- Other (specify) _____

☐

8- DNK
9- NR/R

39. a) Have you ever examined your own breasts for tumours or cysts?
1- Yes ------> GO TO Q. 40
2- No
8- DNK
9- NR/R

b) If no, can you tell me why?

DO NOT READ LIST, CIRCLE ALL THAT APPLY.

1- Does not know how
2- Does not believe it is important
3- It is unpleasant or painful
4- Other (specify) _____

☐

8- DNK
9- NR/R

40. Do you take oral contraceptives (the pill) either as a method of birth control or to regulate your menstrual cycle, or for another reason?

1- Yes
2- No
8- DNK
9- NR/R

41. Are you pregnant at the present time?

1- Yes
2- No
8- DNK
9- NR/R

IX- WOMEN'S HEALTH (CONT'T)

42. a) Did you ever have children?

1- Yes
2- No -------> GO TO Q. 43
9- NR/R

b) If yes, did you breast feed your last baby?

1- Yes -------> GO TO Q. 42d)
2- No
8- DNK
9- NR/R

c) If no, can you tell me why?

DO NOT READ LIST, CIRCLE ALL THAT APPLY.

1- Working
2- Out of date
3- Doctor's advice
4- Other (specify) _____

☐

8- DNK
9- NR/R ------> GO TO Q. 43

d) How long did you breast feed your last baby?

1- One month or less
2- 1-6 months
3- 6 months or more
8- DNK
9- NR/R

43. Are you currently going through your menopause (change of life)?

1- Yes
2- No
3- DNK
9- NR/R

X- BLOOD PRESSURE

44. Before this survey, have you ever had your blood pressure checked by a nurse or a doctor?

1- Yes
2- No
8- DNK ------> GO TO Q. 46
9- NR/R

45. How long ago did you last have your blood pressure checked?

READ LIST FROM 1 TO 3

1- Less than 6 months
2- 6-12 months
3- Over a year
8- DNK
9- NR/R

46. Were you ever told by a doctor, nurse, or some other health care professional that you had high blood pressure?

1- Yes
2- No
8- DNK ------> GO TO Q. 52
9- NR/R

47. Was any treatment or program suggested for your high blood pressure?

1- Yes
2- No
8- DNK ------> GO TO Q. 52
9- NR/R

X- BLOOD PRESSURE (CON'T)

48. What was that treatment?

DO NOT READ LIST. Circle all that apply.

01- Take medicine
02- Go on salt free diet
03- Watch weight
04- Avoid stress, slow down and relax
05- Cut down or stop smoking
06- Cut down alcohol intake
07- Start exercise program
08- Other treatment (specify) _____

98- DNK
99- NR/R

49. Are you still following this treatment?

1- Yes
2- No
8- DNK
9- NR/R

50. Are you now taking medication for your high blood pressure?

1- Yes ------> GO TO 52
2- No
8- DNK
9- NR/R

51. Have you ever taken medication for your high blood pressure?

1- Yes
2- No
8- DNK
9- NR/R

52. As far as you know, is your blood pressure normal now?

1- Yes
2- No
8- DNK
9- NR/R

X- BLOOD PRESSURE (CON'T)

53. What do you think can cause high blood pressure?

RECORD UP TO THREE ANSWERS GIVEN. IF RESPONDENT IS HESITANT, PROBE.

☐☐ _____

☐☐ _____

☐☐ _____

98- DNK

99- NR/R

54. Can you tell me the major causes of heart diseases or heart problems?

DO NOT READ LIST. Circle all that apply.

01- Poor diet

02- Overweight

03- Excess fat

04- Excess salt

05- High blood cholesterol level

06- Foods with high cholesterol

07- Excess stress, worry or tension

08- Overwork or fatigue

09- Lack of exercise

10- Smoking

11- Heredity

12- High blood pressure/hypertension

13- Arteriosclerosis/hardening of the arteries

14- Other (specify) _____

☐☐

98- DNK

99- NR/R

XI- DIABETES

I would like to ask you some questions about diabetes.

55. Have you ever been told by a doctor or a nurse that you had diabetes (sugar in your blood)?

1- Yes

2- No ☐ -------> GO TO NUTRITION (Q. 59)

8- DNK

9- NR/R

56. Approximately how old were you when you were first told you had diabetes?

☐☐ (enter age, as close as possible)

98- DNK

99- NR/R

57. Are you following a treatment for your diabetes?

1- Yes

2- No ------> GO TO NUTRITION (Q. 59)

58. What is the treatment.

DO NOT READ THE LIST. Circle all that apply.

1- Insulin

2- Pills to control blood sugar

3- Diet

4- Weight loss

5- Other (specify) _____

☐

8- DNK

9- NR/R

XII- NUTRITION

59. How often would you say you add salt to your food at the table?

READ LIST FROM 1 TO 4

1- Often
2- Sometimes
3- Occasionally
4- Almost never/Never
8- DNK
9- NR/R

60. Here are a few statements. For each of these statements, say if you agree or disagree.

	Agree	Dis-agree	Neither agree nor disagree	DNK	NR/R
a) The amount of salt you eat can affect your health.....	1	2	3	8	9
b) The amount of cholesterol in your blood can affect your health.....	1	2	3	8	9
c) A person who eats fatty foods is more likely to suffer from heart disease than those who don't.....	1	2	3	8	9
d) Overweight persons run a greater risk of getting certain diseases than normal-weight persons.....	1	2	3	8	9
e) Skipping a meal is an effective way to control or reduce your weight.....	1	2	3	8	9
f) Store-bought foods are not as healthy and nourishing as bush foods.....	1	2	3	8	9
g) I think that eating sweets affects my health.....	1	2	3	8	9
h) If I ate better, I would live older.....	1	2	3	8	9
i) To stay healthy or improve my health, I would be willing to change my eating habits.....	1	2	3	8	9
j) It is natural to eat what we like even if it is unhealthy.....	1	2	3	8	9

XII- NUTRITION (CON'T)

	Agree	Dis-agree	Neither agree nor disagree	DNK	NR/R
k) I'd rather be overweight than have to give up many of the foods I like..	1	2	3	8	9
l) A woman is more attractive when she is overweight.....	1	2	3	8	9
m) A woman is stronger and more sturdy when she is overweight.....	1	2	3	8	9
n) A person needs a thick layer of body fat to be protected against the cold.....	1	2	3	8	9
o) There is a relationship between the food we eat and the good bowel function.....	1	2	3	8	9
p) Fat is the only type of food that can improve the bowel function.....	1	2	3	8	9

61. Would you say that during the past year, you have tried in some way to change your eating habits, <u>not counting</u> a special diet?

1- Yes
2- No
8- DNK ------> GO TO Q. 63
9- NR/R

XII- NUTRITION (CON'T)

62. Have you tried to make any of the following changes in your diet?

GIVE AN ANSWER FOR EACH POSSIBLE CHANGE

	Yes	No	DNK	NR/R
a) Eat less meat.....	1	2	8	9
b) Eat less salt.....	1	2	8	9
c) Eat less fat.....	1	2	8	9
d) Eat less sugar.....	1	2	8	9
e) Eat less pastries and candies....	1	2	8	9
f) Eat more fruits.....	1	2	8	9
g) Eat more vegetables.....	1	2	8	9
h) Eat less "junk food" (chips, pop, chocolate,...).....	1	2	8	9

63. Here are some questions about your eating habits.

	Yes	No	DNK	NR/R
a) Do you feel that you eat <u>too much sugar</u> for your health?..	1	2	8	9
b) Would you say that you eat <u>too much fat</u> for your health?.....	1	2	8	9

XII- NUTRITION (CON'T)

64. Do you usually add lard, butter or margarine on the following foods?

	Yes	No	Sometimes yes, sometimes no	Do not eat	DNK	NR/R
a) Bread (plain or toasted)...	1	2	3	4	8	9
b) Bannock.....	1	2	3	4	8	9
c) Potatoes.....	1	2	3	4	8	9
d) Other cooked vegetables....	1	2	3	4	8	9

65. What kind of fat do you put on your bannock, bread, toast or muffins?

DO NOT READ LIST. Circle all that apply.

1- Butter
2- Lard or shortening
3- Soft margarine
4- Hard margarine
5- Goose fat or bacon fat
6- Other (specify) _____

☐

7- No fat
8- DNK
9- NR/R

66. What kind of fat do you eat with your meat and fish?

DO NOT READ LIST. Circle all that apply.

1- Goose fat
2- Lard or shortening
3- Beaver fat
4- Bear fat
5- Other (specify) _____

☐

6- No fat
8- DNK
9- NR/R

XIII- WORK AND OCCUPATIONS

59

Now I would like to ask you some questions on your work and occupations.

67a. How many different jobs have you had for the past 12 months?

☐ (If none,enter 0)

7= 7 and more
8- DNK
9- NR/R

SHOW CARD «I» AND ASK:

60

67b. Which of the following best describes your present working status?

TAKE ONE ANSWER ONLY

a) 01- Work full-time (with a salary)
b) 02- Work part-time (with a salary) -----> GO TO Q. 69
03- Work occasionally (with a salary)

c) 04- Income security for trappers
05- Housework -----> GO TO Q. 74
d) 06- Retired or on pension
07- Unemployment insurance
08- Social welfare
e) 09- Other (specify) _____
☐☐
f) 98- DNK
99- NR/R

g) 68. How long have you been unemployed?

h) or 1- Years ☐☐ Number of
2- Months (If less than 1 month, enter 01)
i) 3- Has never worked
8- DNK
9- NR/R

j) GO TO Q. 74

XIII- WORK AND OCCUPATIONS (CON'T)

69a. How long have you had this job or your last job?

or 1- Years ☐☐ Number of
2- Months (If less than 1 month, enter 01)
8- DNK
9- NR/R

69b. How did you find this last job?

DO NOT READ LIST. Only one answer.

1- Through somebody in the household
2- Through a friend or someone you know
3- Through the Band Council
4- Through an Employment Center
5- Other (specify) _____
☐
8- DNK
9- NR/R

69c. Have you received any training for that job?

1- Yes
2- No
8- DNK -------> GO TO Q. 70
9- NR/R

69d. If yes, how many days?

☐☐

70. How many hours per week do you work?

☐☐ hours
98- DNK
99- NR/R

XIII- WORK AND OCCUPATIONS (CON'T)

71. What kind of work do you do? (Give full description, e.g. unskilled worker, truck driver, office clerk, waitress)

_____

_____

9998- DNK
9999- NR/R

72. To what kind of business, industry or service sector is your job related? (Give a full description, for example: construction, grocery store, school board, band council, etc...)

_____

_____

9998- DNK
9999- NR/R

73. a) Is this work seasonal?

1- Yes
2- No
8- DNK
9- NR/R

b) Do you find your present job:

1- Extremely stressful
2- More or less stressful
3- Slightly stressful
4- Not at all stressful
8- DNK
9- NR/R

XIV- DEMOGRAPHIC INFORMATION

The next few questions will help us take a look at factors linked to health like age, sex, income.

74. ENTER RESPONDENT'S SEX:

1- Male
2- Female

75. What is your date of birth?

year		month		day	

98- DNK
99- NR/R

76. How old are you?

age

SHOW CARD «J» AND ASK:

77. What is your current marital status?

1- Never married and not living with someone as a couple
2- Divorced/separated and not living with someone as a couple
3- Married or living with someone as a couple
4- Widow/widower and not living with someone as a couple
8- DNK
9- NR/R

XIV- DEMOGRAPHIC INFORMATION (CON'T)

SHOW CARD «K» AND ASK:

78. What is the highest level of schooling you have completed?

CIRCLE ONE ANSWER ONLY

00- No formal schooling
01- Some years of elementary school
02- Elementary school completed
03- Some years of secondary school
04- Secondary school completed
05- Partial training in community college, a trade school or a private commercial college, a technical institute, a CEGEP, a nursing school or a normal school.
06- Diploma or certificate from a community college, a trade school or a private commercial college, a technical institute, a CEGEP, a nursing school or a normal school.
07- Some University (not completed)
08- University degrees (completed), Certificate, Bachelor, Masters, PHD
98- DNK
99- NR/R

For more precision, write the name of the highest diploma or certificate obtained

_____

79. a) What language do you usually use at home?

1- Cree
2- English
3- French
4- Other (specify) _____

☐

8- DNK
9- NR/R

b) Do you personnally speak another language?

1- Yes (specify) _____

☐

2- No
9- NR/R

XIV- DEMOGRAPHIC INFORMATION (CON'T)

80. For statistical purposes only, we need to know the range of your personal income before deductions for the last year.

PRESENT THE CARD «L» AND READ LIST FROM 1 TO 11.

01- $ 0 to $ 999
02- $ 1 000 to $ 5 999
03- $ 6 000 to $11 999
04- $12 000 to $19 999
05- $20 000 to $24 999
06- $25 000 to $29 999
07- $30 000 to $39 999
08- $40 000 to $49 999
09- $50 000 to $59 999
10- $60 000 to $69 999
11- $70 000 and over
98- DNK
99- NR/R

81. a) How many weeks or months have you spent in the bush during the last year?

or 1- Weeks ☐☐ Number of
2- Months
8- DNK
9- NR/R

If less than 1 month, GO TO Q. 82
If 1 month or more, ask:

b) How many different trips did you do to the bush during the last year?

☐☐ Number of trips

98- DNK
99- NR/R

XIV- DEMOGRAPHIC INFORMATION (CON'T)

82. a) Do you have any children?

1- Yes
2- No -------> GO TO Q. 83
9- NR/R

b) ☐☐ If yes, how many?

c) ☐☐ How many are still living with you?

83. What is your religion?

1- None
2- Roman catholic
3- Anglican
4- Pentecostal
5- Other (specify) _____

☐

8- DNK
9- NR/R

ANNEX 5

CONFIDENTIAL QUESTIONNAIRE

4					

participant number

int. no.

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Santé Québec CREE Health Survey

CONFIDENTIAL

Respondant-Completed Questionnaire

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XV- VARIOUS HEALTH PROBLEMS

THE FOLLOWING QUESTIONS ARE ABOUT VARIOUS ASPECTS OF YOUR HEALTH. HOW YOU FELT LAST WEEK COULD BE DIFFERENT FROM HOW YOU FELT DURING THE PAST YEAR. PLEASE TELL US HOW OFTEN, DURING THE PAST WEEK, DID YOU:

		NEVER	ONCE IN A WHILE	FAIRLY OFTEN	VERY OFTEN
84.	FEEL HOPELESS ABOUT THE FUTURE?.....	1	2	3	4
85.	HAVE YOUR MIND GO BLANK?.....	1	2	3	4
86.	FEEL DOWN OR BLUE?.....	1	2	3	4
87.	FEEL TENSE OR UNDER PRESSURE?.....	1	2	3	4
88.	LOSE YOUR TEMPER?.....	1	2	3	4
89.	FEEL BORED OR HAVE LITTLE INTEREST IN THINGS?.....	1	2	3	4
90.	FEEL FEARFUL OR AFRAID?.....	1	2	3	4
91.	HAVE TROUBLE REMEMBERING THINGS?.....	1	2	3	4
92.	CRY EASILY OR FEEL LIKE CRYING?.....	1	2	3	4
93.	FEEL NERVOUS OR SHAKY INSIDE?.....	1	2	3	4
94.	FEEL CRITICAL OF OTHERS?.....	1	2	3	4
95.	FEEL EASILY ANNOYED OR IRRITATED?....	1	2	3	4
96.	GET ANGRY OVER THINGS THAT ARE NOT TOO IMPORTANT?.....	1	2	3	4
97.	FEEL LIKE BEING ALONE?.....	1	2	3	4

XVI- SUICIDE

98. DID YOU EVER SERIOUSLY THINK ABOUT COMMITTING SUICIDE (TAKING YOUR LIFE)?

1- YES
2- NO ------> GO TO QUESTION 102

99. DID THIS HAPPEN DURING THE PAST 12 MONTHS?

1- YES
2- NO

100. DID YOU EVER ATTEMPT SUICIDE (TRY TO TAKE YOUR LIFE)?

1- YES
2- NO ------> GO TO QUESTION 102

101. DID THIS HAPPEN DURING THE PAST 12 MONTHS?

1- YES
2- NO

XVII- ALCOHOL

102. HAVE YOU EVER TAKEN A DRINK OF BEER, WINE, LIQUOR OR OTHER ALCOHOLIC DRINK?

1- YES

2- NO ------> GO TO Q. 115

103. IN THE PAST 12 MONTHS, HAVE YOU TAKEN A DRINK OF BEER, WINE, LIQUOR OR OTHER ALCOHOLIC DRINK?

1- YES

2- NO ------> GO TO Q. 113

104. ABOUT HOW OFTEN DO YOU USUALLY HAVE AN ALCOHOLIC DRINK (BEER, WINE OR LIQUOR)?

1- EVERY DAY

2- 1 TO 6 TIMES A WEEK

3- 1 TO 3 TIMES A MONTH

4- LESS THAN ONCE A MONTH

105. ON THE DAYS YOU DRINK, HOW MANY DRINKS DO YOU HAVE PER DAY, ON THE AVERAGE?

THE WORD "DRINKS" MEANS:

- ONE BOTTLE OF BEER OR GLASS OF DRAFT OR
- ONE SMALL GLASS OF WINE OR
- ONE SHOT OR MIXED DRINK WITH HARD LIQUOR

[ ][ ] NUMBER OF DRINKS

XVII- ALCOHOL (CON'T)

106. HAVE YOUR DRINKING HABITS CHANGED OVER THE PAST 12 MONTHS?

1- I DRINK MORE NOW

2- I DRINK LESS NOW

3- NO CHANGE OVER LAST 12 MONTHS

107. IN THE PAST 12 MONTHS, HAVE YOU EVER HAD A DRINK FIRST THING IN THE MORNING TO CALM YOUR NERVES OR GET RID OF A HANGOVER?

1- ALMOST EVERYDAY

2- VERY OFTEN

3- RARELY

4- NEVER

		YES	NO
108.	HAVE YOU EVER BEEN CRITICIZED BY PEOPLE AROUND YOU BECAUSE OF YOUR DRINKING?.....	1	2
109.	HAVE YOU EVER FELT THAT YOU SHOULD CUT DOWN ON YOUR DRINKING?.....	1	2
110.	HAVE YOU EVER TRIED TO CUT DOWN ON YOUR DRINKING?.....	1	2
111.	HAVE YOU EVER FELT BAD OR GUILTY ABOUT YOUR DRINKING?.....	1	2

XVII- ALCOHOL (CON'T)

112. OVER THE LAST 12 MONTHS, HAS YOUR DRINKING PLAYED A PART IN ANY OF THE FOLLOWING PROBLEMS?

	YES	NO
A) THERE HAS BEEN TENSION OR DISAGREEMENT WITH YOUR FAMILY OR YOUR FRIENDS BECAUSE OF YOUR DRINKING.....	1	2
B) YOU HAD TROUBLE AT WORK OR AT SCHOOL BECAUSE OF YOUR DRINKING.....	1	2
C) YOU HAD PROBLEMS WITH YOUR HEALTH BECAUSE OF DRINKING.....	1	2
D) YOU HAVE BEEN WARNED FOR DRUNK DRIVING.....	1	2
E) YOU LOST A JOB (OR GOT KICKED OUT OF SCHOOL) BECAUSE OF YOUR DRINKING.....	1	2
F) YOU WERE SENT HOME BECAUSE YOU WERE DRUNK IN A PUBLIC PLACE.....	1	2
G) YOU HAD AN ACCIDENTAL INJURY OR YOU HURT SOMEONE ACCIDENTALLY WHEN YOU WERE DRUNK.....	1	2
H) YOU HURT YOURSELF OR SOMEONE ELSE IN A FIGHT BECAUSE OF ALCOHOL.....	1	2
I) YOU HAD AN ALCOHOL-RELATED HOSPITALIZATION OR HAD TO GO FOR A TREATMENT BECAUSE OF YOUR ALCOHOL PROBLEM.....	1	2

113. NOT COUNTING SMALL SIPS, AT WHAT AGE DID YOU START DRINKING ALCOHOLIC BEVERAGES?

☐☐ YEARS OLD

114. IF YOU USED TO DRINK BUT HAVE NOT TAKEN A DRINK DURING THE PAST YEAR, AT WHAT AGE DID YOU STOP?

☐☐ YEARS OLD

XVIII- DRUGS

115. HERE IS A LIST OF SOME WELL KNOWN DRUGS. WE WOULD LIKE TO KNOW IF YOU HAVE EVER USED ONE OF THE FOLLOWING:

A) MARIJUANA OR HASHISH

1- YES
2- NO ------> GO TO B)

IF YES, HAVE YOU USED IT IN THE PAST 12 MONTHS?

1- YES
2- NO

B) COCAINE OR CRACK

1- YES
2- NO ------> GO TO C)

IF YES, HAVE YOU USED IT IN THE PAST 12 MONTHS?

1- YES
2- NO

C) HAVE YOU EVER TRIED TO GET HIGH BY SNIFFING GLUE, GASOLINE, OR ANY OTHER SOLVENT?

1- YES
2- NO ------> GO TO D)

IF YES, HAVE YOU USED IT IN THE PAST 12 MONTHS?

1- YES
2- NO

PLEASE SPECIFY WHICH SOLVENT: _____

☐

XVIII- DRUGS (CON'T)

D) HAVE YOU EVER USED ANY OTHER DRUGS?

1- YES

2- NO ------> GO TO E)

IF YES, HAVE YOU USED IT IN THE PAST 12 MONTHS?

1- YES

2- NO

PLEASE SPECIFY WHICH OTHER DRUGS: _____

☐

E) IF YOU USED ANY OF THESE DRUGS IN THE PAST 12 MONTHS, WOULD YOU SAY THAT IT WAS :

1- MORE THAN ONCE A WEEK
2- ONCE A WEEK
3- FROM ONE TO THREE TIMES A MONTH
4- LESS THAN ONCE A MONTH

**THANK YOU VERY MUCH FOR YOUR COLLABORATION
INSERT THE QUESTIONNAIRE IN THE ENVELOPE,
SEAL IT AND GIVE IT TO THE INTERVIEWER**

ANNEX 6

CLINICAL VISIT FORM

SANTÉ QUÉBEC HEALTH SURVEY OF THE JAMES BAY CREE SQCV/N1

CLINICAL VISIT (18-74 YEARS)

Subject's ID number: 5 | | | | | | Nurse's ID number: | |

1- Final result of visit: | | 2- Date: | | | | | | (month) (day)

3- Place of visit: | | 4- Subject's sex: 1- Male 2- Female

IF THE SUBJECT IS A WOMEN, COMPLETE QUESTIONS 5, 6 AND 7. IF NOT, GO TO QUESTION 8.

5- Been through menopause: 1- Yes 2- No 9- NR

6- Pregnant: 1- Yes 2- No 9- NR

7- Date of last menstruation: | | | | | | (year) (month) (day)

8- Pulse: | | |

9- Blood pressure: S | | | D | | |

CLINICAL 1°

CLINICAL 2°

(IF A 24-HOUR DIET RECALL WAS NOT PERFORMED, LEAVE QUESTION 10 BLANK)

10- Blood pressure: S | | | D | | |

REPEAT 1°

REPEAT 2°

11- Measurements:

Height: | | | (cm) or | | | (inches)

Weight: | | | (kg) or | | | (inches)

Waist: | | | (cm) or | | | (inches)

Hip : | | | (cm) or | | | (inches)

SEE OVER

SANTÉ QUÉBEC HEALTH SURVEY OF THE JAMES BAY CREE SQCV/N2

CLINICAL VISIT (18-74 YEARS)

12- Results of blood sample: | | CHOL. | | | INSUL.

ATTENTION IF NO SAMPLE WAS TAKEN, PLEASE LEAVE QUESTIONS 13 AND 14 BLANK.

13- How many hours since last meal: | | (hrs)

14- Date of blood sample: | | | | (month) (day)

15- Time of blood sample: | | | |

16- Is this subject supposed to have quality control measures taken?

1- Yes (IF YES, CONTINUE CLINICAL MEASURES)
2- No (IF NO, THANK SUBJECT AND END VISIT)

==========

QUALITY CONTROL MEASURES:

Subject's ID number: | | | | | | Nurse's ID number: | |

1- Final result of control measures: | |

2- Date: | | | | (month) (day)

2- Results of blood sample: | | CHOL. | | | INSUL.

3- Measurements:

Height: | | | (cm) or | | | (inches)

Weight: | | | (kg) or | | | (inches)

Waist: | | | (cm) or | | | (inches)

Hip: | | | (cm) or | | | (inches)

4- Blood pressure : S | | | D | | |

Gouvernement du Québec
Santé Québec