

The Evolution of Health Status and Health Determinants in the Cree Region (Eeyou Istchee):

**Eastmain I-A Powerhouse and
Rupert Diversion Sectoral Report**

Volume 2: Detailed Analysis

Series 4 Number 3:

Report on the health status of the population
Cree Board of Health and Social Services of James Bay

***The Evolution of Health Status and Health Determinants in
the Cree Region (Eeyou Istchee):
Eastmain-1-A Powerhouse and Rupert Diversion
Sectoral Report***

***Volume 2
Detailed Analysis***

Jill Torrie
Ellen Bobet
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Andrew Webster

**Series 4 Number 3: Report on the Health Status of the Population.
Public Health Department of the Cree Territory of James Bay
Cree Board of Health and Social Services of James Bay**

The views expressed in this document are those of the authors and do not necessarily reflect those of the Cree Board of Health and Social Services of James Bay.

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Glossary

AED	Assistant Executive Director (2 nd highest rank in the CBHSSJB)
AIP	Agreement-in-Principle
APS	Aboriginal Peoples Survey
BCG	Bacille Calmette-Guerin (tuberculosis vaccine)
BMI	Body Mass Index
CBHSSJB	Cree Board of Health & Social Services of James Bay
CHR	Community Health Representative
CLSC	<i>Centre local des services communautaires</i> (Local Community Service Centre)
CPDP	Council of Physicians, Dentists, and Pharmacists
CRA	Cree Regional Authority
Cree Region	(a.k.a. Eeyou Istchee). The CBHSSJB, or MSSSQ Region 18 (formerly 10b), has jurisdiction for the nine Cree communities on federal land while Region 10 is responsible for the Québec municipalities within Eeyou Istchee. However, in practice, the service boundaries between the two do not in all cases conform.
DGNQ	Direction générale du Nouveau-Québec
DIAND	Department of Indian Affairs and Northern Development (a.k.a. Indian Affairs, INAC)
DM1, DM2	Diabetes Mellitus Type 1, Type 2
dmf(t)	Index of Decayed, Missing and Filled Teeth
DNHW	Department of National Health and Welfare (now Health Canada)
DSC	<i>Département de santé communautaire, Hôpital général de Montréal</i> (Public Health Department of the MGH)
Eeyou Istchee	Cree language term for the Cree Region meaning “the People’s Land” (a.k.a. Iiyiyiu Aschii). Defined as all lands in the eastern James Bay watershed.
EM-1-A	Eastmain-1-A Powerhouse and Rupert River Diversion hydro project.
FAS	Foetal Alcohol Syndrome (with Foetal Alcohol Effects – FAE)
GCC(EI)	Grand Council of the Crees of Eeyou Istchee (formerly .../ of Quebec)
GDM	Gestational Diabetes Mellitus
HBC	Hudson Bay Company
ICD	International Classification of Diseases
IGT	Impaired Glucose Tolerance
IHD	Ischemic Heart Disease
ISP	Income Security Programme (for Cree Hunters and Trappers)

INSPQ	Institut national de santé publique du Québec (National Public Health Institute of Québec)
IQA	Indians of Quebec Association (Predecessor of Assembly of First Nations - Quebec and Labrador)
ISQ	<i>Institut de la Statistique</i> (More recently: <i>Institut national de la statistique du Québec</i>)
JBNQA	<i>James Bay and Northern Quebec Agreement</i> (1975)
LG	La Grande hydro project (the great project of the 1970s)
MADO	<i>Maladies à déclaration obligatoire</i> (MSSSQ's mandatory disease reporting system)
MAS	<i>Ministère des Affaires Sociales</i> (predecessor of the MSSSQ)
MCH	Montreal Children's Hospital
MED-ECHO	The MSSSQ's data base for curative and diagnostic hospitalisation acts.
MGH	Montreal General Hospital
MSB	Medical Services Branch of Health Canada (Recently renamed First Nations and Inuit Health Branch or FNIHB)
MSSSQ	<i>Ministère de la santé et des services sociaux du Québec</i>
NIHB	Non-Insured Health Benefits
NNADAP	National Native Alcohol & Drug Awareness Programme
O&M	Operations & Maintenance (budget component for recurrent operations costs)
Paix des Braves	"Peace Among Braves", the recent agreement between the Crees and the Quebec parties to the JBNQA, establishing a "new relationship, permitting the EM-1 project and guaranteeing Cree benefits from the project, while also settling certain economic development differences of opinion.
Public Health Department	Public Health Department of the Cree Territory of James Bay, CBHSSJB
RAMQ	<i>Régie de l'assurance-maladie du Québec</i> (Québec Health Insurance Board)
SAGMAI	<i>Secretariat des activités gouvernementales en milieu amérindien et inuit</i> (predecessor of the <i>Secretariat des affaires autochtones</i>)
SEBJ	<i>Société d'énergie de la Baie James</i>
Section 14	Section 14 of the JBNQA (establishes a Cree Region under Cree administrative control, and among other things, requires a Cree Health Board to be created to administer one of Québec's health services administrative regions.
SMR	Standardised Mortality Ratio.
SRP	Strategic Regional Plan
STI	Sexually Transmissible Infection (a.k.a. STD - /... Disease)
TB	Tuberculosis
WHO	World Health Organisation

Chapter 10 - Introduction to Volume 2

10.1. Volume 2 in Context

Volume 2 of *The Evolution of Health Status and Health Determinants in the Cree Region (Eeyou Istchee)* contains the detailed statistical and historical policy analysis upon which the observations and conclusions of Volume 1 are based. As a result, the chapters in Volume 2 have the same content as their summary chapters found in Volume 1:

	<u>Volume 1</u>	<u>Volume 2</u>
Health determinants	Ch. 4 & 5:	Ch. 11
Health status	Ch. 4 & 6:	Ch. 12
Health services	Ch. 7 & 9:	Ch. 13

Volume 2 can be used as a stand-alone reference document for persons interested in the details of the three analyses that are found here: the evolution of health determinants in the region, the evolution of the health status of the Cree Region's population, and the arrival and subsequent development of the Cree Region's health services.

Our intent is that Chapters 11, 12 and 13 will serve as a benchmark for future assessments of changing health determinants, health status and health services. As well, they will provide baseline reference material for subsequent research projects, public health planning and CBHSSJB planning.

Undoubtedly, the surveillance chapters analysing health determinants and health status will be of immediate interest to many people because of the general paucity of such comprehensive overviews for Aboriginal groups in Canada. And the intent is to keep the sections of these chapters updated on the website with all new materials as they become available.

Over the long-term, it is likely that historical analysis of the evolution of health services found in Chapter 13 will become invaluable. And it is for this reason that Andrew Webster, who drafted the original contents, has dedicated his work to all current and future Cree youth to encourage them to use it as a tool for understanding their own unique, Cree civics. Very little has been written about the development of this first, and only, 'experiment' in self-determination and in transferring responsibility for First Nations health to a province. The three decades following 1970 were tumultuous for all the stakeholders, but from this turmoil arose impressive improvements in the populations' health and in the availability of health services. However, recent years have seen the development of an epidemic of chronic diseases which, unless new approaches are developed, will soon reverse former improvements in life expectancy.

10.2. Organisation of Volume 2

Volume 2 is organised into three parts with several appendices and the bibliography which is copied from Volume 1.

Chapter 11 - Health Determinants,
Chapter 12 - Health Status,
Chapter 13– Evolution of Health Services

Chapter 11 presents the detailed analysis of the evolution of determinants of health in the Cree Region between 1970 and 2003. Chapter 12 presents the analysis of the evolution of the health status of the population during the same time period. Chapter 13 is a long report detailing the evolution of health services in the Region. The detailed discussion of the methodology behind these analyses is found in Chapter 2 of Volume 1. As well, Chapter 13 has a methodological discussion in its first section. Three appendices follow: drinking water and waste water facilities in the Cree Region; historical tables of morality and hospitalisations; and a details of diagnoses for hospitalisations by community, 2000-2001

10.3. Approach to Chapters 11 and 12–Health determinants and health status, 1970-2003

Chapter 11 examines the evolution of the context of health determinants which influence the changes in Cree health status. The relevant period comprises the years after the development of the James Bay hydro project commenced in earnest. Particularly, during the early years of this period, the socio-economic landscape changed rapidly and profoundly, and the Crees were catapulted into the modern age through association with the centres of power – the hydro authorities, the courts and the decision-making levels of both the federal and provincial governments.

In the future, when it is time to consider analysis of the actual health and social impacts of EM-1-A, what took place during the period between 1970 and the present 2003 will serve as an important benchmark against which to understand the new changes. With this goal in mind, Chapters 11 and 12 will be made available on the soon-to-be-completed, CBHSSJB website. Once this happens, they will be regularly updated in the spring and the fall of each year, so that as new data becomes available, it will be added to the existing profile.

Our examination of health status and health determinants adheres to the longitudinal and evidence-based methodological approach explained in detail in Volume 1, Chapter 2. Specifically, it is structured according to a **population health / health determinants framework**¹. In Chapters 11 and 12, the organisation of the material follows that found in Chapter 4.

Chapter 11 is the detailed analysis of the evolving status of health determinants. This chapter includes sections on:

- Physical environment
- Social environment
- Employment, occupation and income
- Education
- Personal health practices
- Health of mothers and infants
- Children's health

Chapter 12 presents the analysis of health status according to traditional health status indicators. It is organised in six sections:

- Mortality and morbidity
- Chronic conditions
- Enteric and vaccine-preventable diseases
- Sexually transmitted and blood borne diseases

¹ <http://www.who.int/hia/evidence/doh/en/index.html>

10.4. Approach to Chapter 13 – Evolution of Health Services

Chapter 13 is an historical description of the development of health services in the Cree Region. The overall approach taken is explained in detail in Volume 1. Because many of the data in Chapter 13 are qualitative and descriptive in nature and derive from historical files, the Introduction to Chapter 13 contains supplementary notes on methodology as well as definitions of key terms. Chapter 13 is presented in its entirety in order to have a written document of the events described. While a more complete access to documents, or the benefit of the the collective memory of others involved in these events, would undoubtedly provide a more complete overview, the present document is intended as a record that will hopefully encite other complimentary versions of the same events.

The term ‘health services’ is used to include both health and social services and health and social programmes.² This is consistent with **population health / health determinants framework approach**, it is closer to how the Crees conceptualise health ‘services’, it is logical since it is impossible to separate the human impacts of development projects which can be both medical and social in character; and it fits with and health and social services in the Cree Region have been governed by a common health and social services board since the late 1970s.

Chapter 13 concentrates on the same recent period between 1970 and 2003-4 as Chapters 11 and 12 but it also examines the earlier historical factors which shaped the services environment in 1970. Indeed, the legacy of these factors is often still felt today.

The study team recognises that the statistics, and descriptions of services, that begin in the 1970s must be understood in proper historical context. In 1970 the socio-economic landscape, and the division of legal and administrative responsibilities of governments, were different to the point of appearing alien to the modern observer. It is necessary to understand in historical context the state of Cree health in 1970, which, although poor when measured by today’s standards, had already seen considerable improvement in large measure due to vigorous government interventions.

Chapter 13 therefore provides an historical context for the interpretation of the data in Chapters 11 and 12 4. The overall analysis of all of this is found in Volume 1. Yet the overall role of Chapter 13 is greater. It also relates the development of health services – and to the extent possible the growth in caseloads – to the changing socio-economic environment. This is because health and social services have the primary role, among service providers, in dealing with the human consequences of economic development. They feel impacts in terms of changing caseloads. They must re-orient their services and efforts as the socio-economic realm evolves. Their revenues and expenditures face new pressures. To the extent possible, Chapter 13 relates the changing demand for services with the evolving socio-economic environment. This involves isolating, again to the extent possible, the spatial impacts of developments upon the widespread service delivery points in the region.

Chapter 13 takes a critical look at the organisation and efficacy of regional services today. It also considers the joint Strategic Regional Plan, of the CBHSSJB and the *Ministère de la santé et des services sociaux du Québec* (MSSSQ), which over the next few years will re-organise and improve the regional

² There are administrative differences between a programme and a service.

health and social services. The regional services in the 1970s were rudimentary and sometimes not present at all. Today they are sophisticated and reasonably comprehensive. It stands to reason that properly equipped services will have a key role in avoiding, minimising, and addressing future human impacts arising from development projects.

Chapter 11 – Detailed Analysis of the Evolving Status of Health Determinants, 1970-2003

11.1. Physical Environment



Distance (KM) ³	Mistissini	Chibougamau	Matagami	Nemaska	Chisasibi	LG 2	Val D'Or
Chibougamau	90						
Matagami	661	571					
Nemaska	384	294	392				
Chisasibi	916	826	684	532			
LG 2	796	706	620	464	120		
Val D'Or	410	320	252	644	936	872	
Montreal	790	700	823	1215	1507	1443	571

³ Map from the website of the Grand Council of the Crees. Mileage chart is modified from *Medicine and the Cree of James Bay* by CBHSSJB. Both are reproduced from Schnarch (2001).

11.1.1. Profile of the Cree Communities¹

Chisasibi Population in 2003: 3,559

Chisasibi, the largest of the nine Cree communities, is located near the mouth of the La Grande River. Its original site was on Fort George Island opposite the present mainland site. The community was relocated due to changing water levels associated with the La Grande project. Between 1979 and 1980, many of the houses, churches, and other buildings were relocated to the current site where they were arranged mostly in clusters. Chisasibi Hospital Centre was built in connection with the relocation. In 1993, additional CMHC-funded houses were arranged in rows, and a new development was built on the west side of the community.

Chisasibi is accessible by road, by water (James Bay), and via Air Creebec service six days per week. Families living on the land during the winter months have cabins. They can be reached by bush radio. The camps are accessible by land or by air, depending on the season and the location.

Eastmain Population in 2003: 593

The smallest of the coastal communities, Eastmain is located at the mouth of the Eastmain River, adjacent to James Bay. The area was the site of a trading post in the early 1700s; the present community began around 1962, at which time a federal nursing station was built. Eastmain was very isolated until the signing of the JBNQA. It was little influenced by southern lifestyles. Until fairly recently it was provisioned by sea, and later by air also. Eastmain became accessible by year-round road in 1995.

Mistissini Population in 2003: 2,850

This community is located on Lake Mistassini, approximately 89 km north of Chibougamou and 600 km northwest of Quebec City. Crees have resided in the area since time immemorial. The present location was at once the site of a Hudson Bay Company (HBC) trading post. For this reason it became a summer encampment for the people starting in the 1800s. In the 1930s, hunting groups from the vicinity but also Nitchiquon, Neoskwekaau and even Nemaska came together to make up the population of Mistissini (spelled with an “i”). Mistissini has had a health centre since 1954, when the federal government first provided one.

Six bush camps, comprising 58 families, are linked to this community. All are easily accessible from the community with four of the camps located within 15 km.

Nemaska Population in 2003: 578

Nemaska was originally established in the late 1800s at the site of a Hudson Bay Company post. The village was abandoned in 1970 for a variety of reasons. These included isolation (access only by air or canoe), lack of employment, and the closing of the trading post. The inhabitants dispersed to the surrounding villages. They continued to return to the Nemaska area to hunt and trap, and gradually developed a desire to re-establish their community. The present village located on Champion Lake stems from an amendment to the JBNQA in 1977. It is about four hours by road from Matagami and 3½ hours from Val d’Or. The first houses were built during 1980/81 with materials brought in by ice road. Year-round road access came in the mid-1980s. Air Creebec who operates from Hydro-Quebec’s nearby Nemiscau airstrip also serves the community. A clinic was opened in 1981.

Oujé-Bougoumou Population in 2003: 588

Oujé-Bougoumou is one of the four inland communities. It is located on Lake Opemiska about 60 km west of Chibougamau. The Oujé-Bougoumou Crees were dispersed in Mistissini, Waswanipi, and in

houses along the highways until the present community was formed in 1992. The local clinic was built in connection with the opening of the new, modern village. Oujé-Bougoumou is situated on one square mile of provincial land. Negotiations are underway to achieve a legal status similar to that of the other Cree communities.

Waskaganish Population in 2003: 1,796

Waskaganish is situated at the bottom of James Bay along the Rupert River, about 339 km by road north of Matagami and 750 km by air from Montreal. Historically it was a gathering area for Crees during the summer and eventually the site of an HBC post. The site grew into a small village during the period 1949-1951. This is when Indian Affairs provided the first houses, and when various government incentives and disincentives prompted families to take up permanent residence near the post. Until an all-weather road was opened in 2000, access was by mainly by air and winter road. Barges from Moosonee (Ontario) brought heavy supplies and equipment.

Waswanipi Population in 2003: 1,296

Waswanipi is located on Highway 113, three hours by car from Val d'Or and 1½ hours from Chibougamau. The hamlet of Desmaraisville is fifteen minutes away by car. Although Crees have lived in the area since time immemorial, the present community has is about 29 years old. A clinic was built in 1980 in connection with the construction of houses and an access road.

Wemindji Population in 2003: 1,169

Wemindji is located on the shores of the Maquata river, about 95 km from Eastmain (to the south) and Chisasibi (to the north). The nearest large municipality is Matagami, about 600 km to the south. Before 1959, the Wemindji Crees lived in Old Factory, about 50 km to the south. Indian Affairs relocated the community because of a lack of space and a scarcity of good drinking water. A clinic was built in connection with this relocation. Bush camps extend along the road to Old Factory. Many are within easy distance of the village, so that people can return to pick up groceries and other necessities.

Whapmagoostui Population in 2003: 770

Whapmagoostui is approximately 1,400 km north of Montreal. It is the most northerly of the Cree communities covered under the JBNQA. Whapmagoostui is located where the Great Whale River flows into Hudson Bay. The site was the locale of a trading post that opened in 1901. During the Second World War it served an emergency alternative to the Churchill airstrip and later as a military radar station. Originally, Cree hunters visited the post only in the summer or at other times just to trade. It was only with government pressures to send children to school, and a changing fur market, that families began to settle around the post. The traditional way of life remains very important to the community. About a third of families spend months on the land each year.

Whapmagoostui is adjacent to the Inuit village of Kuujjuarapik and a settlement of non-Aboriginals at Poste de la Baleine. With no road, access is by air and barge.

11.1.2.Road Access to the Communities

Road access can influence health in ways direct and indirect. Its most obvious effect is in facilitating access to health services outside the community. Indirectly, road access may also affect hunting activities, diet (greater availability of “southern” foods), alcohol use, transmission of STIs and other communicable diseases, and injury patterns (e.g., fewer drownings as vehicles replace boat transport).

Over the past thirty years, development in the Cree Region has brought roads to communities that were formerly independent. In 1983/84 only Waswanipi, Mistissini, Nemaska and Chisasibi had all-season roads. Waskaganish, Eastmain, and Wemindji had winter roads only. Whapmagoostui was accessible only by air or water.² Today all the communities have year-round road access except Whapmagoostui.

Road Access to the Communities of the Cree Region ³		Year-round road as of...
Community	Notes	
Chisasibi	Historically this Cree community (former Fort George) was located on an island. As a result of changing water levels associated with the La Grande project, it was relocated to its current site in 1980. This site has had road access since the 1970s.	1980
Eastmain	First all-season road in 1995. Winter roads before then.	1995
Mistissini	Year-round access since at least the early 1970s.	<1970
Nemaska	Ice road since 1977 (the community was established on its present site in the early 1980s). ⁴ There is road access to the airstrip and hydro substation, which unfortunately were located on the opposite side of Champion Lake from the community itself. All-season road connecting Nemaska to the outside world since the mid-1980s.	Mid-80s
Oujé-Bougoumou	The community has had road access since its establishment ca. 1994.	1994
Waskaganish	Construction of first all-season road began in 1998 and was completed in 2000. Winter road before then.	2000
Waswanipi	In the 1960s, the present inhabitants lived in three locations along roads or railway lines. The present community was built along the highway.	<1960s
Wemindji	First all-season road in 1995. Winter road previously.	1995
Whapmagoostui	The most northern of the Cree communities, adjacent to the Inuit community of Kujuuarapik. Accessible by air or water. Heavy materials are brought in by sealift during the summer.	None

11.1.3.Housing

Up to the 1950s, except for certain families who lived year-round in coastal settlements, the Cree moved around on a seasonal basis throughout their hunting territories, and gathered at the posts in the warm weather months. Beginning around 1930 and continuing through the 1960s, a series of incentives gradually led more and more people to settle in the communities. These included mandatory school attendance for children and the increasing availability of social benefits such as welfare, housing, and medical care in the communities. As a result of historical patterns, some of the coastal communities are among the oldest in North America, while other communities, like Oujé-Bougoumou (built in the 1990s), are among the newest in Canada.

¹ Based on: Torrie and Moses-Petawabano (1999).

² Foggin and Lauzon (1986); Pelchat and Larson (1985).

³ Based on information provided by Jill Torrie, Public Health Department of Eeyou Istchee, and Andrew Webster, consultant to the Cree Health Board.

⁴ Pেকেles (1981).

There is little information on housing during the 1970s, but what there is suggests that conditions were poor in most communities. For instance, in a 1981 study of breastfeeding in Mistissini, Marshall noted that “The houses are crowded and in dire need of reparation. About 70% were built in the late 1960s by the federal government with little concern for conditions in the North.”⁵ In Eastmain, according to an investigation in 1980, few houses had refrigerators (although many had freezers for game), and most houses were 7-8 years old and heated with woodstoves.⁶

At the time of the *JBNQA*, people from Waswanipi and Nemaska were living in various places around the region, subsequent to the closing of their Hudson’s Bay Company posts. Following the JBNQA, new communities were built as projects stipulated in the JBNQA and its amendments: the people of Fort George were moved as a single community to the new location in Chisasibi. The Waswanipi people relocated from three locations to a new village at Waswanipi, and Nemaska was re-established at a new site on Champion Lake, with the first houses being built in 1981. For a time, this meant that people in Nemaska were living in semi-permanent tents with no electricity, clean water, or other facilities.⁷ But because of these relocations, for a while many of the houses in Chisasibi, Waswanipi and Nemaska were in new condition.

Predictably, figures from the early 1980s showed huge differences between the communities in the proportions of people who found their housing satisfactory. Outside of the two “new” communities, typically less than half the population considered their house comfortable.

Percent of Cree Who Consider their House Too Cold/ Comfortable, 1983-84 ⁸		
	House cold	House comfortable
Chisasibi	-	94
Eastmain	31	33
Mistissini	50	32
Nemaska	5	77
Waskaganish	29	53
Waswanipi	25	47
Wemindji	8	50
Whapmagoostui	71%	9%

Percent of Dwellings that Are Said Not to Meet the Needs of Residents – 1991 Aboriginal Peoples Survey ⁹	
Chisasibi	61%
Eastmain	44%
Mistissini	31%
Nemaska	25%
Waskaganish	48%
Waswanipi	25%
Wemindji	40%
Whapmagoostui	40%
Eeyou Istchee	42%
Quebec Aboriginal	21%
Cdn Aboriginal	20%
Represents people who said “not at all” in answer to the question “In your opinion, how well does this residence meet the needs of the people living here? Completely/partly/not at all.”	

In 1991, one quarter to one half of all dwellings were considered unsatisfactory by their residents, and the situation in Chisasibi having deteriorated over time. (Since the average number of persons per room in Chisasibi decreased slightly over this period, the dissatisfaction appears to reflect the houses' state of repair rather than the crowding.). Housing in Eeyou Istchee compared poorly to that of other Aboriginal people in Canada.⁴

One possible cause of dissatisfaction with housing is crowding. This is an aspect for which fairly consistent data are available over time. Two measures are common: the number of persons per room, and the number of persons per household. The 1991 figures for the Cree Region compare unfavourably to averages for other Aboriginal people in Canada and Quebec (although it must be remembered the latter numbers would include people living in urban areas as well as in communities). And the Cree figures are far higher than averages for non-Aboriginal people. However, there seems to have been substantial progress over time: in 1986, over half the dwellings had more than one person per room; by 1996, this was true of only ¼ of all dwellings.¹⁰ In 1986, Lavallée and Schaefer noted that the inland communities were more crowded than the coastal ones, at 1.0 persons per room vs. 0.5. This contrast is no longer so obvious in the later figures (see tables by community below).

Despite the improvements over time, housing shortages and crowded housing remain serious issues. The most recent assessment of the regional housing needs suggested an urgent requirement of 1,400 units additional to the current (2003) stock of 2,678 social units.⁵

Social housing is extremely important in most Indian communities situated on federal land. Legal conditions, which prevent freehold ownership of land, make it difficult to obtain financing to build homes. A comparatively high proportion of non-employed and under-employed adults, and a young population, means that many families are unable to afford housing unless it is government-built and offered free or subsidised.

Housing subsidies since the early 1980s have supported only one-half of the growth resulting from new family formations. The number of houses and the condition of the housing stock depend upon several factors: (a) the capital funding available; (b) the operations and maintenance funding budgeted; and (c) the planning efficiency of the local administration. Weather, long road distances, and lack of local sources of materials contribute to a situation in which demand outpaces supply. Additionally, the band councils responsible for local social housing must sometimes make hard decisions about whether to apply scarce capital funding towards housing or essential community infrastructure such as sewage and water supply. The challenges in Whapmagoostui are compounded because construction materials arrive by barge.

In addition to overcrowding problems, a substantial proportion of houses in the Cree Region are in need of major repairs (meaning repairs for structural problems or for defective plumbing or wiring): in 1996 almost a quarter needed repairs, compared to just 8% throughout Quebec.

⁴ Data are from Statistics Canada's 1991 Aboriginal Peoples Survey. The comparison is not entirely fair, in that the figures for other Aboriginal people include those living off-reserve.

⁵ As a point of comparison, the Department of Indian Affairs estimates that there are 93,500 houses in First Nation communities across Canada but 115,000 households, i.e. there is a backlog of 21,500 houses (figures provided by Mr Fred Smith, Indian and Northern Affairs Canada, April 13, 2004). In other words, to meet demand, the housing stock would need to increase by 23% over current levels. The comparable proportion for social housing in the Cree territory (1,400 divided by 2,678) would be 52%.

Average Number of Persons per Room and Percentage of Dwellings with More Than One Person per Room, Eeyou Istchee, Quebec on-reserve First Nations and Quebec total, 1981 to 2001 ¹¹						
Territory	Average number of persons per room					% of dwellings with more than one person per room 1996
	1981	1986	1991	1996	2001	
Chisasibi	1.1	1.0	1.0	0.9	0.9	31%
Eastmain	1.0	1.0	0.9	0.9	0.8	26%
Mistissini	1.2	1.3	0.9	0.8	0.7	25%
Nemaska	1.1	1.1	0.9	0.7	0.7	12%
Oujé-Bougoumou	-	-	-	0.7	0.6	8%
Waskaganish	1.3	1.3	1.0	0.8	0.8	24%
Waswanipi	1.4	1.2	0.9	0.8	0.7	15%
Wemindji	1.2	1.2	1.2	0.9	0.8	28%
Whapmagoostui	1.2	1.4	0.9	0.9	0.8	18%
Eeyou Istchee	1.0-1.4	1.0-1.4	0.9-1.0	0.8	0.8	24%
Quebec on-reserve FN	NA	0.9	0.6	NA	NA	NA
Canadian FN on-res			0.8	0.7		19%
Quebec total	0.5	0.5	0.4	0.4	0.4	1%

Average Number of Persons per Household, Eeyou Istchee, First Nations in Quebec and Canada, Canada Total, 1981 to 2001						
Territory	1981 (census)	1983-84 (survey)	1986 (census)	1991 (census)	1996 (census)	2001 (census)
Chisasibi	5.7	6.4	5.4	6.2	5.1	5.0
Eastmain	5.8	6	5.1	5.2	4.6	4.5
Mistissini	6.5	7.3	6.4	4.7	4.7	4.5
Nemaska	5.8	6.7	6.4	5.6	3.9	4.0
Oujé-Bougoumou	n/ap	n/ap	n/ap	n/ap	3.6	3.5
Waskaganish	7.8	7.1	6.4	5.4	4.6	4.2
Waswanipi	6.6	7	5.8	4.5+	4.6	4.2
Wemindji	7.2	6.7	5.9	5.8	4.7	4.2
Whapmagoostui	5	6.4	4.9	4.9	4.4	4.2
Eeyou Istchee	6.2	NA	5.8	5.3	4.7	4.4
Quebec First Nations				3.5		n.a
Canadian First Nations				3.5		n.a.
Canada	2.9		2.8	2.7	2.6	2.6

Percentage of Dwellings that Need Major Repairs, Eeyou Istchee, Quebec Aboriginal, Canadian Aboriginal and Quebec Total, 1981 to 2001 ¹²				
Territory	1981	1991	1996	2001
Chisasibi	25%	63%	30%	32%
Eastmain	27%	25%	22%	29%
Mistissini	37%	42%	21%	19%
Nemaska	11%	25%	20%	21%
Oujé-Bougoumou	-	-	19%	20%
Waskaganish	25%	75%	28%	25%
Waswanipi	36%	50%	18%	25%
Wemindji	21%	23%	23%	24%
Whapmagoostui	6%	15%	21%	26%
Eeyou Istchee	26%	46%	24%	25%
Quebec Aboriginal		20%	-	18%
Canada Aboriginal		20%	-	NA
Québec total	-	8%	8%	8%
“Major repairs” defined as defective plumbing or electrical wiring, structural repairs to walls, floors or ceilings, etc. Distinct from “minor” repairs which refers to things like missing or loose floor tiles, bricks or shingles, defective steps, railings or siding.				

11.1.4. Moulds and Indoor Air Quality

People typically spend approximately 90% of their time indoors. Those people who do may be most susceptible to the adverse effects of air pollution – young children, the elderly and the chronically ill – are those who tend to spend the greatest amount of time indoors. Therefore it is important to look closely at the types and levels of contaminants in indoor air. Moulds and their by-products are one such contaminant. These are of particular importance in homes with high humidity levels. Such homes have been the subject of concern in the Cree communities.

Moulds are common and persistent. The ones with potential adverse health effects can live for years as spores (dormant state) in dry conditions. To grow, however, the spores need moisture, warmth, still air, and a food source. Spores are therefore dormant when homes are dry. When the indoor humidity increases - due to conditions such as changes in outdoor humidity or seasonal basement seepage - the spores bloom and grow. There is no practical way to eliminate all growing mould and mould spores from the indoor environment. The best way to control indoor mould growth is to control the moisture level.¹³

There are many different kinds of mould. Depending on the species, moulds can produce allergens, toxins, and/or irritants. These can result in respiratory problems (asthma, rhinitis, alveolitis and other allergies), or decreased immunity. Also possible among sensitive individuals are headaches, eye and throat irritation, and fatigue.¹⁴

Approximately 210 houses were moved from Fort George Island to Chisasibi in 1979-80 and 90 new houses were built. After the relocation, engineers reported serious architectural, structural and ventilation deficiencies in the new homes. Some of the relocated houses were also found to have mould attributed to

water seepage and inadequate ventilation.¹⁵ Doctors received many complaints of illness. They sent letters to the Band Office reporting the problem. However, there was no money for making the necessary improvements.

In the mid 1990s, the Chisasibi Band and the CBHSSJB collaborated on qualitative and quantitative studies on the relationship between local housing and health. A survey of the scientific literature accompanied this project.¹⁶ The qualitative study revealed many housing problems which translated into health problems, most notably:

- odours and strong smells from septic tanks;
- presence of moulds from wet conditions; and
- sewage backup which had led to flooding of entire basements with raw sewage.

The quantitative survey revealed that over half of the houses had structural problems. There were an average of 7.2 people per house, often all sharing one bathroom. The health assessment was based on a questionnaire completed by the head of household. A strong association between the presence of moulds, and chronic and acute health problems, was observed. The authors recognised certain weaknesses in the survey methodology. However, they were able to reasonably conclude: “measures to reduce mould problems in houses are urgently required, and may lead to improved acute and chronic health of Chisasibi residents”.¹⁷

11.1.5. Fire Protection

Data from the APS show that three quarters of all houses in the Cree Region had a smoke detector in working order as of 1991.

Percent of Houses with a Working Smoke Detector, 1991 ¹⁸	
Chisasibi	72%
Eastmain	81%
Mistissini	71%
Nemaska	81%
Waskaganish	79%
Waswanipi	72%
Wemindji	73%
Whapmagoostui	90%
Cree Region	75%
Quebec Aboriginal	73%
Canada Aboriginal	70%

All of the Cree communities have fire protection services with modern equipment including a fire engine. Their effectiveness depends on the response time. Considerable delays are possible when volunteer fire fighters have to respond to siren and telephone alerts.

11.1.6. Water and Sanitation in the Cree Communities

11.1.6.a. Water and Sanitation Before 2000

Apart from fragmentary federal records of sanitary inspections in the 1960s and 1970s, there is little information on water quality in the Cree communities prior to 1980. Sanitation in traditional bush camps relied on established practices of waste disposal. These were predicated upon relatively few people in one place at any time, a seasonal change of locations, and a three-year cycle of rotation around the hunting territory. Sanitary standards in the more settled locales (i.e., the coastal communities) were not cause for concern in historical accounts.¹⁹ However, sanitary planning did not keep pace with the increasing numbers of people settling in the communities. By the 1970s conditions had begun to deteriorate.

When Indian Affairs began providing housing in the late 1940s, only the houses of non-Crees had piped water. Everyone else relied on outdoor latrines. As a consequence it was not unusual for local water sources to become contaminated. Later, Indian Affairs introduced standpipes but without any system of drainage or sewers. Gastro-intestinal outbreaks and skin infections were frequent according to historical records. Between 1975 and 1981, administrative confusion and jurisdictional disputes between different levels of government, surrounding implementation of the JBNQA, exacerbated the deterioration of sanitary infrastructure and services.

In 1980, four of the eight Cree communities experienced alarming gastro-enteritis outbreaks. Some infant deaths resulted (the exact number directly caused by the outbreaks is not certain). Pekeles documented the water supply in several communities during his investigation of this outbreak.²⁰ Although the investigation did isolate a specific strain of E. Coli, the main risk factors were identified as: poor water, sewage and garbage disposal; poor storage of water; poor hygiene during food preparation; low breastfeeding rates and use of contaminated infant formula. The contagion was amplified by frequent contact between the different communities. Detailed information exists about water supply in the communities that Pekeles and other clinicians visited at the time:

Sanitary Conditions ca. 1980: Waskaganish. Although the drinking water was clean at the source, it came from a communal faucet and was then stored in containers in each house and dipped with ladles. This led to almost universal contamination as shown in samples of the water from various houses. The site had poor drainage and the outhouses were located close to the dwellings. Consequently, the basements and the ditches around the houses - in which children played - contained contaminated water. Interim measures were instituted in 1981 as a result of the gastroenteritis outbreak. These included: door-to-door delivery of closed water containers with taps; cleaning of ditches; new outhouses; door-to-door visits by the new Community Health Nurse and a community worker; and an acceleration of the schedule for installing permanent water and sewage systems.

Sanitary Conditions ca. 1980: Nemaska. The residents, while awaiting the construction of permanent houses, lived in semi-permanent tents with no running water, no refrigerators, no protection against flies, and communal privies. The source of water was the lake, which was contaminated and garbage was being dumped on its shore. With no easy access to water, hygiene was poor, and skin infections in children were endemic. Infant formula was prepared once a day (in the morning) and necessarily left at ambient temperature all day. Following the outbreak, a new well was installed in 1981, and as the first houses went up they were connected to the water system.

Sanitary Conditions ca. 1980: Mistissini. All but 20 houses were linked to a water and sewage system but a break in it had gone unrepaired for several months. Individual taps were dirty and hygiene was poor.

Sanitary Conditions ca. 1980: Eastmain. As of 1980 there was a well, a pump station, and water treatment. These connected only to the nursing station, school, and teachers' houses while the rest of the community relied on two public taps. Although the water was safe, none of the residents would drink it because of its salty taste and its visible colour. The river was no longer used as a source of water "because of the increased salinity following changes in its rate of flow (apparently due to the building of dams for hydro-electric power)."²¹ Instead, people collected rainwater in barrels outside their houses and stored this in containers that were rarely cleaned. Most dwellings had outdoor privies. It was common to toss wastewater outside the door. A garbage dump was located about 2 km from the village, but since there was no garbage pickup, most people burned their garbage or dumped it around their house.

Sanitary Conditions ca. 1980: Wemindji. Only a few buildings were connected to a pumped system fed from a contaminated river. The local residents obtained their drinking water from sources such as open springs, a seldom-cleaned reservoir, rainwater, a small and contaminated lake, or one usually clean source located on an island. This had to be reached by boat. Water was usually stored in unclean containers. There was garbage collection but few people seemed to make use of it. Dwellings were in reasonable condition and had refrigerators, but they had outdoor privies.

The Quebec Region of Medical Services Branch (MSB) of the Department of National Health and Welfare (DNHW⁶) also inspected Wemindji. Its officials reached similar conclusions, outlined in a letter to the Chief:

*After our visit, we can say that the water points were not safe for drinking, and needed a special treatment before consumption, like manual chlorination or boiling. As to the outhouses concerned, most of them are not correctly built. For this point, we send you a copy to show how an outhouse should be built and used. The garbage collection seems to be working well. The collection was done on a twice-weekly basis.*²²

Condemnatory and credible inspection reports such as the ones cited above, coupled with media attention and lawsuits, resulted in major government investments in socio-sanitary infrastructure during the early 1980s. Robinson writes that, in the five years after the James Bay agreement, "the Crees have been able to build new houses with running water and sewage systems in all communities (Native people in remote reserves elsewhere in Canada have not been so successful in attaining funding)."²³

By 1983 and 1984 there are differing accounts of the water systems. The "Plasanouq" survey in June 1983 found that all residents of Whapmagoostui got their water from a truck that filled up at the river, while many residents of Wemindji did not have running water.²⁴ Beaulieu reports improved conditions: by 1984 all the communities had piped water. Five of the eight communities had sewage treatment and two of the remaining three had septic systems.²⁵ Garbage collection seems to have lagged behind water supply improvements. Only four of the communities had a garbage truck.²⁶

⁶ National Health and Welfare was renamed Health Canada in the mid-1980s.

Sanitation in the Cree Communities, 1984 ²⁷									
	Chis	East	Mist	Nem	Wask	Was w	Wem	Wha p	E.I.
Source of drinking water	Well	Well	Lake	Well	River	Well	Well	River	
Filtration plant	No	Yes	Yes	Yes	Yes	Yes	No	Yes	6
Water treatment	No	Yes	Yes	Yes	Yes	Yes	No	Yes	6
Piped system	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8
Sewer system	-	Yes	Yes	-	Yes	Yes	Yes	-	5
Septic systems	Yes	-	-	Yes	-	-	-	-	2
Compacting trucks	-	1	-	-	-	1	1	2	5

Percent of Cree Houses with Running Water, 1983-1984 ²⁸	
Chisasibi	100%
Eastmain	88%
Mistissini	94%
Nemaska	90%
Waskaganish	85%
Waswanipi	100%
Wemindji	70%
Whapmagoostui	0%

Method of Water Treatment Cree Region and Quebec, 1999 ²⁹		
	Cree Region	Quebec
Full treatment and additional treatments	0.0%	66.6%
Chlorination only	80.6%	13.0%
No treatment	19.4%	7.4%
No distribution system	0.0%	13.0%

By 1999 all the Cree communities had piped water and 80% of residents had access to treated water. In 2001, the firm BPR conducted a survey of water and wastewater facilities for the Cree communities.³⁰ In addition to the results summarised in the table below, the study made recommendations about drinking water supply systems (See following section *Wastewater Treatment and Waste Disposal in 2000*). The authors also noted that in three communities (Nemaska, Wemindji and Waswanipi) the water was not disinfected or treated in any way, nor was there back-up chlorination equipment in the event that disinfection was required. This was of particular concern in Waswanipi, which had had to issue boil-water advisories in some instances.

As a result of the BPR recommendations, training for operators has been increased, and the provincial (*Travail Québec*) certification programme for operators is being introduced as of 2004. Efforts to improve data collection are also underway. The Cree Regional Authority (CRA) is considering a plan for protection of wells and their recharge areas. All communities will soon have a chlorination system.³¹

Rates of waterborne diseases dropped contemporaneously with improvements in water and sewage systems. For instance, in the five years 1986-90, 154 cases of enteric disease were reported; but over the five years 1999-2003, only 35 cases were reported despite substantial population growth in the interim. Similarly, the death rate from infectious and parasitic diseases fell from five times the Quebec average in 1982-86³² to below the average in 1987-1992.³³ Other Registered Indians in Canada did not see comparable declines during the same period.³⁴

11.1.6.b. Water Supply vs. Actual Source of Drinking Water

One complication in assessing the impact of water supply on health in the Cree Region is that people do not always drink the tap water, preferring instead the taste of water from other sources. The 1983-84 Plasanouq survey took samples of the water that people were actually drinking. It found that the quality was good in Nemaska, Mistissini, and Waswanipi (where most households were drinking the tap water). People were using other sources in the other communities although the tap water was of acceptable purity. Well under half of the samples of what people actually drank were found to be safe. A survey of food habits in Chisasibi in 1984 found the same pattern. It noted that “most respondents do not drink tap water, drinking water is obtained from a variety of natural sources in the area.”³⁵ This pattern appears to have persisted. As of 1991, figures from the APS still suggested wide variation in where people were getting their drinking water, with many households apparently using several different sources. A study of breastfeeding over the 1998-2000 period showed that infant formula was often prepared with bottled water. This is because people did not trust - or did not like - the water from their taps.³⁶

Percent of Dwellings Using Various Sources for their Drinking Water, 1991 ³⁷					
	Municipal system	Community system	Surface water	Rain, snow, or dugout	Bottled water
Chisasibi	75	0	37	0	4
Eastmain	6	6	31	81	38
Mistissini	95				42
Nemaska		88			
Waskaganish	65	17	8		13
Waswanipi	38	47	3		19
Wemindji	87		83		10
Whapmagoostui	75		45		5
Que. Aboriginal	67	4	8	0	14
Cdn. Aboriginal	70	10	5	1	3
Note: blank cells indicate that Statistics Canada suppressed the numbers as being based on too small a sample to be trustworthy. Figures add to more than 100% for each community, presumably because some families are using several different sources of water.					

The systems described above serve the communities. With respect to hunting camps, drinking water comes from: nearby springs, lakes, or rivers and from snow. Outdoor privies continue to serve for excreta disposal. Efforts have been made in most traditional hunting camps to protect water sources from contamination. Their water quality there is considered by the families to be good. Tea is the most common drink at the hunting camps, ergo so the water is usually boiled. A few off-system supplies (e.g., springs found near roads) appear to suffer from poor protection and overuse, but these are not located at hunting camps.³⁸

11.1.6.c. Wastewater Treatment and Waste Disposal in 2001

A summary of the wastewater systems of the nine communities is presented in the table below. The BPR survey in 2001 made a series of recommendations regarding wastewater treatment systems. According to the report:

- Data collection on raw wastewater and treated effluent characteristics was inadequate, and little equipment was available for water analysis.
- Operators had only limited training in how to carry out water tests, and interpret and apply the results.
- Current as-built drawings and manuals of the systems were generally unavailable to system operators.
- There was little in the way of preventative maintenance programmes. A spare parts inventory was rarely available.
- There was inadequate technical support for designated operators.

As in the case of water supply, major efforts have been made since the BPR report to improve training, record-keeping, access to as-built plans, and water analysis.

Municipal solid waste is collected in the communities, compacted, and buried at in-trench disposal sites. In some communities the waste is burned in-trench. In others it is compacted and covered without burning. Wemindji has installed an incinerator for burning municipal solid waste, with in-trench disposal of the ash. Most communities sort their construction and demolition waste from household waste at the disposal site. They allow for salvage of usable construction material.

Monitoring of groundwater down-gradient from the in-trench disposal sites is carried out periodically in order to confirm that aquifer contamination is not occurring. Once a baseline analysis has been completed for a waste disposal site, the monitoring frequency varies from community to community, depending on the results of previous monitoring.

Several communities (Waskaganish, Wemindji, Oujé-Bougoumou, and Whapmagoostui) have programmes to divert hazardous household waste from the general waste-streams. The Band garages arrange with contractors for the collection of the used oil, and in at least one community (Waskaganish) a waste-oil fired boiler heats the Band's municipal garage.

11.1.7. Mercury Contamination

Inorganic mercury is naturally present in the environment. It is leached from soil and rocks. It can be emitted through volcanic eruptions or forest fires, and transported long distances by winds or ocean currents. Mercury is also emitted to water or to the atmosphere by certain industrial, waste-incineration, or coal combustion processes. Inorganic mercury is changed into methyl mercury (organic mercury) by bacteria. This methyl mercury concentrates in the food chain and can reach significant levels in fish and wildlife. This accumulation is particularly evident in water bodies directly polluted with industrial effluent containing mercury. This was the case of some paper mills in the 1960s and 1970s that used a

mercury-cell chlor-alkali process for chlorine production.³⁹ High mercury levels are also found in fish within newly formed hydro-electric reservoirs. This is due to increased methylation of mercury.

Human exposure to mercury has been an issue in the Cree territory since the early 1970s. Studies suggest that “background” levels of mercury present in the territory are in themselves sufficient to produce moderately high mercury levels in people who frequently eat fish. Onto this background level have been superimposed the possibility of exposure from industrial sources through effluent discharged to water or through long-range air transport, and the increases in mercury levels as a result of hydro-electric development. During the 1980s, fish from the La Grande complex reservoirs had three to seven times the mercury levels of nearby natural lakes. These levels are declining but concentrations in predatory species have not yet returned to background levels.

The following discussion begins with a history of mercury contamination in the Cree Region and a summary of the studies undertaken to assess mercury exposure and its potential health effects. It then presents what is known about the health effects of methyl mercury on adults, and on children exposed *in utero*, along with a discussion of national and international guidelines for mercury exposure. The final section assesses the levels observed in the Cree Region in light of information on health effects and recommended exposure levels.

11.1.7.a.Screening and Related Health Studies in the Cree Region Since 1970

Screening and Health Studies in the 1970s

Following the release of reports of mercury accumulation in fish downstream from the discharge of chemicals, MSB began monitoring mercury levels among the Grassy Narrows and Whitedog Ojibway in Ontario and among the Crees in Quebec. They subsequently extended the programme to Indian communities across Canada. The screening focused on people though most likely to be exposed to mercury (e.g., those living on the land) rather than on representative samples of local residents. Exposure was evaluated by measuring mercury levels first in samples of blood and, later, of hair. Clinical examinations were conducted of individuals judged to be “at risk” on the basis of their blood/hair mercury levels.⁷

National Health and Welfare in 1971 identified 22 out of 401 people in the Cree Region with blood mercury levels greater than 100 ppb. Among these people a maximum level of 341 ppb was detected.⁴⁰ Some neurological examinations were carried out but the neurologists were unable to directly link certain observed disorders to mercury exposure.⁴¹

The Quebec government in 1975 intervened by establishing the *Comité d’étude et d’intervention sur le mercure au Québec*. This committee examined the neurological health of 33 members of the Waswanipi and Mistissini bands, as well as 16 Algonquin from Lac Simon and Amos.⁴² The study (by Barbeau et al.) included individuals (Lac Simon and Amos Algonquin) who fished near the confluence of the Quévillon and Bell Rivers. This is an area directly affected by the Domtar chlor-alkali plant at Lebel-sur-Quévillon. This plant discharged mercury-laden effluent into Lac Quévillon during its operations in the 1960s.

⁷ A level of 100 ppb corresponds to a hair mercury level of approximately 25 to 30 ppm, depending on the conversion factor used. The DNHW considered an individual with a blood mercury level above 100 ppb “at risk” of adverse health effects. They therefore selected this concentration as the intervention threshold.

The *Comité d'étude* reported finding neurological disabilities among 14 of 49 Crees and Algonquin that were consistent with signs of methyl mercury intoxication (sensory disturbances, constriction of visual fields, tremors, and co-ordination problems). None of the non-Aboriginal people in the study were diagnosed with this set of conditions. Based on the overall neurological exam score and the severity of the symptoms observed, the authors concluded that at least six and possibly 25 of the 49 Cree and Algonquin individuals examined showed signs of methyl mercury poisoning.⁴³

The findings of Barbeau et al. were not considered definitive. This is largely because the researchers had not controlled for confounding factors such as age, alcohol intake, and nutritional status, and they had not been “blinded” to the methyl mercury exposure of the subjects.⁸ However, their study did trigger a lawsuit brought by the Waswanipi and Mistissini bands against industries in the region (i.e., Domtar and a coalition of mining companies). These firms in turn responded by commissioning health investigations. While no cases of Minamata disease were identified in the two resulting studies, some neurological abnormalities (including tremor) suggested that effects might occur at an exposure range of 60 to 100 ppb of mercury in blood.⁴⁴

In 1978, independent of the litigation, the McGill University Methyl Mercury Study Group commenced an epidemiological investigation. This examined the effects of mercury exposure in adults and in children exposed prenatally. In the adult investigation, a case-control study of mercury exposure was conducted on a total of 281 men and 311 women from Mistissini, Whapmagoostui, and Waswanipi. More complete neurological examinations were carried out for the people in Mistissini and Whapmagoostui. Following adjustment for age and alcohol use, the analysis showed a positive association between neurological abnormality and mercury exposure. This was statistically significant for Mistissini but not for Whapmagoostui.

In the children's study, 247 children (12 to 30 months old) from Mistissini, Waswanipi, Whapmagoostui, and Chisasibi were examined. Exposure was assessed by the maximum concentration in maternal hair for the period of one month before conception to one month after delivery. Mean exposure was 6 ppm in maternal hair with 6% of mothers having an exposure greater than 20 ppm. The maximum exposure was 24 ppm. The researchers found that abnormality of muscle tone or reflexes in boys was positively associated with the index of prenatal mercury exposure. They concluded that this condition was mild in severity and of doubtful clinical importance. They did recommend continued medical surveillance of the cohort. This follow-up was never carried out.

Screening and Surveillance Under the Mercury Agreement, 1982-1995

In 1982, annual screening of mercury exposure among the Crees began through a programme funded by the *Ministère des Affaires Sociales* and administered by the Montreal General Hospital's Community Health Department. The screening took place in all communities. It focused on those individuals most likely to be exposed to mercury. In the autumn of 1983, the department learned of a sharp increase in fish mercury levels in the Robert Bourassa (LG-2) reservoir of the La Grande complex. This had been impounded in 1979 and was subject to monitoring starting in 1981.⁴⁵ The discovery of high mercury levels led to the subsequent negotiation and signing of the Mercury Agreement between the Grand Council of the Crees, Hydro-Quebec, and the Quebec Government in 1986.

Subsequent to this, annual mercury screening programme was conducted within the framework of the Mercury Agreement. The CBHSSJB carried out this surveillance with the dual objectives of: (1)

⁸ In studies of this sort it is customary for the assessors to be “blind” to (i.e., ignorant of) the mercury levels of the subjects when they assess health status. This reduces the possibility of the preconceived views biasing the findings.

identifying individuals with levels of mercury potentially dangerous to their health in order to provide advice on limiting mercury exposure; and (2) tracking trends in mercury exposure, and describing differences in exposure according to age, sex, and community affiliation.⁴⁶ The screening programme included a component directed at prenatal exposure. This measured mercury levels in mothers' hair during pregnancy and in umbilical cord blood (in the case of babies delivered at three hospitals). The data from these annual screening campaigns were reported in annual reports and in numerous scientific publications.

Perrault,⁴⁷ using comparable portions of the database, found that mercury exposures increased from 1977 to 1984 but declined in 1988. The Mercury Agreement surveillance again assessed mercury levels in the population as a whole during the 1993/94 campaign. On the basis of the results, the authors concluded that exposures were lower in 1993/94 than in 1988. This applied both to groups as a whole and individuals examined. For example, the proportion of the Cree population with hair mercury levels in excess of 15.0 ppm declined from 14.2 % in 1988 to 2.7 % in 1993/94.⁴⁸ The decrease in mercury concentrations was found in all age groups and in all communities, in trappers as well as in non-trappers.

The decrease in methyl mercury exposure throughout the 1980s and early 1990s is probably attributable to both a sharp decline in fish consumption and a shift away from consumption of predator fish. However, Dumont et al.⁴⁹ recognised that the decline in fish consumption might quickly be reversed, as the result, for example, of an economic crisis or the absence of game. Such a change could quickly be manifested in hair-mercury concentrations of the population.

The mercury screening programme in the Cree communities came to a close in 1995 with the lapse of the Mercury Agreement. The James Bay Mercury Committee completed its mandate in 1997, including the publication of a final report. By the end of the programme, exposures were generally well below levels at which health effects had been observed.⁵⁰

The 2002 Oujé-Bougoumou Health Study

An environmental health survey was carried out in the communities of Oujé-Bougoumou and Nemaska during September and October 2002. This was in response to concerns about possible health effects of contamination from mine tailing operations near Oujé-Bougoumou.⁵¹ Nemaska, being an inland Cree community situated outside the mining area, was chosen as a control population. Exposures to various toxic elements were measured. This included mercury. Health and dietary questionnaires were administered. The study also measured a variety of health-related chemistry parameters. The researchers concluded that the health of the residents of Oujé-Bougoumou had not been directly affected by the presence of the mines.

Hair mercury levels in Oujé-Bougoumou and Nemaska were associated with the consumption of predatory fish. Comparing the levels of exposure in the two communities with the levels measured in 1993⁵² led to the conclusion that mercury exposures in all age groups have declined in the nine-year period. For men and women less than 40 years of age, over 90 % of exposures are below the Health Canada guideline for adults (6 ppm mercury in hair). However, a greater number of individuals in the over-40 age group exceed this standard (33% in Oujé-Bougoumou and 15% in Nemaska), with a maximum level of 13.9 ppm reported.

Mercury Exposures in the Cree Population *						
(Bold type indicates that Health Canada guideline of 6 ppm is exceeded).						
Year	Group (N=)	Mercury concentrations in hair (ppm)				Source of data
		50 th percen tile	90 th percen tile	99 th percen tile	Max	
1975	All communities, male and female > 4 yr. **	5.2	24	-	196	Medical Services Branch ⁵³
1988	All communities, male and female > 15 yr. (N= 3682)	3.9	17.5	36.8	91.7	Dumont, Noël et al. 1998 ⁵⁴
1993-94	All communities, male and female > 15 yr. (N= 2289)	2.5	11.1	23.3	42.2	Dumont, Noël et al. 1998
2002	Oujé-Bougoumou, male and female all ages (N=218) ***	0.8	4.3	-	13.9	Dewailly and Nieboer, 2003 ⁵⁵
	Nemaska, male and female all ages (N=97)****	0.3	2.7	-	8.8	Dewailly and Nieboer, 2003
<p>* The comparisons between the results of different authors are approximate, in that sampling for the surveys varied.</p> <p>** MSB's screening programme monitored mercury exposure by analysing blood samples. In the table, blood mercury levels have been converted to hair mercury levels using a factor of 3.3 : 1 (blood in ppb to hair in ppm), a conversion factor established within the MSB Screening Programme.</p> <p>*** This survey contained 54 individuals in Oujé-Bougoumou under 15 years of age, which lowers the overall mercury exposure results, as this age group is the least exposed.</p> <p>**** This survey contained 29 individuals in Nemaska under 15 years of age, which lowers the overall mercury exposure results, as this age group is the least exposed.</p>						

11.1.7.b. Health Effects of Methyl Mercury

Effects of Mercury on Adults

Considerable animal and epidemiological research into the toxicity of methyl mercury (the form of mercury that can significantly bio-accumulate in the food chain) has been conducted over the last three decades. This research is briefly summarised below in order to help assess the significance of the exposures among the Crees.

The relationship between exposure and effects in adults at high doses of methyl mercury has been established primarily on the basis of data gathered during major poisoning epidemics in Minamata and Niigata in Japan, and also during an epidemic in Iraq. Most of the dose-response information is derived from the second Japanese epidemic in Niigata. The fish in this case were highly contaminated by

industrial effluent. The Iraqi epidemic resulted from consumption of flour milled from methyl mercury-treated grain. In these epidemics, severe exposures (up to 1000 ppm in hair) were associated with clinical Minamata disease. The onset of symptoms was observed at exposures corresponding to approximately 100 to 200 ppm mercury in hair. The first symptom observed is normally paraesthesia (numbness in fingers). More severe effects manifest themselves as the dose increases. These include: constriction of visual field; ataxia (inability to co-ordinate muscle movements); hearing loss; and death.⁵⁶

On the basis of statistical analysis of the Iraqi data, the WHO estimated that an exposure of 50 ppm mercury in hair corresponded to a 5% increase in risk of paraesthesia. This estimate was sensitive to error in establishing the background population frequency of the condition. This frequency was not well known for the Iraqi population.⁵⁷ Kosatsky and Foran further investigated the validity of this estimate⁵⁸ with regard to exposures in subsistence fishing populations. In such populations, moderately high exposures have resulted from consumption of large amounts of fish having low to moderate levels of mercury.

Kosatsky and Foran noted that two studies, for which dose-response could be assessed, showed evidence of neurological dysfunction with rising blood mercury levels in the range of 60 to 120 ppb (15 to 30 ppm in hair). A third study “provided good evidence that chronic whole blood mercury levels up to 20 ppb [5 ppm in hair] are without apparent neurologic effect.” Considering all studies together, among 57 fish eating people with a blood mercury level greater than 200 ppb (50 ppm in hair), mild neurological effects consistent with methyl mercury exposure were found in as few as six individuals (11%) and as many as 15 individuals (31%).^{9,59}

Epidemiological studies since 1990 have investigated the neurological effects of mercury exposure in adults in the Amazon (Tapajós and Pantanal regions of Brazil). Fish consumption is widespread in these regions. Mean hair mercury levels ranged from approximately 5 to 10 ppm while maximum levels in the Tapajós were above 30 ppm.⁶⁰ Associations with neurological impairment were reported in these investigations, although the specific domains of impairment (different motor and cognitive tests) varied. The studies did not allow for the determination of a threshold for methyl mercury neurotoxicity.

The Health Canada guidelines and former WHO guidelines for adults recommend a maximum exposure of 20 ppb in blood (6 ppm in hair). These guidelines date to the early 1990s so they do not reflect the post-1990 epidemiological investigations in the Amazon. A recent revision of the WHO guideline by the Joint Expert Committee on Food and Agriculture (JECFA)¹⁰ set the recommended weekly intake at 1.6 µg/kg of body weight per week, thereby reducing the former guideline by a factor of 2. However, this new guideline was derived on the basis of epidemiological evidence for effects in children exposed *in utero*, not on the basis of effects in adults. The applicability of the revised WHO guideline to adults is not addressed in the document supporting the guideline revision.

Health Effects of Mercury on Children Exposed *in utero*

In the Iraqi and Niigata epidemics, severe effects in prenatally exposed children (blindness, deafness, and mental retardation) were associated with mercury levels above 100 ppm in the hair of the mother. No clinical effects were found at levels of 10 to 20 ppm in maternal hair. However, analysis of data for developmental milestones (walking, talking) suggested a population threshold of approximately 10 ppm for delayed walking. This finding created considerable concern in the international public health

⁹ The range of 11 to 31 % reflects uncertainty with respect to the level of exposure (in 6 cases) or the presence of other health conditions affecting the diagnosis (3 cases).

¹⁰ See p 18-22 of 61st meeting of JECFA, Rome, 10 to 19 June 2003 - Summary and Conclusions. <http://www.who.int/pcs/jecfa/Summary61.pdf>.

community because such exposures are common among frequent fish consumers. Thus, beginning in the late 1970s, a second generation of epidemiological studies began into the effects of prenatal methyl mercury exposure in fishing populations. The most important of these investigations, in terms of establishing dose-response relationships between mercury exposure and prenatal effects, were carried out in the Seychelles and the Faroe Islands. These were large prospective studies during which the children's development was followed over time.

In the Faroe Islands study, reduced performance on language, attention, and memory tests was associated with increasing methyl mercury exposure. In the Seychelles study no neuro-developmental effects were observed in the more highly exposed children. The contradictory findings of the two studies, both considered to be of high quality, challenged regulatory authorities responsible for setting guidelines. Several solutions to the conundrum have been applied by Health Canada, JECFA of the World Health Organisation, the US Environmental Protection Agency and the National Research Council of the US National Academy of Sciences, among others. These have all led to the estimation of a critical dose of approximately 10 to 15 ppm in maternal hair, reflecting prenatal exposures that would be without appreciable effects for children in the populations investigated.

11.1.7.c.Evaluation of the Cree Population's Mercury Exposures

How do mercury exposures in the James Bay Cree compare with the different agency guidelines and with the levels at which adverse effects are observed? This is an important question in the context of the planned Eastmain-1-A Rupert project, as modelling projects significant increases in the mercury levels of fish in the diversion bays. Specifically, concentrations in fish are expected to increase

- by a factor of 3 to 4 in the Cramoisy or Ile de l'Est diversion bays;
- by a factor of 3 in the Ile de l'Est diversion;
- by a factor of 4-7 in the EM-1 reservoir; and
- by a factor of 2 in the Opinaca reservoir.⁶¹

The most recent region-wide survey of mercury exposure took place in 1993/94. A representative sample of 1,772 individuals from all the communities was tested. The median mercury hair level was 2.5 ppm and the maximum level was 42.2 ppm. Over 10 % of individuals tested exceeded the Health Canada guideline of 6 ppm, thereby falling into the range that Health Canada characterises as "increasing risk". Older individuals generally had higher exposures (median of 4.4 ppm) than the younger generation. There was also considerable variation among communities. The highest mercury levels in hair were recorded for Whapmagoostui (median for all individuals of 3.6 ppm, maximum of 42.1). The 2002 survey in Nemaska and Oujé-Bougoumou documented the continued decline in mercury exposures, but found nonetheless that 15 to 30% of older adults still exceeded the Health Canada guideline of 6 ppm.

The 1993/94 survey showed that, among women of childbearing age, approximately 10% had mercury exposures above 3 ppm. The maximum level recorded within this group was 12.8 ppm. Among pregnant women during this time period exposures were generally at or below the detection limit of 2.5 ppm.⁶² This level corresponds approximately to the Health Canada guideline for women of childbearing age.

Cree exposures to mercury over the past 10 years have been well below the levels definitively associated with adverse effects. Some of these exposures - e.g., the case of some older adults - fall into a range that has not been well studied (exposures between 6 to 20 ppm Hg in hair). The margin of safety between exposure levels for adults, and the level at which adverse effects might occur, is clearly less than what Public Health authorities recommend. Any significant increase in the level of mercury contamination in

fish in would reduce this safety margin. On the one hand, Public Health authorities promote fish consumption in lieu of consumption of less healthy dietary alternatives such as processed foods. On the other hand, they warn against overexposure to mercury within fish. This paradox is compounded in a context where international guidelines for mercury exposure are increasingly strict.

11.1.8.Other Contaminants

Other environmental besides mercury could have significant effects on human health in the Cree Region. Here follows a brief review and commentary on the exposure of Aboriginal and non-Aboriginal communities to lead, other inorganic compounds,⁶³ and organo-halogens (organic compounds containing chemical bonds with chlorine, bromine or fluorine atoms, or a combination thereof).

11.1.8.a.Other Contaminants - Lead

The principal source of lead exposure among the Crees is through hunting with lead shot. This exposure is either from breathing in lead in gun smoke smoke, ingesting lead dust on the hands, or eating meat contaminated with lead fragments. Limited data from the 1970s indicate that exposures greater than 20 µg/l were once not uncommon.⁶⁴ Today, cases of lead exposure exceeding 10 µg/l (the level requiring legal declaration to Public Health authorities) occur on an occasional basis (see the table below). There appears to be considerable variation in lead exposure between communities.

Lead Levels Declared to Public Health Authorities, Region 18				
Note: except where otherwise noted, all cases were adults in Whapmagoostui.				
Year	Total cases declared	New cases	Already known cases	Comments
1999	6	4	2	Included 4 children; all children's values less than 1 micromole/L; 2 children detected in N. Willows' anaemia study; 2 others, aged 9 and 16, in Whapmagoostui.
2000	9	6	3	All adults.
2001	5	2	3	Includes one adolescent.
2002	4	At least 2		Declarable level 1.5 for adults and 0.5 for children under 18 years of age. Numbers include one adolescent.
2003, up to Nov.	22			Declarable level for adults changed from 1.5 micromoles/L to 0.5. Includes 2 adults from Mistissini. One adolescent.

11.1.8.b.Other Contaminants - Inorganic Substances

Within the 2002 community health study in Oujé-Bougoumou, human exposures to mine-tailing elements – arsenic, copper, selenium, and zinc – were measured and compared with the levels in a non-exposed population (Nemaska). The study found that residents of Oujé-Bougoumou were not at risk of internal (systemic) exposure to any of these elements. Cigarette smoking was the major source of cadmium in

both Oujé-Bougoumou and Nemaska. However, the possibility of some exposure through consumption of liver or kidney from game animals was not excluded.⁶⁵

11.1.8.c.Other Contaminants – Persistent Organic Pollutants¹¹

Persistent Organic Pollutants of Concern in Northern Ecosystems

During the last forty years, scientists have become concerned about a growing number of stable organic compounds (i.e., ones resistant to microbial and chemical degradation) that can be transported by air and accumulate in human tissue. Interest initially focused on DDT and its degradation products but has since broadened to include a variety of chlorinated organic compounds. These include the isomers of hexachlorocyclohexane (lindane), toxaphene, mirex, chlordane and oxychlordane, and nonachlor. A number of these compounds are no longer registered for use and are not being produced. Nonetheless they continue to appear in arctic air masses and they still bio-accumulate in northern areas. In addition, the original concern about specific pesticides has now been extended to other common products. These include fire-retardants containing bromine and a range of fluorinated compounds used in households.

Polychlorinated biphenyls (PCBs) have attracted special interest. PCBs were extensively used as a dielectric in electrical equipment. They also had applications in northern construction. For instance: they were used in window sealants, floor tile grouts, exterior oil paints, and sheathing for electrical cables. PCBs are no longer produced although they are still employed in electrical equipment. Like the other organochlorines noted above, they are widely distributed around the globe as a result of atmospheric transport.

Consideration of contaminants should also include the compounds known as dioxins and furans. These are now believed to have exquisitely sensitive genotoxic and carcinogenic properties. This class of compounds was originally associated with the production of certain pesticides, and also with high-temperature combustion processes (such as municipal waste incineration and metal refining). It now appears that dioxins and furans may be widely produced as a result of open-air combustion at relatively low temperatures. Burning of municipal waste, forest fires, and stubble-burning in agriculture are now suspected to be major potential sources of dioxins and furans. These are also considered sources of certain PCBs and hexachlorobenzene. However, these diffuse sources are very difficult to quantify, and their contribution to food supply contamination, and thus their contribution to human exposure, is not well understood.

Understanding Human Exposure to Persistent Organic Compounds

Much of our current knowledge about the contamination of terrestrial and aquatic ecosystems, and to some extent about human exposure, is derived from study of the Canadian Arctic and the Great Lakes region. Organochlorine contamination in the Arctic has been a concern not only in Canada but also in the United States, Greenland (Denmark), Norway, Finland, and Russia.

In the case of the Canadian Arctic, the concern has centred on northern hunting economies and in particular on marine mammals as a route of exposure.

In contrast, the Canadian boreal forest ecosystem – lying as it does between the Canadian arctic and the Great Lakes region – has received much less attention. Modelling of atmospheric transport, however, has

¹¹ This text is a non-technical treatment of a technically complex subject. Consult the bibliography for further reading. Note especially the final report of the Northern Contaminants Program (2003) and the Arctic Monitoring and Assessment Program (AMAP, 1998) Report.

demonstrated that compounds of higher molecular weight and polarity can be deposited into, and re-emitted from, forest canopy. There are persuasive reasons to believe that the boreal forest ecosystems in general may intercept and retain these compounds. This conclusion is supported by studies of organochlorines in lake trout across Canada.⁶⁶ It is also supported by a recent survey of DDT, DDE, PCB, HCB and transnonachlor levels in Nemaska and Oujé Bougoumou.

Information on organochlorine levels in wildlife is largely limited to surveys conducted by Hydro-Québec in the context of the planning of the Nottaway-Broadback-Rupert hydro-electric project. These surveys a decade ago found that DDT and its derivatives, chlordane, and PCBs were quite widely distributed in fish muscle. Chlorobenzene, mirex and hexachlorocyclohexane were found in liver samples and transnonachlor was also reported in fish muscle. Endosulfan, aldrin, dieldrin, methoxychlor, and octachlorostyrene were sought but not found. Hydro-Québec's investigation also included waterfowl (ducks, mergansers, Canada geese, brant). The survey found detectable amounts of PCBs, hexachlorobenzene, chlordane, mirex, dieldrin, DDT and its derivatives, hexachlorocyclohexane, and octachlorostyrene.

No information is currently available on contamination from brominated or fluorinated organic compounds in the Cree Region, or on persistent organic substances in terrestrial mammals.

Possible Sources of Persistent Organic Contaminants in the Cree Region

Mining operations have occurred over a half-century in the Chapais-Chibougamau region. There has also been a limited military presence in the form of a radar installation at Obalski Mountain.

The mining operations made extensive use of electrical equipment at a time when PCBs were in routine use. It is presumably also the case that PCBs were used at the radar establishments operated by the Canadian armed services. One also presumes that there would probably have been local use of pesticides for control of mosquitoes and other insects. Although there may have been some local contamination from these sources, there has apparently never been any formal assessment of PCB-related contamination from the mining or military activity.

Dioxins and furans would have been generated in the course of local combustion, of municipal waste for example. To this extent it is also possible that there is a local industrial 'signal' in the lakes of the Chibougamau region. This would probably involve the compounds with more chlorine atoms which seem to be associated with the burning of wood and paper products.

The limited available information suggests that persistent chlorinated organic compounds deserve more attention than they have received in the past. One also concludes that information is needed about the effects of these compounds and other halogenated substances on the lands and waters of the Cree Region. It also appears increasingly likely that advice to residents about fish consumption should take into account levels of persistent organic compounds as well as levels of methyl mercury.

11.1.9. Monitoring and Remediation of Contaminated Sites

The Cree Regional Authority has commissioned, particularly over the past decade, hundreds of soil and groundwater characterisation studies on Category 1 lands. The targets of these studies include known contaminated sites, remediated sites, tank farms, and former and current solid waste disposal sites.⁶⁷ The results have now been placed in a centralised databank (the Geo-referenced and Environmental Database in Cree Communities or GEDICC system). This allows for easier interpretation and use of the data.

None of the contaminated sites on Category 1 lands are considered a direct threat to human health at present. However, the motor vehicle filling station at Nemaska is problematic because of documented local soil contamination from an underground gasoline storage tank. This tank is situated about 75 m from the community water supply well. The well draws from a deep aquifer, and monitoring indicates that the hydrocarbon contamination has not affected the quality of this water.⁶⁸ Nonetheless the nearness of a potential contamination source is a non-conformity with accepted principles for the protection of wellheads. Past environmental assessments have strongly recommended relocating this filling station.⁶⁹

Endnotes – 11.1. Physical Environment

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- ⁶ Pekeles, G. (1981). Autonomous Native Health Services Government and University Hospitals. Unpublished MSc, McGill University, Montreal.
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- ⁹ Statistics Canada, Aboriginal Peoples Survey. Information from Community Profiles. The total for Eeyou Istchee was derived by adding the numbers for the individual communities, which had previously been randomly rounded by Statistics Canada, therefore it may differ slightly from what would be obtained from a custom tabulation off the original data file.
- ¹⁰ Sources: Census data for 1986 and 1996 drawn from Schnarch, B. (2001). Health and what affects it in the Cree communities of Eeyou Istchee: a compilation of recent statistics. Chisasibi: Cree Board of Health and Social Services of James Bay and from Lavallée, C. and Schaefer C. (1992). *The demographic and socio-economic situation of the Cree population: principal results of the 1986 census*. Northern Quebec module, Community Health Department, Montreal General Hospital. Rooms include bedrooms, kitchens and living rooms but exclude bathrooms, halls or sheds.
- ¹¹ Statistics Canada, Census data for the years in question. Data for First Nations in Canada from Indian and Northern Affairs Canada, *Comparison of Social Conditions 1991 and 1996: Registered Indians, Registered Indians living on-reserve and the total population of Canada*. Cat. R32-163-2000. Ottawa: Minister of Public Works, 2000. Available at http://www.ainc-inac.gc.ca/pr/sts/hac/socl_e.pdf.
- ¹² Statistics Canada, Census data. Figures for 2001 are Census data included in special tabulations prepared by Pierre Lejeune, Public Health Unit, Cree Board of Health and Social Services.
- ¹³ Quebec (2002).
- ¹⁴ *ibid.*; O'Neil (2000).
- ¹⁵ Gaston St. Pierre and Associates Inc. (2000), Annex 2, p. 16.
- ¹⁶ Harris-Giraldo et al. (1998).
- ¹⁷ O'Neil and Tate (2001).
- ¹⁸ Community Profiles from the 1991 APS.
- ¹⁹ Anderson (1961).
- ²⁰ Pekeles (1981a).
- ²¹ *ibid.*
- ²² Normand Turcotte, Interim Director Specialised Health Services, Medical Services Branch, Health Canada to Chief Walter Hughboy, dated 3 March 1981.
- ²³ Robinson (1985a), pp. 28-29.
- ²⁴ Foggin and Lauzon (1986).
- ²⁵ Beaulieu (1984).
- ²⁶ *ibid.*
- ²⁷ *ibid.*
- ²⁸ Foggin and Lauzon (1986).
- ²⁹ Pageau et al. (2003).

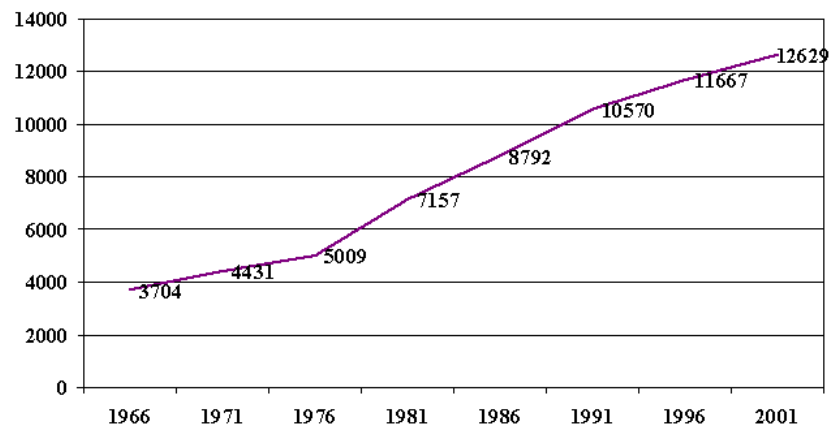
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- ³⁰ BPR, G.-C. (2002).
- ³¹ Mathieu, Louis, personal communication to Deborah Schoen, Cree Board of Health and Social Services. The document "Ensuring the Safety of Tap Water in Eeyou Istchee Communities" prepared by the CBHSSJB provides information on the water quality monitoring and recommendations. A third source of information on this subject is a recent memorandum by Mr. Alan Penn of the CRA, included in the above document. Mr. Mathieu Trépanier, Environmental Health Officer of the CBHSSJB and Cameron McLean of the CRA were consulted regarding drinking water quality and solid waste disposal, respectively.
- ³² Courteau (1989), pp. 51-52.
- ³³ Saint-Pierre (1995), p. 46.
- ³⁴ e.g., figures in Lemchuk-Favel (1996).
- ³⁵ Fortin and Gray-Donald (1984), p. 8.
- ³⁶ Willows and Johnson (2003b).
- ³⁷ Statistics Canada, 1991 APS. Note that the sampling frame for the survey was derived from the 1991 Census, which substantially under-counted residents of some communities. The figures should therefore be interpreted with caution.
- ³⁸ McClean, Cameron, CRA - Personal communication to Deborah Schoen, Public Health Department, February 2004.
- ³⁹ Robinson (1985a).
- ⁴⁰ Bernstein 1975 c.f. Canada (1979a).
- ⁴¹ Canada (1979a).
- ⁴² Barbeau et al. (1976).
- ⁴³ *ibid.*
- ⁴⁴ Kofman et al. (1979); Spitzer et al. (1988); Kosatsky and Foran (1996).
- ⁴⁵ Hayeur (2001).
- ⁴⁶ Kosatsky and Dumont (1991).
- ⁴⁷ Perrault (1992) c.f. Dumont, Noel et al. (1998).
- ⁴⁸ Dumont, Girard et al. (1998).
- ⁴⁹ Dumont, Noel et al. (1998).
- ⁵⁰ *ibid.*
- ⁵¹ Dewailly and Nieboer (2004).
- ⁵² *ibid.*; Dumont, Noel et al. (1998).
- ⁵³ Canada (1979a).
- ⁵⁴ Dumont, Noel et al. (1998).
- ⁵⁵ Dewailly and Nieboer (2003).
- ⁵⁶ Marsh (1987).
- ⁵⁷ IPCS-WHO (1990).
- ⁵⁸ Kosatsky and Foran (1996).
- ⁵⁹ *ibid.*
- ⁶⁰ Dolbec et al. (2000); Yokoo et al. (2003).
- ⁶¹ Schetagne (2000).
- ⁶² Dumont, Noel et al. (1998).
- ⁶³ The information in this section was provided by Alan F. Penn, CRA Science Advisor, 4 February 2004.
- ⁶⁴ Barbeau et al. (1976). Kosatsky, Tom - Personal communication to Jill Torrie, CBHSSJB.
- ⁶⁵ Dewailly and Nieboer (2004).
- ⁶⁶ Refers to work by Derek Muir under the Toxic Substances Research Initiative (TSRI) on organochlorine contamination in lake trout across broad latitudinal and longitudinal gradients in Canada.
- ⁶⁷ McLean, Cameron, CRA - Personal communication to Deborah Schoen, April 2004
- ⁶⁸ BPR, G.-C. (2002).
- ⁶⁹ McLean, Cameron, CRA - Personal communication to Deborah Schoen, CBHSSJB, April 2004.

11.2.Social Environment

11.2.1.Demographics

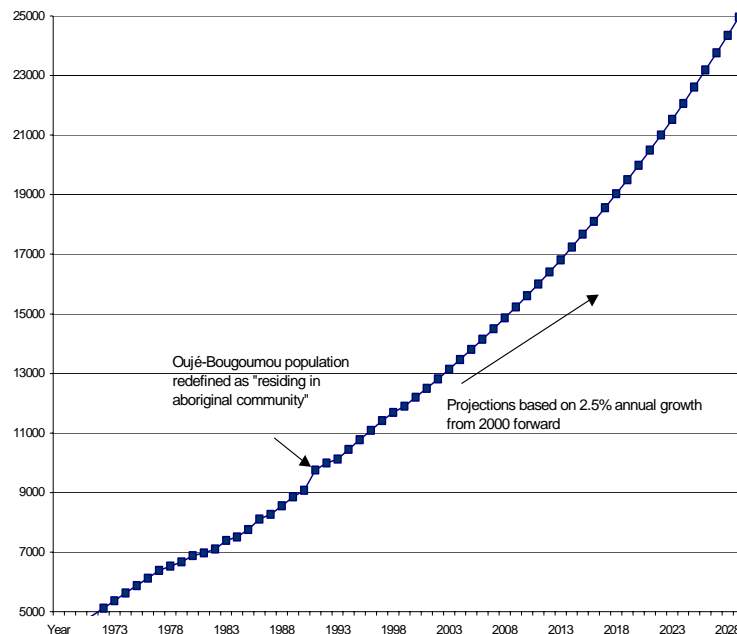
The Cree population of the Cree Region is growing rapidly although the pace of growth has slowed since the 1980s when it averaged about 3.5% per year. By the late 1990s, the rate of growth had fallen to 2.5% per year. This was still higher than the rest of the Province. The total of residents in the Cree Region tripled from 1966 to 1996 (3,704 to 11,667). If current trends continue the Cree beneficiary population will double again between 1999 and 2027.⁷⁰

Population of Eeyou Istchee 1966-2001



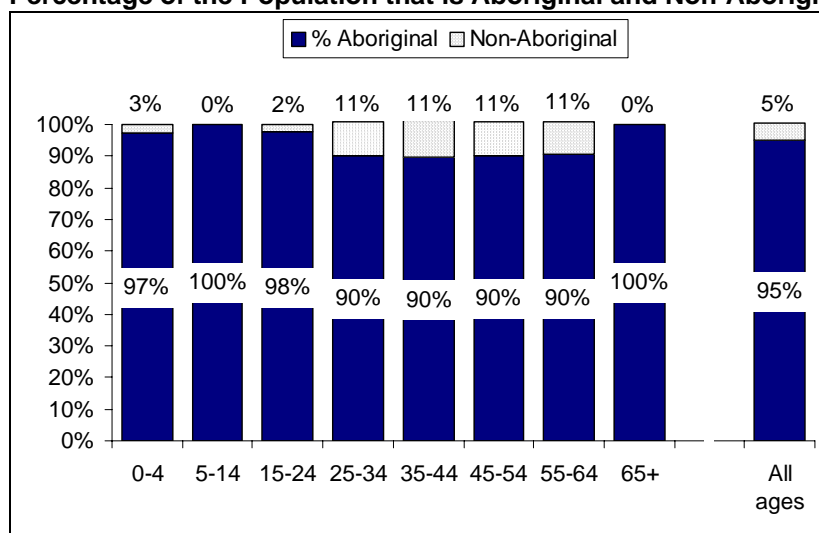
Figures for 1966-1976 and for 2001 are the original Census counts. Figures for 1981-1996 have been corrected for undercounting.
Sources: Schnarch (2002) p. 7, and Census data.

Aboriginal Population Resident in the Cree Region, 1969-2027 (2000-2027 PROJECTED).⁷¹



Cree Resident Population, Cree Communities, 1982-2003 According to the Beneficiaries List										
Year	Chis	East	Mist	Nem	Ouje	Wask	Was w	Wem	Whap	Total
1982	1855	319	1766	261		1021	784	699	397	7102
1983	1975	337	1803	265		1030	824	726	413	7373
1984	2007	335	1802	275		1093	835	752	413	7512
1985	2036	334	1857	336		1130	884	765	413	7755
1986	2199	350	1909	356		1143	908	797	446	8108
1987	2248	365	1900	359		1192	938	818	443	8263
1988	2331	377	2046	375		1240	915	815	458	8557
1989	2387	393	2131	404		1277	916	867	481	8856
1990	2478	409	2178	427		1293	905	891	497	9078
1991	2569	422	2217	442	456	1322	897	913	512	9750
1992	2644	438	2249	447	479	1365	922	935	516	9995
1993	2687	437	2258	443	477	1390	957	940	537	10126
1994	2798	460	2309	457	491	1437	982	572	943	10449
1995	2888	476	2384	469	501	1471	1017	988	586	10780
1996	2951	485	2426	488	527	1527	1054	997	632	11087
1997	3046	514	2491	509	513	1576	1096	1014	651	11410
1998	3088	543	2520	522	544	1623	1122	1050	680	11692
1999	3145	547	2554	540	558	1655	1138	1069	694	11900
2000	3199	572	2616	555	581	1686	1193	1077	726	12205
2001	3281	561	2704	568	577	1701	1203	1103	746	12444
2002	3338	594	2754	582	594	1743	1250	1130	761	12746
2003	3559	593	2850	578	588	1796	1296	1169	770	13199

Percentage of the Population that is Aboriginal and Non-Aboriginal, by Age. ⁷²



Source: 1996 Census.

Note: Excludes JBNQA beneficiaries living outside the 9 communities.

The Cree Region is 94% Cree.⁷³ The Census numbers suggest that most of the non-Cree residents are people who came for specific jobs, since they are primarily adults of working age and virtually none are children or adults over age 65.

Children now make up a smaller proportion of the Cree population than they used to. The population is nevertheless still overwhelmingly young. In 1979, 43% of the Cree population was under 15. By 2003 this had fallen to 34% - still a very high proportion as compared to the rest of Quebec. Conversely, only 5% of Crees are over the age of 65.

Proportion of the Cree Population Under 15 and Over 65, 1979 – 2003 ⁷⁴		
	Under 15	65+
1979	43%	4%
1985	38%	5%
1990	36%	5%
1995	35%	5%
2000	34%	5%
2003	34%	5%

The number of single-parent families in the Cree Region has risen over time. Now it appears roughly similar to the proportion observed in Quebec as a whole. In the early 1980s, the proportion of single-parent families was lower than in the rest of Quebec, and also below the 20% reported at the time for “Native” families in Canada.⁷⁵ More recently the proportion in the Cree Region has fluctuated around the Quebec average. The 2001 single-family numbers are noticeably higher than the equivalent 1996 numbers. This observation also holds true for the Inuit of Nunavik. It is not clear at this point whether the proportion of single-parent families truly increased so rapidly, or whether the 2001 Census had data-collection process difficulties.

Single-parent Families as a Percentage of Families with Children Cree Region, Quebec and Canada, 1981 to 2001 ⁷⁶					
Territory	1981	1986	1991	1996	2001
Chisasibi	14%	16%	20%	20%	33%
Eastmain	8%	8%	22%	20%	38%
Mistissini	10%	12%	n/av	11%	19%
Nemaska	11%	15%	11%	28%	33%
Oujé-Bougoumou	-	-	-	16%	22%
Waskaganish	6%	20%	12%	16%	29%
Waswanipi	13%	13%	13%	15%	25%
Wemindji	13%	13%	19%	19%	30%
Whapmagoostui	19%	17%	13%	12%	22%
Cree Region	12%	15%	17%	17%	28%
Quebec	21%	21%	22%	24%	26%
Canada	20%	19%	20%	22%	25%
<i>Note: Includes only those families with one or more never-married sons or daughters living at home. Couples and singles without children are excluded.</i>					

The living arrangements of older Crees are very different from elsewhere in Quebec. The difference is that most of the older Crees reside with family. In the Cree Region only 4% of people over the age of 65 live alone. The comparable proportion for Quebec as a whole is 29%. Compared to others in Quebec, Cree adults report many more hours spent caring for their elders. Almost half of Cree adults devote some time each week to caring for a senior, and 15% report spending ten or more hours doing so. Only 1-2% of adults throughout Quebec spend this much time caring for seniors.

Possibly because of the extended family structure, levels of social support appear high, with 91% of Cree adults reporting that they have at least one person to call on in an emergency. This proportion is similar to that for other Aboriginal people in Canada.⁷⁷

Proportion of Individuals 65 Years and Older Living Alone, 2001 ⁷⁸		
Cree Region	Quebec	Canada
4%	31%	29%

Distribution of Hours of Unpaid Care to Seniors per Week Population Age 15+ by Sex Cree Region and Quebec, 2001 ⁷⁹						
# hours per week	Men Cree Region	Quebec	Women Cree Region	Quebec	Total Cree Region	Quebec
None	69%	85%	67%	79%	68%	82%
<5	16%	11%	16%	14%	16%	12%
5 to 9	7%	2%	9%	4%	8%	3%
10+	7%	1%	9%	3%	8%	2%
	100%	100%	100%	100%	100%	100%

Adults with Someone to Contact in an Emergency, 1991 ⁸⁰										
Chis	Eastm	Mist	Nem	Wask	Wasw	Wemi n	Whap	Cree Regio n	Ab'l in Queb ec	Ab'l in Cana da
89%	96%	91%	92%	94%	78%	95%	99%	91%	92%	92%

11.2.2.Culture

11.2.2.a.Culture - Time Spent on the Land

Development in the Cree territory over the past 30 years has affected traditional subsistence activities in various ways. The proportion of the population registered in the Income Security Programme (ISP) for hunters and trappers is one of the more consistent indicators of the extent to which the Crees still participate in traditional land-based activities. The Programme is open to Cree Beneficiaries of the JBNQA. They must be resident in Quebec, members of one of the nine communities, and they must “have adopted wildlife harvesting activities as a way of life.” The benefits are calculated in relation to the number of days spent harvesting as well as unit size.¹² The ISP requires participants to spend at least four months on the land annually.

The ISP contributed to an immediate growth in the traditional sector during its first year of operation in 1976/77. Between then and 1986, the proportion of the population participating in the ISP levelled off at around 40%. Thereafter it began to drop each year.¹³ In the early part of the period, people took advantage of the ISP’s flexibility to move in and out of the traditional sector in connection with the start-up and completion of community construction projects.

People no longer seemed to be using the ISP in this way during the 1990s. Income Support Programme participants are now predominantly young singles, young childless couples, and the elderly. The ISP is their primary source of income. The role of the traditional sector has been transformed: hunting and fishing are now seasonal activities of most wage-earning Cree. As of 2001-2002, only 21% of the population was involved in the ISP.¹⁴

Enrolment in the Cree Hunters and Trappers Income Security Programme Over Time ⁸¹						
	Units	Adults	Children	Adults +Children	Total population of the Cree Region	% of popn involved
1985						40%
1994-95	1193	1764	940	2704	10780	25%
1995-96	1178	1730	897	2627	11087	24%
1996-97	1190	1742	853	2595	11410	23%
1997-98	1264	1830	866	2696	11692	23%
1998-99	1273	1844	843	2687	11900	23%
1999-2000	1319	1907	891	2798	12205	23%
2000-2001	1319	1904	879	2783	12444	22%
2001-2002	1272	1840	822	2662	12746	21%
Note: Population figures shown are from the JBNQA Beneficiaries List.						

¹² A unit comprises one or two adults.

¹³ The absolute number of people involved in the ISP has changed little. However, rapid increases in the Cree population mean that ISP participants account for an ever-smaller proportion of the total.

¹⁴ Different sources show figures varying from 19.9 to 21% for 2000-2001, depending on the population figure used.

Although fewer people than before are making their living from land-based activities, surveys continue to show the extent to which residents of the Cree Region still participate in hunting and fishing. A 1983 survey found that 95% of adults went on hunting trips lasting from two days to several months, with the median duration being three weeks. Seventy four percent of adults indicated that they consumed wild meat year-round. The remainder stated that they ate wild meat at least occasionally or during the hunting season.⁸² The 1983-84 “Plasanouq” survey found that 3% to 63% of adults “regularly” went into the bush while 0% to 64% went for “long periods.”⁸³

The 1991 APS showed that residents of the Cree Region were more likely than other Registered Indians in Quebec to participate in traditional activities (79% vs. 56%), and far more likely to have recently bought equipment for hunting, fishing or trapping (53% vs. 31%). A study of 245 mothers and their 9-month-old babies, conducted between August 1998 and February 2000, suggested that 48% of surveyed mothers and their infant had been in the bush.

“How often have you gone into the bush over the last year (since the beginning of last summer)?” 1983-84 (Percent) ⁸⁴								
	Chis	East	Mist	Nem	Wask	Wasw	Wem	Whap
Never	5	25	-	11	3	17	37	6
Rarely	-	10	2	18	12	14	11	34
Regularly	37	3	6	63	9	29	13	17
Goose break only	47	40	28	8	44	26	21	11
Long periods	11	22	64	-	32	14	18	32

Participation in Traditional Activities, 1991 ⁸⁵		
	Percent of adults participating traditional activities	Percent of adults who bought equipment for hunting, fishing, or trapping in the past four weeks
Chisasibi	83	54
Eastmain	89	45
Mistissini	82	38
Nemaska	84	51
Waskaganish	70	93
Waswanipi	53	35
Wemindji	84	43
Whapmagoostui	97	48
Cree Region	79	53
Aboriginal people in Quebec	56	31
Aboriginal people in Canada	51	24

11.2.2.b.Culture - Language

In the Cree Region, 97% of Cree residents can speak Cree. This proportion has remained constant or even increased since 1981 (when it was 92%).⁸⁶ This is a much higher proportion than for Aboriginal people elsewhere in the country: 97% of Crees vs. 47% of Aboriginals in Quebec, and 36% Canada-wide who cannot speak their Aboriginal language.⁸⁷

Census data on the language *most often spoken at home* are questionable. They show such large differences between 1996 and 2001 as to suggest methodological problems (such as perhaps a change in how the question was translated into Cree). What the figures do suggest is that 85%-90% of residents speak either Cree alone, or a combination of English and Cree, in their homes.

The percent of adults able to speak English and French (defined as the ability to carry on a basic conversation) has increased over time. In 1991, 58% of Crees could speak English, 3% French, and 29% neither English nor French.⁸⁸ By 2001, 79% knew English, 23% knew French, and 16% spoke neither official language.⁸⁹ The ability to speak English or French is strongly related to age: among youth and younger adults (ages 15-34), 96% can speak English, over a third speak French, and only 1% speak neither language. In contrast, more than a quarter of Crees over age 65 speak neither English nor French.

Cree Adults Able to Speak an Aboriginal Language By Community, 1991 ⁹⁰	
Chisasibi	93%
Eastmain	96%
Mistissini	100%
Nemaska	96%
Waskaganish	99%
Waswanipi	97%
Wemindji	97%
Whapmagoostui	99%
Cree Region	97%
Ab'l in Quebec	47%
Ab'l in Canada	36%

Language Usually Spoken at Home by Residents of the Cree Region 1996 and 2001		
Home language	1996	2001
Cree	85.2%	46.7%
English	6.7%	3.8%
French	3.6%	2.1%
English and French	0.2%	1.2%
English and "non-official" (e.g. Cree)	3.4%	43.0%
French and "non-official"	0.3%	1.1%
English, French and "non-official"	0.2%	1.7%
All others (incl. multiple responses)	0.1%	0.6%
Total	100%	100%
Note: includes all residents, Cree and other.		

Proportion of the Population Able to Speak English and French Cree Region, Quebec and Canada 1996 and 2001						
Territory	1996			2001		
	English	French	Neither	English	French	Neither
Chisasibi	75%	29%	22%	80%	23%	13%
Eastmain	70%	30%	27%	78%	24%	20%
Mistissini	75%	26%	22%	77%	21%	18%
Nemaska	81%	28%	16%	78%	22%	19%
Oujé-Bougoumou	88%	47%	13%	80%	31%	10%
Waskaganish	80%	32%	18%	77%	25%	18%
Waswanipi	81%	52%	14%	80%	40%	13%
Wemindji	83%	7%	17%	85%	5%	12%
Whapmagoostui	69%	7%	30%	75%	7%	22%
Inland	78%	35%	18%	78%	27%	16%
Coastal	76%	24%	22%	79%	20%	15%
Cree Region	77%	29%	20%	79%	23%	16%
Quebec	43%	94%	1%	14%	86%	1%
Canada	84%	31%	2%	74%	24%	1%
Note: refers to total population of the Cree Region (Cree and other).						

Knowledge of English and French, by Age, 1996 ⁹¹				
Age (years)	Know English	Know French	Know both	Don't know either
0-4	25%	8%	6%	74%
5-14	76%	34%	28%	18%
15-24	96%	44%	41%	1%
25-34	96%	33%	31%	1%
35-44	98%	30%	29%	2%
45-54	84%	16%	16%	13%
55-64	56%	13%	13%	48%
65 and over	18%	2%	0%	77%
Total	77%	29%	26%	20%

Note: All residents (Aboriginal and non-Aboriginal) included.

11.2.2.c.Culture - Violence

There is little quantitative information on violence in the Cree Region. Limited evidence suggests that rates of violence increased in the early 1980s. In 1983, Dumont reported that schizophrenia and manic-depressive psychoses were becoming less frequent, but social problems related to alcohol and domestic violence were increasing. The report claimed that more and more women were victims of violence, and that alcohol abuse and unemployment were contributing to family tensions, child neglect, and injuries.⁹² These views are corroborated by evidence from several other sources. Police reports from the early 1980s indicated a strong increase in crime, youth deviance, and drug and alcohol-related problems. Figures on

alcohol use suggest increases over time in the proportion of drinkers in the population.¹⁵ And data collected under the *Youth Protection Act* suggest that active cases increased from a rate of 177.7 per 10,000 in 1982/83 to 490 in 1987/88 before stabilising.^{16 93}

Reports by residents themselves mirror these concerns. Ten percent of Cree adults reported in 1991 having been assaulted in the previous year. These assaults might represent domestic violence, brawls, or some combination thereof. Furthermore, 50% felt that family violence was a problem in their community and 25% reported that sexual abuse was a problem. Residents of Whapmagoostui were particularly likely to report these views. Results for 2001 were similar for family violence (with 65% of residents reporting it as an issue). Concerns about sexual abuse seemed to have increased since 1991. In 2001, 52% of adults (twice as many) said that sexual abuse was an issue in their community.¹⁷

The 2001 results suggest some tendency for residents of the coastal communities to perceive more social problems in their communities. People in the coastal communities were significantly more likely to say that unemployment and alcohol abuse were problems. They were also more likely to report drug abuse and family violence as issues.¹⁸ Concerns about sexual abuse, however, did not seem to vary between the coastal and inland communities.

Youth Protection Cases in the Cree Territory, 1983, 1988, and 2000 ⁹⁴						
Number of Active Files and Rates per 10,000 Population						
Community	Number of Active Files			Rate per 10,000		
	Mar 1983	Mar 1988	Mar 2000	Mar 1983	Mar 1988	Mar 2000
Chisasibi	39	101	145	197	433	453
Eastmain	2	10	28	59	265	490
Mistissini	27	94	90	150	459	344
Nemaska	0	28	12	0	747	216
Oujé-B.	N/A	N/A	13	-	-	224
Waskagan.	28	45	108	272	363	641
Waswanipi	25	83	66	303	907	553
Wemindji	6	42	42	83	515	390
Whapmag.	4	16	57	97	349	785
Total	131	419	561	178	490	460
Note: Rates are based on the entire population, and are not age-adjusted.						
Figures may differ from other sources. See the endnote and Chapter 5 for details.						

Concerns About Violence in the Cree Region, 1991 ⁹⁵

Adults Age 15+

¹⁵ More detailed information on alcohol use can be found in the section on health-related behaviours.

¹⁶ The Youth Protection figures fluctuate greatly from year to year and appear to suffer from some methodological problems. Therefore this conclusion is tentative.

¹⁷ Note that violence and abuse are not people's biggest concerns. Much larger proportions of residents are concerned about problems like alcohol abuse or unemployment.

¹⁸ For drug abuse and family violence, the differences are not significantly different at the 0.05 level, but they would be significant at the 0.10 level. Small population and sample sizes in the territory make statistical significance the exception rather than the rule.

	Assaulted in past year	Think family violence is a problem in the community	Think sexual abuse is a problem in the community
Chisasibi	6%	57%	22%
Eastmain	11%	46%	34%
Mistissini	12%	58%	40%
Nemaska	12%	49%	24%
Waskaganish	6%	38%	15%
Waswanipi	16%	32%	25%
Wemindji	15%	36%	15%
Whapmagoostui	6%	75%	48%
Cree Region	10%	50%	26%
Ab'l in Quebec	5%	39%	23%
Ab'l in Canada	7%	39%	25%

Perceptions of Social Problems in the Community, 2001 ⁹⁶ % of Adults Who Say "Yes" When Asked If ...Is a Problem in Their Community			
	Coastal	Inland	Cree Region
Alcohol abuse	87	*71	80
Drug abuse	77	68	73
Family violence	70	59	65
Sexual abuse	52	51	52
Suicide	39	48	43
Unemployment	78	*65	72
See endnote for a list of communities included in the various groupings. * Indicates that the difference between the coastal and inland communities is statistically significant at the 0.05 level.			

Endnotes – 11.2. Social Environment

⁷⁰ Schnarch (2001).

⁷¹ Schnarch (2001), p. 24. Data for 1970-1981 from various sources - Simard et al. (1996); Data from 1982 to 1999 from the JBNQA Beneficiaries List; Data from 2000 to 2009 based on projections.

⁷² Schnarch (2001), p. 19.

⁷³ 2001 Census data. More specifically, 93.7% of the population declared themselves to be of "North American Indian" identity, which in this case would be almost entirely Cree. The remainder identified as Métis, Inuit, or non-Aboriginal. Note that the data in the chart below is from 1996 rather than 2001, because 2001 data by age were not available at the time that this text was prepared (January 2004).

⁷⁴ Data for 1979 from Schnarch (2001), p. 20. This is based on the Beneficiaries List from MSSSQ. Remaining numbers are directly from Beneficiaries List.

⁷⁵ Robinson, E. (1985a). *Health of the James Bay Cree*. Montreal: Community Health Department, Montreal General Hospital.

⁷⁶ Census data. 1996 figures are Census data drawn from Schnarch, B. (2001). *Health and what affects it in the Cree communities of Eeyou Istchee: a compilation of recent statistics*. Montreal: Cree Board of Health and Social Services of James Bay.

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- ⁷⁷ Community Profiles from the 1991 APS.
- ⁷⁸ 2001 Census.
- ⁷⁹ *ibid.*
- ⁸⁰ 1991 APS.
- ⁸¹ Data for 1985 from Robinson (1985a). Other data up to 1998/99 from Schnarch (2001), p. 52. Original data from Cree Hunters and Trappers Income Security Board, *Annual Report*, 1998-1999. Data for years 1999-2000 to present from reports of the Cree Hunters and Trappers Income Security Board. Percentages are based on the population in the later year (i.e., for fiscal year 1994/95, the population is as of May or July 1995), drawn from the Cree Beneficiaries List.
- ⁸² Fortin and Gray-Donald (1984).
- ⁸³ Foggin and Lauzon (1986). The survey suffered from some methodological problems. Sample size was 35-40 households per community.
- ⁸⁴ *ibid.*
- ⁸⁵ Community Profiles from the 1991 APS. Total for the Cree Region was produced by summing the numbers for individual communities (which had previously been randomly rounded by Statistics Canada).
- ⁸⁶ Robinson (1985a).
- ⁸⁷ 1991 APS.
- ⁸⁸ Robinson (1985a). Based on 1981 Census data.
- ⁸⁹ 2001 Census.
- ⁹⁰ 1991 APS.
- ⁹¹ 1996 Census data c.f. Schnarch (2001), p. 32
- ⁹² Dumont, C. La santé mentale sur le territoire 10B. Photocopied document ca. 1983 from DSC, Montreal General Hospital c.f. Laverdure and Lavallée (1989).
- ⁹³ Figures from *Annual Reports* of the CBHSSJB. In some cases these data may differ substantially from those published by the MSSSQ. The *Annual Report* data were used because they provide the longest time series, and because they appear to be the more valid of the two sets of figures, i.e., they tally best with the caseload counts produced for individual financial periods (of which there are 13 in the year).
- ⁹⁴ *ibid.*
- ⁹⁵ 1991 APS community profiles.
- ⁹⁶ 2001 APS. Custom tabulations prepared for the CBHSSJB February 2004. Coastal communities = Whapmagoostui, Chisasibi, Wemindji, Eastmain, and Waskaganish. Inland = Nemaska, Mistissini, Waswanipi, and Ouje-Bougoumou.

11.3. Employment, Occupation and Income

11.3.1. Income

Health status improves with each step up the income and social ladder. The healthiest populations are the most prosperous and those with an equitable distribution of wealth.⁹⁷ Therefore it is pertinent to consider trends and disparities in income in the Cree Region over the past thirty years.

One study of the region found that the JBNQA had had positive effects on both wage and subsistence incomes.⁹⁸ However, major changes in the sources and nature of income over the past 30 years make it difficult to precisely quantify the changes in total income. According to data from the 2001 Census, the average individual income in the region was \$20,814 (median = \$16,533). This is about 30% lower than the Québec average income of \$27,125 (median = \$20,665). The interpretation of these differences in individual incomes, between the Cree Region and Québec, is impeded by factors specific to the economy of northern areas.

On the one hand, food obtained from hunting and fishing may contribute to household income, and Cree communities (being federal land although not reserves¹⁹) are in large measure tax-free zones. Within the region, Cree corporations and service delivery bodies do not pay Goods and Services Tax (GST) or other taxes. Cree individuals do not pay income taxes although non-Indian residents do. There are no property, municipal, or school taxes. The effect on the upper-income Cree household is an increase in spending power which can exceed 50%. Cree residents also receive a wide range of free “non-insured” health benefits (including dental care, medical transportation, and optometric services). These equate to private health insurance elsewhere. In some communities (Wemindji and Waskaganish), houses are not individually metered for electricity with the result that individuals do not pay, although the band may. In Oujé-Bougoumou household heating is provided from the community’s common plant.

On the other hand, the cost of living is higher in the North. Although road development has reduced the price of food and other products,⁹⁹ local goods and services remain expensive. Transportation is also expensive. In addition, there are equipment costs for hunting and the costs of maintaining supplementary residences in hunting areas. Hunting is still a primary activity among Crees and it continues to confer social status. Today’s modern hunting outfit requires substantial outlay. These costs are often best met through stable income earned in the public sector wage economy.

Cost of a Nutritious Food Basket, 1996 ¹⁰⁰		
Ottawa	Waskaganish	Kuujuuaq
\$125	\$214	\$180
Cost of a nutritious food basket to meet the needs of a family of four. Figures from Indian and Northern Affairs Canada. Waskaganish was the only Cree community selected for this study (note that since the time of the study, a permanent road has been built into Waskaganish). Based on the lowest regular price in northern villages, and on one supermarket in Ottawa.		

¹⁹ Oujé-Bougoumou is the exception, being located on provincial land.

Cost of Selected Foods Suitable for Infants in 2002 ¹⁰¹ Montreal, Chibougamau and Cree Communities Compared			
	Montreal	Chibougamau	Cree communities
Fluid milk 3.25% fat, 2L	2.65	3.00	3.77
Bottled water (4L)	.99	1.29	2.29
Iron-fortified infant formula, concentrate, 385 ml	2.54	3.50	4.29
Jarred baby food, 128 ml	.61	.62	1.03
Apple juice, 1L	2.69	2.75	3.83

As was the case throughout Quebec, the average individual income of the Cree population increased from 1971 to 2001. In 2001, for the Cree population, the average individual income was between \$18875 and \$22645, depending on the community.²⁰

Average Individual Income (\$), 1971-2001 ¹⁰²				
	1971	1981	1991	2001
Chisasibi	1123	11 466	17 986	21 608
Eastmain	819	9 547	14 160	22 024
Mistissini	759	7 714	n.a.	20 438
Nemaska	n.a.	8 867	10 576	20 799
Oujé-Bougoumou	n.a.	n.a.	n.a.	22 645
Waskaganish	712*	8 641	13 843	19 910
Waswanipi	446	4 250	n.a.	20 543
Wemindji	852	9 046	14 033	21 792
Whapmagoostui	907	9 415	14 371	18 875
Cree Region	830	9 038	15 336	20 814
Quebec Province	3019	12 457	26 520	27 125

Notes : Figures have not been adjusted for inflation; from 1971 to 1991, figures represent individual income for anyone age 15+ who *had any income*; in 2001, figures are the average income for *all* adults 15+. Whapmagoostui data for 1971 and 1981 include both Cree and Inuit households. In 1971, Nemaska's data were included with Waskaganish.

Wages and salaries now constitute a much greater proportion of income than was formerly the case: 73% in 2001, as compared to 32% in 1971. Concomitantly, the proportion of income derived from government transfer payments (e.g., Employment Insurance or Old Age Security) has fallen from 61% to 25%.²¹ An anomaly in the 2001 data has ISP income counted as “transfer payments” in 2001. This makes it difficult to determine exactly what changes occurred over the same period in the proportion of income derived from land-based activities. The rate of dependence on transfer payments in the Cree Region is higher than in the general population, but similar to or lower than rates found in other remote or economically depressed regions or communities.

²⁰ Note that because Statistics Canada changed its definitions over time, in 2001 this refers to the average income of all people over age 15, whether or not they themselves actually earned an income. For previous years the “average income” shown is for people who earned any income.

²¹ 28% if only the Cree population of the territory is counted, rather than all residents.

Income Composition, 1971-2001 ¹⁰³		
Source of Income	1971	2001
Wages and salaries	32%	73%
Government transfers	61%	25%
Other sources	7%	2%
Note: Whapmagoostui is not included in 1971. Salaries and transfers at Waswanipi and Mistissini are not included in 1971. In 2001, ISP payments were counted as transfers		

Proportion of Individual Income Derived from Transfer Payments ¹⁰⁴ Cree Region Compared to Other Regions, 2001	
Cree territory	28% *
Nunavik	24%
Kitigan Zibi	31%
Obedjiwan	37%
La Romaine	50%
Aboriginal people in Quebec	25%
Aboriginal people in Canada	21%
Quebec total	14%
Canada total	12%
Note: percentages have been rounded.	
* Note: unlike the Census data shown in the preceding table, this figure includes only the <i>Cree</i> residents of the territory.	

These figures indicate that individual dependence on government transfers in the Cree Region is not unduly high compared to other remote regions. However, they may mask the true breadth of dependence. Other studies have suggested that up to 80% of Registered Indians receive some form of government transfer payments when these include both direct transfers to individuals and institutional transfers into the public sector economies of Indian reserves. New agreements with the Government of Québec and Hydro-Québec are injecting significant public sector transfers into the regional economy.

The rapid changes in the sources and nature of income have also had an effect on regional social and economic inequities. Sénécal and Égré¹⁰⁵ concluded that development has contributed to the entrenchment of social strata, at the bottom of which are individuals with access neither to the ISP nor to salaried work.¹⁰⁶ Significant inequities in income are observed. These have not been comprehensively documented. Twenty percent of Cree mothers have recently reported worries about having enough money to buy sufficient food for their children.¹⁰⁷ Social status has also changed in relation to the major institutional growth in the region over the past three decades. At the time of the JBNQA, when the Crees were lauded as the last real group of subsistence hunters, social status among them was predicated upon hunting skills. It has been found that the JBNQA resulted in the creation of a new administrative class which quickly mastered the skills required for effective bureaucracy and technocracy. This in turn led to increased social differentiation within Cree society, and to unequal access to centres of decision-making within social groups.¹⁰⁸

11.3.2. Employment

Employment patterns have an important influence on the health of a population. Unemployment, under-employment, and stressful or unsafe work are all associated with poorer health.¹⁰⁹

Two measures are typically used to measure employment: (1) the participation rate; and (2) the unemployment rate. The participation rate measures the proportion of the population participating in the labour force (i.e., either has work or is looking for work). In the Cree Region this would include people participating in the ISP. The unemployment rate measures the proportion of the population *actively looking for work* and not employed. One drawback of both measures is that they miss “discouraged workers” – people who would like to work, but are not actively seeking employment because they believe that no jobs are available. Therefore it is possible for unemployment rates and participation rates to actually rise when economic conditions improve. This could occur when, say, formerly discouraged people once again look for work and are hence counted as “unemployed.”

In Quebec as a whole, participation rates were relatively stable between 1976 and 2001. In the Cree Region the participation rate doubled between 1976 and 1996, reaching a high of 68%. Since then it has decreased to 58%. Unemployment rates tripled between 1976 and 1986. They then fell to their current level of 17.5% - double the Quebec average. The most common reasons for being unemployed are the perception that no jobs are available in the area, or having family responsibilities that preclude employment.

Employment Indicators, 1976-2001¹¹⁰						
	1976	1981	1986	1991	1996	2001
Cree Region						
Population in the labour force	1175	1570	2335	2155	5055	4790
Participation rate (%)	34.5	42.1	45.5	54.3	68.0	58.1
Unemployment rate (%)	11.5	18.5	32.5	16.5	16.6	17.5
Quebec provincial population						
Population in the labour force	2 790	3 117	3 293	3 537	3 536	3 742
Participation rate (%)	58.8	61.8	62.9	65.1	62.3	64.2
Unemployment rate (%)	8.7	10.5	11.0	13.7	13.4	8.2

Reasons Keeping Adults from Working at a Job, 2001¹¹¹			
	Coastal	Inland	Cree Region
No full-time jobs available in the area where I live	17.5	24.6	20.1
Family responsibilities	19.5	15.3	17.9
Going to school	17.5	18.6	17.6
Retired	15.5	x	13.2
Health problems	x	x	5.7
Not qualified for available jobs	x	x	x
“x” indicates that Statistics Canada suppressed the numbers as being based on too small a sample to be reliable.			
The differences between coastal and inland areas are not statistically significant.			

11.3.3.Occupation

11.3.3.a.Occupation - By Sector

Data on occupation in the Cree Region are available only beginning in 1991. This limits our ability to assess the impact of the JBNQA on occupational structure. From 1991 to 2001, the proportion of population in the managerial occupations decreased slightly. Conversely, the proportions employed in sales and service occupations, and in education, health, and government services increased.

Occupations in the Cree Region, 1991 to 2001¹¹²						
	1991		1996		2001	
	N	%	N	%	N	%
Management, business, finance and administrative occupations	555	26.5	995	20.5	955	20.7
Natural and applied sciences and related occupations, health occupations, occupations in social science, education, government service and religion	425	20.3	1 265	26.1	1 065	23.1
Sales and service occupations	385	18.5	755	15.5	1 255	27.2
Trades, transport and equipment operators and related occupations	405	19.4	530	10.9	755	16.4
Occupations unique to primary industry	115	5.5	365	7.5	450	9.7
Occupations in art, culture, recreation and sport	205	9.8	945	19.5	135	2.9
Total	2 090		4 855		4 615	
Note : Definitions changed between 1996 and 2001						

According to the 2001 Census, the sales and services sector provides the majority of salaried jobs in the region (27%). This is followed by occupations such as government services, health, and education (22%), then by business, finance, management and administrative occupations (21%).

11.3.3.b.Occupation - Hunting and Trapping

Development in the Cree Region over the past 30 years has affected traditional subsistence activities in a variety of ways. The building, extension or improvement of roads transecting traditional hunting territories has been shown to have both positive and negative effects for subsistence hunters. On the one hand, roads give hunters easier access to their traditional hunting grounds;¹¹³ on the other, hand, they increase access for other hunters as well. This sometimes sparks conflict between northern and southern hunters¹¹⁴ and among Aboriginal hunters.¹¹⁵ It can also lead to over-harvesting.¹¹⁶

The Income Security Programme's original objective was to encourage and preserve a traditional way of life for Cree hunters and trappers by providing them with - among other things - a guaranteed income.¹¹⁷ The Programme contributed to an immediate growth in the traditional sector in 1976/77, its first year of operation. That year, the \$4.5 million it introduced into the region displaced three-quarters of a million dollars in cancelled welfare payments. Between 1979 and 1986 the proportion of the total population

participating in the ISP levelled off at around 40%. Thereafter it began to drop each year.²² By 2001/02 only 19.9% of the population was involved with the ISP.²³ That year Chisasibi and Whapmagoostui had the highest proportions of persons registered, whereas Waskaganish, Eastmain, and Nemaska had the lowest proportions.

Number of Beneficiaries of the Cree Hunters and Trappers Income Security Programme, 1997/98 to 2001/02 ¹¹⁸					
	1997-98	1998-99	1999-00	2000-01	2001-02
Chisasibi	627	688	833	851	853
Eastmain	83	75	62	72	80
Mistissini	663	648	639	585	542
Nemaska	124	108	100	97	93
Oujé-Bougoumou	189	192	182	180	153
Waskaganish	224	220	223	227	228
Waswanipi	302	319	302	280	248
Wemindji	306	280	310	301	260
Whapmagoostui	178	157	146	190	205
Cree Region	2696	2687	2798	2783	2662

Proportion (%) of the Population Registered as Beneficiaries of the Cree Hunters and Trappers Income Security Programme, 1997/98 to 2001/02 ¹¹⁹					
	1997-98	1998-99	1999-00	2000-01	2001-02
Chisasibi	20.6	22.3	26.5	26.6	26.0
Eastmain	16.1	13.8	11.3	12.6	14.3
Mistissini	26.6	25.7	25.0	22.4	20.0
Nemaska	24.4	20.7	18.5	17.5	16.4
Oujé-Bougoumou	36.8	35.3	32.6	31.0	26.5
Waskaganish	14.2	13.6	13.5	13.5	13.4
Waswanipi	27.6	28.4	26.5	23.5	20.6
Wemindji	30.2	26.7	29.0	27.9	23.6
Whapmagoostui	27.3	23.1	21.0	26.2	27.5
Cree Region	23.6	23.0	23.5	22.8	21.4

During the late 1970s and throughout the 1980s, capital construction projects in the communities drew men out of the traditional sector and into the local labour force. In the early part of the period, the flexibility of the ISP released people from and re-absorbed them into the traditional sector in relation to the start-up and completion of community construction projects. During the 1990s there was no evidence that the ISP continued to function in this way. The role of the traditional sector has been transformed. Hunting and fishing are now seasonal activities of most wage-earning Cree, while ISP participants are predominantly single young adults, young childless couples, and the elderly. The participants use the ISP as their primary source of income.

²² The absolute number of people involved in the ISP changed little, but rapid increases in the Cree population mean that ISP participants account for an ever-smaller proportion of the total.

²³ This figure differs slightly from some other sources, which show 21%. It is drawn from the Cree Hunters and Trappers Income Security Board *Annual Report* 2001/02, p. 43, table 3. The resident Cree population is listed as 13,359. Beneficiaries of ISP are listed at 2,662 enrolled or 19.9% of the resident population.

Although the ISP now contributes over \$15 million a year to the regional economy, full-time participants are poorer today in real dollars than they were when the Programme began, even though the benefits are indexed to inflation. This is partly because revenues from fur sales have dwindled with the collapse of the market for furs. Substantial alterations²⁴ in the nature of the hunting lifestyle have introduced costs that were not part of the hunting economy when the ISP was developed.¹²⁰ Finally, there have been slight decreases in the number of days spent on the land each year. These decreases have occurred in all communities except Eastmain and Whapmagoostui.

Distribution of Beneficiaries of the Cree Hunters and Trappers Income Security Programme, by Head of Unit's Age Group, 1994/95 to 2001/02 ¹²¹					
Age group	Percent				
	1997-98	1998-99	1999-00	2000-01	2001-02
18-27 years	28.8	25.9	26.5	24.8	23.0
28-37 years	18.7	19.1	19.3	20.3	19.2
38-47 years	8.3	9.0	9.3	10.7	11.7
48-57 years	10.7	10.8	10.0	9.2	8.5
57-67 years	14.7	15.2	15.3	14.9	16.0
68+ years	18.8	20.0	19.6	20.1	21.6
All ages	100%	100%	100%	100%	100%

Average Paid Days per Adult, Cree Hunters and Trappers Income Security Programme, 1994-95 to 2001-02 ¹²²					
	1997-98	1998-99	1999-00	2000-01	2001-02
Chisasibi	186	183	176	167	169
Eastmain	138	126	177	165	161
Mistissini	180	180	167	169	167
Nemaska	179	175	191	181	169
Oujé-Bougoumou	167	161	165	160	150
Waskaganish	177	181	166	169	171
Waswanipi	192	169	169	161	168
Wemindji	176	177	174	161	169
Whapmagoostui	159	194	203	176	180
Cree Region	179	177	173	167	168

²⁴ Specifically, the basic set of hunting equipment has changed substantially in nature and cost since 1976. Travel costs have increased as roads allow people to move back and forth more frequently between their community and their hunting ground. Capital costs have risen as people have shifted to permanent cabins. Several thousand kilometres of new roads have created a situation in which some people - especially in the southern parts of the region - must maintain a presence in their bush camp year-round to protect their gear from vandalism and theft.

Average Benefits Paid (\$) per Unit, Cree Hunters and Trappers Income Security Programme, 1994-95 to 2001-02 ¹²³					
	1997-98	1998-99	1999-00	2000-01	2001-02
Chisasibi	\$11027	11118	11184	10886	11477
Eastmain	9147	8213	11017	10386	10521
Mistissini	13097	13400	12602	12813	12989
Nemaska	12646	12191	13118	12815	12188
Oujé-Bougoumou	12292	12495	12729	12528	11225
Waskaganish	11245	11723	11017	11561	12660
Waswanipi	12771	11583	12138	11266	11991
Wemindji	11373	11443	11519	11040	11581
Whapmagoostui	11794	13656	14323	13622	14666
Cree Region	11842	11885	11873	11643	12089

Endnotes – 11.3. Income, Occupation and Employment

⁹⁷ <http://www.hc-sc.gc.ca/hppb/phdd/determinants/index.html#determinants>.

⁹⁸ Sénécal (1998).

⁹⁹ Vincent (1998).

¹⁰⁰ c.f. Schnarch (2001), p. 61.

¹⁰¹ Willows (2003).

¹⁰² Census for: 1971, 1981, 1991, and 2001; FY 1970/71 in SDBJ et SEBJ (1974); figures for Quebec as a whole in 1971 from Institut de la Statistique du Québec.

¹⁰³ 1971 data: R. Marsolais (1973) c.f. SDBJ et SEBJ (1974) – Tableau 25; 2001 data: 2001 Census.

¹⁰⁴ Data from Statistics Canada, 2001 Census files. Table by Pierre Lejeune, Epidemiological Programme Officer, CBHSSJB.

¹⁰⁵ Sénécal (1998).

¹⁰⁶ *ibid.*

¹⁰⁷ Willows (2003).

¹⁰⁸ La Rusic et al. (1979).

¹⁰⁹ <http://www.hc-sc.gc.ca/hppb/phdd/determinants/index.html#determinants>.

¹¹⁰ Census for: 1976, 1981, 1986, 1991, 1996 and 2001; based on the sum of each community's values, after Statistics Canada's random-rounding process

¹¹¹ 2001 APS. Custom tabulations prepared for the CBHSSJB, 2004.

¹¹² Census for: 1991, 1996 and 2001; based on the sum of each community's values, after Statistics Canada's random-rounding process

¹¹³ Berkes (1981); Proulx (1992); Proulx et al. (1994).

¹¹⁴ Berkes (1981); Sénécal and Égré (1999); Proulx (1992); Proulx et al. (1994).

¹¹⁵ Sénécal and Égré (1999); Proulx (1992); Proulx et al. (1994).

¹¹⁶ Berkes (1981).

¹¹⁷ Cree Hunters and Trappers Income Security Board, *Annual Report* 1998/99.

¹¹⁸ *ibid.*, *Annual Report*: 1998/99, 1999/00, 2000/01, 20002/03.

¹¹⁹ *ibid.*

¹²⁰ Cucurian, Rick, Cree Trappers Association; Alan Penn, CRA; Ignatius La Rusic. Personal communications to Jill Torrie, April 2004.

¹²¹ Cree Hunters and Trappers Income Security Board, *Annual Report*: 1998/99, 1999/00, 2000/01, 20002/03.

¹²² *ibid.*

¹²³ *ibid.*

11.4.Education

11.3.1.Education - Background

Among the socio-economic factors, schooling is known to have one of the greatest impacts on health.¹²⁴ Health status improves as the level of education improves. Closely related to income, education contributes to health and prosperity by equipping people for problem-solving and providing a sense of mastery over life circumstances. Education also increases opportunities for job security and income security.¹²⁵

Schooling in the Cree Region began in the early 1900s with mission-run schools in the vicinities of the trading posts. These operated when families returned during the warm-weather months. Later, this basic schooling was expanded under funding from Indian Affairs. As well, children began to be sent to residential schools, two of which were located at Fort George. Widespread residential schooling began only during the 1950s. By the 1960s its impacts were mediated by a boarding home programme for secondary level students.

The Cree School Board was created in 1978 to take over the regional administration of Cree education from Indian Affairs. By 1984 there were Cree-run primary schools in each community. Chisasibi and Mistissini had high schools as well. Some students – mainly from the other communities – attended high school in municipalities such as Chibougamau, Val d'Or, Quebec City, and Hull.¹²⁶ Today the Cree School Board operates primary and secondary level schools in each community. It has its own, extensive boarding home programme for families on the ISP. This is especially important to the inland communities.

11.4.2.Trends in Education

The reader should be aware that we are unable to describe trends in education except in a very general way because some education statistics, which tend to be available in the mainstream context in Quebec, are not made public by the Cree School Board.

As in the rest of Quebec, the proportion of adults in the Cree Region with at least a high school diploma has increased over time, from 25% in 1981 to 36-40% in 2001.²⁵ This proportion still remains much lower than elsewhere in Quebec. Currently about 14% of the Cree population has some college or university education. This proportion has changed little since 1981.

The number of children registered at school (elementary and secondary) has increased over the last five years. Preschool aged children are the exception. Their numbers tend to be lower in 2002/03 than in 1998/99. This may reflect the increasing availability of federally funded Head Start programmes in the region. The number of adults registered at secondary level schools (full or part time) also increased between 2001/02 and 2002/03.

²⁵ The figures change vary slightly according to what age range is used, and because Statistics Canada applies a policy of “random rounding” to its numbers.

Highest Level of Education Attained, 1981 to 2001						
Residents of Cree Region Compared to Quebec Total ¹²⁷						
	1981		1991		2001	
	n	%	n	%	n	%
Cree Region						
No high school diploma	2790	75	2955	73	4970	60
High school diploma and/or some post-secondary studies	390	10	395	10	1295	17
Technical school certificate or diploma	55	1	110	3	910	11
College certificate or diploma and/or some university studies	360	10	420	10	580	7
University degree, certificate or diploma	135	4	185	5	465	6
Quebec total						
No high school diploma	2 296 915	44	2 124 025	36	1 848 930	32
High school diploma and/or some post-secondary studies	1 175 750	23	1 286 720	22	1 503 570	26
Technical school certificate or diploma	210 560	4	312 120	5	629 360	11
College certificate or diploma and/or some university studies	1 152 305	22	1 252 035	21	847 675	15
University degree, certificate or diploma	350 860	7	880 195	15	1 002 825	17
Data for population age 15 and older. The figures are for the entire population of the Cree Region, i.e. they would include some non-Cree residents.						

Number of Children at School (Full or Part-time), Cree School Board ¹²⁸						
Education level	Class	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003
Preschool (4 year-olds)		302	271	268	256	247
Preschool (5 year-olds)		295	319	296	277	264
Elementary		1634	1690	1741	1802	1823
Secondary	1st year	390	344	361	388	371
	2nd year	271	262	281	244	300
	3rd year	203	233	249	236	261
	4th year	158	148	112	152	205
	5th year	104	112	95	82	111
Secondary Total		1126	1099	1098	1102	1248
All grades		3357	3379	3403	3437	3582

Number of Adults at School – Full and Part-time Cree School Board ¹²⁹		
Sex	2001-2002	2002-2003
Men	108	124
Women	129	152
Total	237	276

11.4.3. Education Levels in the Cree Region vs. Other Regions

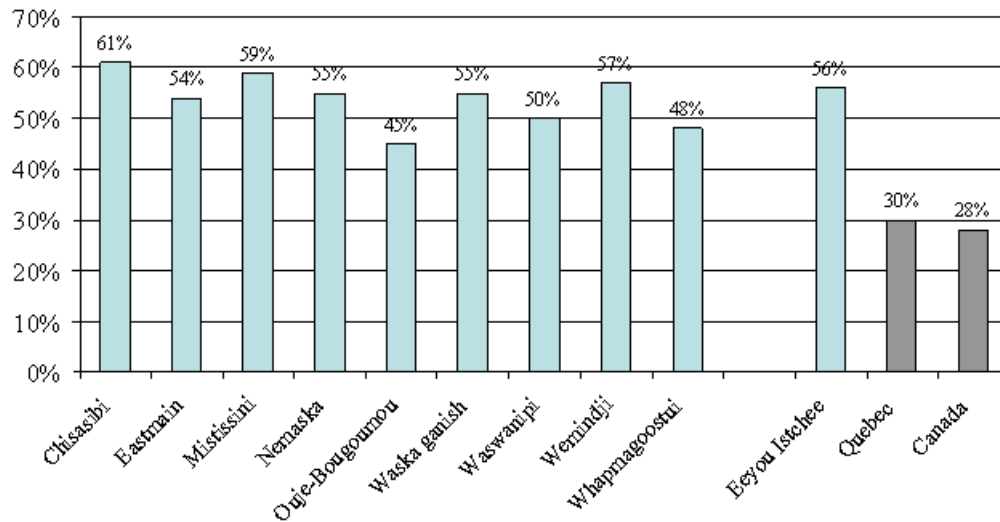
The Cree secondary school completion rate is much lower than in Quebec as a whole. In 2001 only 36% of Crees aged 20 and over had a secondary school diploma or higher. This is a lower proportion than other Aboriginal people in Quebec and well below the Quebec average of 70%. According to a report prepared by the Cree School Board, 75% of Cree students drop out before Secondary Level V. This dropout rate is one of the highest in Quebec. It is accompanied by the highest levels of absenteeism among students as well as teachers.¹³⁰ Those students who do complete secondary school are older than would be expected: one-fifth attending Secondary Level V are aged 20 or older. This means that many students moving on to CEGEP are starting socially outside of the age group of their peers.

Full time school attendance among Crees age 15 to 24 is low. The regional participation rate in 2001 was 36%, similar to the 35% observed in Nunavik's Inuit population but lower than Quebec's other Aboriginal groups.

A strong Cree language school programme is instrumental in ensuring that Cree remains vibrant. Despite this there is an emerging debate in Cree circles about whether the classroom time devoted to cultural teaching removes too much time from other subjects such as sciences. Some believe that this contributes to poor school completion rates and to demands, by post-secondary institutions, that Cree applicants take upgrading training. A recent evaluation found significant deficits in the language skills of primary school children in one community school. It attributed this situation to inadequacies in the Cree School Board's language programmes.¹³¹

Education Levels of the Population Age 20+ Cree Region Compared to Other Regions, 2001 ¹³²						
	Cree territory	Nunavik	Ab'l in Quebec	Ab'l in Canada	Quebec total	Canada total
No high school diploma	63.5%	69.7%	51.6%	48.0%	29.9%	27.9%
High school diploma	6.8	5.5	11.2	9.9	17.0	13.9
Trades certificate or diploma	6.7	4.1	4.9	3.8	11.5	11.8
Other postsecondary	20.9	20.2	27.6	33.8	26.5	29.6
Bachelor's degree or higher	2.0	0.4	4.7	4.4	15.1	16.9
Total	100%	100%	100%	100%	100%	100%
% of pop'n 15-24 attending school full-time	36.1	35.4	46.2	45.1	60.7	57.1
Figures may differ slightly from other tables in this chapter because of differences in the age range considered (15+ or 20+) and those resulting from Statistics Canada's random-rounding process.						

Proportion of the Population Lacking a High School Degree in 2001,¹³³ by Community, Population age 20+.²⁶



Endnotes – 11.4. Education

¹²⁴ Daveluy et al. (1994).

¹²⁵ <http://www.hc-sc.gc.ca/hppb/phdd/determinants/index.html#determinants>.

¹²⁶ Robinson (1985a).

¹²⁷ Census for: 1981, 1991 and 2001; based on the sum of each community's values, after Statistics Canada's random-rounding process. Figures provided by Vincent Rocquet et associés.

¹²⁸ Data from Ministère de l'éducation du Québec, Direction de la recherche, des statistiques et des indicateurs, April 2003

¹²⁹ *ibid.*

¹³⁰ Mianscum (1999).

¹³¹ Lapointe (2003).

¹³² 2001 Census. Prepared by Pierre Lejeune, Epidemiological Programme Officer, CBHSSJB.

¹³³ 2001 Census.

²⁶ Note: the age range in this graph differs from the table presented in the first section, because Statistics Canada changed its age groupings for this variable.

11.5. Personal Health Practices²⁷

11.5.1. Nutrition and Body Weight

11.5.1.a. Consumption of Country Food

The diet of the Crees has changed radically over the past half-century. It has moved from a heavy dependence on country food to a more “western” diet with greater reliance on store-bought goods.

In the 1950s, Rogers estimated country food at 69% of total food intake among Mistissini hunters.¹³⁴ Elberg in the 1960s estimated that country food made up about 65% of food consumed, based on interviews in three communities. At the time store-bought food consisted largely of carbohydrates – flour, sugar, and lard.¹³⁵ Beaulieu estimated the average “harvest” over the 1972-79 period to be 0.408 kg per person per day. Of this, 33% was big game (mainly moose), 25% waterfowl, 16% fur-bearing animals such as beaver, and 14% fish.¹³⁶

In a 1984 survey of Chisasibi, Fortin noted that wild meat was readily available (and was usually given, not bought), but that most families supplemented it with store-bought meat. Fully 95% of adults went on hunting trips. The median duration of these trips was 3 weeks. Seventy four percent ate wild meat year-round. The remainder ate it at least sometimes or during hunting season.¹³⁷ Based on these and other studies over the ensuing years, Receveur estimated that daily consumption of wild meat declined as follows: 1.3 kg in the 1950s, to 0.64 kg in the 1970s, to 0.41 kg in the 1980s, to 0.23 kg in the 1990s. Moreover, market foods now constitute a correspondingly larger proportion of the diet than before.¹³⁸

Consumption of fish has also declined. This is at least partly in response to fears – founded or unfounded – about mercury contamination. Advisory campaigns during the 1970s issued blanket warnings against any fish consumption.¹³⁹ This produced a sudden reduction in subsistence fishing and in the amount of fish in the diet. For instance, the Native Harvesting Research Committee estimated that fish harvests in Mistissini and Waswanipi fell by more than 75% during 1975 to 1976.¹⁴⁰ These changes are perceived by regional health professionals, and by residents, as reasons for increases in inactivity, obesity, and diabetes.

Although the contribution of country food to the total diet has clearly declined, figures on the proportion of the population who eat country food at least occasionally are less consistent. Trends are obscured by methodological differences and changes in question wording from one survey to the next; e.g.:

- In 1983-84, between 46% and 100% of people (depending on the community) had eaten country food in the past two days.
- In 1991, the APS estimated that 34% of Crees obtained some of their meat from hunting or fishing (by themselves, or by someone else).¹⁴¹
- In a 1998-2000 study of new mothers, 69% indicated that they ate traditional food.¹⁴²

²⁷ The material in this chapter relates primarily to adults. Information on health-related behaviours in children is included in the *Children's Health* section.

Proportion of Families that had Eaten Country Food in the Previous Two Days, by Community, 1983-84 ¹⁴³	
Chisasibi	98%
Eastmain	98%
Mistissini	46%
Nemaska	87%
Waskaganish	73%
Waswanipi	61%
Wemindji	75%
Whapmagoostui	100%

Proportion of Adults who Obtained Some of their Meat from Hunting/Fishing (by Themselves or Others), 1991 ¹⁴⁴										
Chis	East	Mist	Nem	Wask	Was	Wem	Whap	E.I.	FN in Que	FN in Can
21%	46%	41%	24%	52%	30%	36%	21%	34%	33%	38%

11.5.1.b.Diet - General

Robinson suggests that the traditional diet (game, fish, berries, and plant teas) appeared to satisfy requirements and protect people against undue rates of heart disease, cancer, and dental caries. However, “a complete return to the traditional Cree diet is unlikely, because there are simply not enough animals on the land to feed all the Cree people.”¹⁴⁵ Proper nutrition in the Cree Region can be harder to achieve because fresh fruits and vegetables are hard to transport and store, with the result that they are not consistently available in the Cree communities.¹⁴⁶ Beginning in the early 1980s, studies indicate some problems with the Cree diet.

A 1983 study in Chisasibi found that, although all households reported buying fresh fruit and vegetables, less than half the population ate them on a daily basis. This seemed to reflect a combination of age-related food preferences, availability, and cost. Thus, 86% of respondents said that they would buy more fresh food if available, but people over the age of 65 were significantly less likely to say so. Similarly, the percentages of those who ate vegetables daily or almost daily fell from 55% in younger adults (age 20-34) to just 10% in people over the age of 65. Cost also appeared to be a factor, with 48% of households reporting that they ran out of money before the next pay.¹⁴⁷ Eighty nine percent of respondents reported drinking tea regularly (often with sugar) and 26% said that they regularly drank soft drinks.¹⁴⁸ Forty percent of school children sometimes skipped breakfast and a quarter of them went to the restaurant daily.¹⁴⁹ Wild meat and fish were widely available. Cooked cereal (oatmeal) was popular.¹⁵⁰

The Chisasibi results are consistent with those of another survey carried out in the Cree communities in 1983. This similarly found widespread availability of country food and a substantial degree of soft drink consumption.²⁸

²⁸ The figures for soft drink consumption are much higher in this second survey. This may reflect the fact that the first survey asked adults about their own consumption, while the second survey asked if “anyone in the household” drank soft drinks. The results from the second survey would thus include children and adults other than the respondent.

Respondents who Report that “One or More People in the Household Drink Soft Drinks Every Day,” 1983-84 ¹⁵¹	
Chisasibi	56%
Eastmain	67%
Mistissini	38%
Nemaska	31%
Waskaganish	62%
Waswanipi	47%
Wemindji	40%
Whapmagoostui	91%

There are other objective measures of nutritional status. For instance, the 1983-84 study analysed zinc deficiency in hair samples as an indicator of nutritional deficiency over the previous three months. The results suggested widely varying prevalence of nutritional problems. These ranged from 2% in Nemaska to 45% in Chisasibi. A more recent study of new mothers and infants (1998-2000) found that 7% of mothers were anaemic at their first prenatal visit, and 13% of infants also had anaemia (haemoglobin <105 g/L).¹⁵²

Zinc Deficiency in Hair, 1983-84 (<80 ug/g) ¹⁵³								
	Chis	East	Mist	Nem	Wask	Wasw	Wem	Whap
N	124	115	145	125	103	78	132	96
% (rounded)	45%	4%	17%	2%	5%	10%	22%	16%

How do residents of Cree Region themselves feel about nutrition? Lavallée and Robinson (1991) surveyed the attitudes to nutrition, weight, and health of people in five communities:

- 75% of those interviewed said that chips, chocolate, and soft drinks can be detrimental to health;
- 87% said that being obese is not healthy;
- 86% were convinced of the importance of eating a balanced diet;
- 78% knew that changing their eating habits could help them to lose weight;
- 70% knew that being obese raises risk for diabetes; BUT
- 20% also stated that they would prefer to gain weight than to do without the foods they liked.¹⁵⁴

11.5.1.c. Food Security

Food costs are far higher in the North. For instance, in 1996, Indian Affairs estimated the cost of a standard food basket at \$125 in Ottawa but \$214 in Waskaganish. Willows similarly found higher costs in the Cree communities of a variety of foods suitable for infants.

Cost of a “Nutritious Food Basket” to Meet the Needs of a Family of Four, 1996 ¹⁵⁵		
Ottawa	Waskaganish	Kuujuaq
\$125	\$214	\$180
Note: Waskaganish was the only Cree community sampled in this study. Contents of the standard food basket were not specifically adapted to the Cree diet, nor did it include country food.		

Cost of Infant Foods, 2002 ¹⁵⁶			
	Montreal	Chibougamau	Cree communities
2% UHT milk, 1 litre	\$1.50	\$1.69	\$1.86
Homo milk, 2 litres	2.65	3.00	3.77
Iron-fortified infant formula (concentrate)	2.54	3.50	4.29
Iron-fortified infant formula (powder)	11.19	N/A	14.52
Baby cereal	2.49	3.09	3.91
Jarred baby food	0.61	0.62	1.03
Apple juice, 1 litre	2.69	2.75	3.83

What is the impact of these costs on diet? As noted above, in 1983-84, 48% of households in Chisasibi reported that they ran out of money for food before their next pay. By 1991 the situation seemed to have improved. Comparatively lower percentages (7-11%) reported that the availability of food had been a problem during the previous year. Improved road access to many of the communities may have helped to lower the cost of foods imported from the south. Yet the possibility of food shortage seems to be a concern to many families. In a 1998-2000 survey of 245 mothers with infants, 20.8% of mothers said “yes” when asked “Do you ever worry you don’t have enough money to buy your children enough food to eat?”¹⁵⁷

Percent of Adults Reporting that Food Availability was a Problem in the Past Year, 1991 ¹⁵⁸									
Chis	East	Mist	Nem	Wask	Wasw	Wem	Whap	Que FN	Cdn FN
	7%	8%		11%			9%	7%	8%
Note: blank cells indicate that Statistics Canada suppressed the numbers as being based on too small a sample to be trustworthy.									

11.5.1.d.Body Weight

Weight and exercise habits are of particular concern given rising diabetes rates in the Cree Region. Several factors contribute to negative changes in eating habits over the last 30 years. Available data suggest that dietary quality was already poor in the early 1980s. As the proportion of people living on the land declined, so has the proportion of the diet derived from the land. Fish consumption has also declined in response to Public Health warnings about mercury levels during the 1970s. High northern prices and increased availability of “southern” foods have created a situation conducive to unhealthy diets. On the positive side, the new roads have also made fresher and more varied produce available.¹⁵⁹

The proportion of overweight and obese adults has increased greatly over time. In pre-development times when the fur trade was the dominant economic activity, the Crees were known for their daily and seasonal mobility and physical endurance. Historical records - and photographs - indicating obesity are thus very rare. But survey data suggest that the proportion of obese adults has increased steadily since at least 1983 and possibly earlier. In 1991 Santé Quebec reported that among the Crees 57% of women and 38% of men were obese (Body Mass Index ≥ 30).²⁹ These prevalence rates were among the highest reported anywhere in the world at a population level.

By 2001, 87% of Cree adults in the region were overweight or obese.¹⁶⁰ The following year a study in Oujé-Bougoumou and Nemaska found similar or even higher proportions. In Ouje-Bougoumou 27% of adults were overweight (BMI between 25 and 29.9); another 60% were obese (BMI ≥ 30); and 13% of the population had a BMI in the normal range. Comparable figures for Nemaska were: 22% overweight; 71% obese; and only 7% normal weight. Surveys over the years suggest that Cree women are more likely than Cree men to be overweight. This has been the case since at least 1983. Although changes in patterns of physical activity must be responsible in part for the level of obesity in the Cree communities, the increasing reliance on market foods has been linked to obesity among both children and adults.

Information about Cree children also suggests problems with weight, although fewer children than adults are overweight. Bernard et al., during February to April 1992, collected data on 144 schoolchildren (some elementary school age and some secondary school age) in Chisasibi and Eastmain. They examined weight, diet, activity, and television. They found 38% overweight as classified by BMI but no differences in this by gender, age, or community. Compared to the other children, the overweight children ate fewer fruits, vegetables and milk products. They were less active and spent more time watching TV.¹⁶¹ More recently (2000-2002), surveys of schoolchildren age 6-12 in three communities estimated that 21-27% of Cree children were overweight; and an additional 35% obese.¹⁶² In other words, 56-62% of children had weights greater than the desirable range.

²⁹ Body Mass Index (BMI) is a standard measure of weight relative to height. The current WHO guidelines are: underweight BMI <18.5; acceptable weight 18.5 to 24.9; overweight 25 to 29.9; obese, 30+.

Proportion of Adults (15+) Who Were Obese, by Community, 1983-84 ¹⁶³		
	F	M
Chisasibi	49%	21%
Eastmain	56	24
Mistissini	62	36
Nemaska	44	18
Waskaganish	58	23
Waswanipi	47	19
Wemindji	54	22
Whapmagoostui	60	17

Percent of Adults Classified as Obese (Body Mass Index of 30 or More), 1983, 1989, 1991 and 2001 ¹⁶⁴				
BMI≥30	1983	1988	1991	2001*
Women	42%	50%	57%	NA
Men	23%	33%	38%	NA
Both	NA	41%	48%	54%
Note that the 1988 and 2001 figures are based on self-report, whereas the 1983 and 1991 ones are based on physical measures. This may affect the results.				

Body Weight of Adults in the Cree Territory by Geographic Area, 2001 ¹⁶⁵ Using Body Mass Index			
	Coastal	Inland	Cree Territory
Underweight (BMI <18.5)	0%	0%	0%
Acceptable weight (BMI 18.5-24.9)	11%	14%	13%
Overweight (BMI 25-29.9)	36%	30%	33%
Obese (BMI 30+)	53%	56%	54%
Total	100%	100%	100%
Note: the BMI cut-off points are those currently recommended by the World Health Organisation. They differ slightly from those used in some past Canadian surveys. Pregnant women are excluded from the numbers. The figures are based on self-reported height and weight. See endnote for a list of communities included in the various areas.			

11.5.2.Smoking

Smoking rates in the Cree Region are higher than the Canadian and Quebec averages. According to a 2001 survey, 37% of Cree adults smoked regularly (compared to 25% of Quebecers), and another 14% smoked occasionally. A 2002 survey in Oujé-Bougoumou and Nemaska found even higher proportions, reporting that over 50% of adults smoked every day.¹⁶⁶

The proportion of the Cree Region's population that smokes either regularly or occasionally seems to have held constant over time. This is in sharp contrast to the rest of the country where smoking rates have fallen steadily over the past 20 years or more.¹⁶⁷ As with Registered Indians elsewhere in Canada, it seems that almost all Crees smoke at some point in their lives. Only 15% of Cree adults have *never* smoked. Half of other smokers began smoking when they were 15 to 19 years old. Over a third began before they were 15. Few take up smoking after age 20.

Proportion of Daily Smokers ¹⁶⁸ Crees Compared to Quebec and Canadian Averages		
Cree 2001 Age 15+	Quebec 2000-2001 Age 12+	Canada 2000-2001 Age 12+
37%	24.9%	21.5%

Smoking Habits Over Time in the Cree Region			
	1983-84 ¹⁶⁹	1991 ¹⁷⁰	2001 ¹⁷¹
Never smoked	17%	9%	15%
Ex-smokers	33%	37%	33%
Occasional smokers	*	12%	14%
Regular smokers	*	41%	37%
Regular + occasional	50%	53%	51%
* Regular and occasional smokers were combined in 1983-84 Figures for 1983-84 are estimates based on a reweighing of the original data.			

Age at Which Current Smokers Took Up Smoking 2001 Aboriginal Peoples Survey ¹⁷²	
	% of current smokers who began smoking at...
Under 15 years	37%
15-19 years	50%
20+ years	9% [#]
Not stated	-
# Caution: high sampling variability for this figure.	

Smoking rates vary appreciably between communities. Some of the observed differences may be due to small sample sizes. However, the fact that some of the same communities stand out in surveys almost ten years apart suggests that the differences are real. In the early 1980s the lower rates of smoking in Waskaganish, Nemaska, and Mistissini were believed to be related to "the religious teaching of certain church groups."¹⁷³ It is not clear whether this is a factor today, particularly in Mistissini where rates are

no longer lower than in the rest of the region. In contrast, Whapmagoostui has consistently had the highest proportions of regular smokers.

Percent of Current (i.e. Daily and Occasional) Smokers by Community (Adults) ¹⁷⁴												
	Chis	East	Mist	Nem	Was k	Was w	We m	Wha p	E.I.	Que FN	Cdn FN	Can ada
1983-84	55%	63%	32%	43%	42%	64%	57%	78%	50% *			41%
1991	49%	55%	52%	31%	44%	49%	49%	63%	49%	54%	55%	31%
2001	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	51%			22%
Note: Percentages of current smokers derived from the 1991 APS (as shown in this table) are slightly lower than those found by the Santé-Québec survey in the same year. * The total for The Cree Region in 1983-84 is based on a reweighing of the original data.												

Percentage of Current Smokers, by Age Group and Community, 1983-84 ¹⁷⁵							
		15-19	20-24	25-44	45-64	65+	All ages
Chis	N	21	26	61	25	10	143
	%	76%	69%	53%	32%	40%	55%
East	N	14	13	44	27	12	110
	%	71%	92%	61%	52%	50%	63%
Mist	N	24	19	59	36	11	148
	%	61%	53%	19%	36%	0%	32%
Nem	N	29	19	54	14	7	123
	%	76%	58%	28%	21%	29%	43%
Wask	N	24	19	31	23	8	105
	%	71%	79%	19%	22%	13%	42%
Wasw	N	11	15	33	19	3	81
	%	64%	67%	58%	74%	67%	64%
Wem	N	24	17	55	23	9	128
	%	67%	77%	56%	44%	33%	57%
Whap	N	17	21	32	20	7	97
	%	88%	86%	78%	65%	71%	78%
Cree Region *	N	163	149	369	187	67	935
	%	70% *	69% *	42% *	42% *	32% *	50%*
* The figures for the Cree Region as a whole are estimates based on a re-weighting of the data from the Plasanouq survey.							

In 1983-84 a strong relationship was observed between smoking behaviour and age. Elderly people were less likely to smoke. However, those figures do not say whether elderly people used to smoke and then quit, or whether they had never smoked at all. Data from 1991 and 2001 show that the older the person, the less likely to have ever smoked, lending credence to the latter theory. Smoking rates are highest in the age group 15-24 years. The rates drop thereafter. This drop is apparently because many people manage to quit (as indicated by the high proportions of “former smokers” in the 25-44 and 45-64 year-old groups).

Fully 75% of people aged 15-24 smoke at least occasionally. This proportion is identical to that observed for Indian reserves throughout Canada in 1997.¹⁷⁶

The smallness of sample sizes make many conclusions suspect. Nonetheless, the 2001 data suggest that women are slightly more likely than men to be daily smokers – at least in the younger-adult age groups.

Smoking Habits by Age Group, 1991 and 2001 ¹⁷⁷					
	Age group				
	15-24	25-44	45-64	65 +	All 15+
1991					
Never smoked	9%	6%	15%	18%	9%
Ex-smokers	15%	44%	61%	59%	37%
Occasional smokers	16%	13%	7%	2%	12%
Regular smokers	61%	37%	17%	21%	41%
2001					
Never smoked	15%	9%	24%	35%	15%
Ex-smokers	10%	35%	55%	64%	33%
Occasional smokers	22%	14%	x	x	14%
Regular smokers	53%	41%	15%*	x	37%
* Caution: high sampling variability, confidence interval 9-24%. Despite this, the difference in smoking rates between this age and the 45-64 year-old group is statistically significant at the 0.05 level.					
“x” indicates that Statistics Canada suppressed the number as being based on too small a sample to be reliable.					

% of People in Each Age Group Who Are Daily Smokers By Sex, 2001 ¹⁷⁸		
	Males	Females
15-24	51	55
25-44	40	42
45-64	X	X
65 and over	X	X
All ages 15+	36	38
"x" signifies that Statistics Canada suppressed the number as being based on too small a sample to be reliable.		

Residents of the Cree Region are lighter smokers than other Quebecers even though the smoking rates are high. In 1991, 63% of Crees smoked less than half a pack per day, as compared to only 23% of other Quebecers. Figure for 2001 were similar. On average, regular smokers smoked 9.6 cigarettes per day. Like other Registered Indian groups in Canada, the Crees have unusually high proportions of occasional smokers (i.e., people who do not smoke every day).¹⁷⁹

Number of Cigarettes Smoked per Day by Regular Smokers Age 15+, 1991 ¹⁸⁰			
	10 cigarettes or less	11-25 cigarettes	26+ cigarettes
Men	49	49	1%
Women	80	19	1%
Both	63%	36%	1%
Quebec	23%	65%	11%

Average Number of Cigarettes Per Day Smoked by Daily Smokers Age 15+, 2001 ¹⁸¹		
Coastal	Inland	Cree Region
9.8	9.2	9.6
See endnote for a list of the communities in the Inland and Coastal groupings.		

11.5.3. Alcohol and Illicit Drugs

11.5.3.a. Alcohol Consumption

The information on alcohol use trends is complicated to interpret. On the one hand, there is evidence that alcoholism was a problem as early as 1975; on the other hand, there is substantial evidence that the proportion of people who drink was much lower in the 1970s than it is at present. The earliest data on alcohol use in the region are from 1975-77. These data show that Cree hospitalisation rates for “alcoholism” were almost five times the Quebec average among men and 2-3 times the Quebec average among women. The larger gap for men is consistent with reports that, historically, Cree women did not drink alcohol. This picture changed as people moved into settled communities.¹⁸²

After 1975 the use of alcohol seems to have increased. The evidence for this is as follows. The creation of Cree-controlled social and political institutions is said to have been an important factor in reducing negative impacts of the James Bay hydro development.¹⁸³ Nonetheless, police reports during the years immediately after 1975 indicated a strong increase in drug and alcohol-related problems. Results from the 1991 Santé-Québec survey showed that consumption of alcohol was strongly age-related, with the proportion of drinkers diminishing steadily with increasing age. The authors concluded: “Alcohol consumption seems to be a relatively recent phenomenon in the Cree communities.”¹⁸⁴

If younger cohorts are more likely to drink than their elders – when their elders were the same age – then the proportion of drinkers in the Cree population can be expected to rise over time. In fact, survey data since the early 1980s suggest steady increases in the proportion of adults who drink. A 1983-84 survey suggests that 35% of adults had had an alcoholic drink during the previous month.¹⁸⁵ Surveys in 1991 found that 35-49% of adults drank at least occasionally.¹⁸⁶ Data for 2001 suggest that 57% of adults had consumed alcohol in the previous year.¹⁸⁷

The concern of residents over alcohol abuse has also risen over time. In 2001 alcohol was the most commonly identified problem in the communities. Eighty percent of adults reported that it was an issue.¹⁸⁸ Despite the increases over time, the proportion of drinkers in the Cree population remains well below the “norm” in other parts of the country. It is important to bear in mind that large proportions of Crees (40-50% depending on the survey) of Crees do not drink at all.

Hospitalisation Rates for Alcoholism per 10,000 persons 1975-77 ¹⁸⁹			
Cree		Quebec	
M	F	M	F
94	8	20	3

% of People who had Consumed an Alcoholic Drink in the Previous Month, by Age, 1983-84 ¹⁹⁰							
	N	Age Group					Total
		15-19	20-24	25-44	45-64	65+	
Chisasibi	46	48%	67%	23%	16%	0%	31%
Eastmain	36	12%	38%	48%	15%	14%	30%
Mistissini	48	54%	63%	20%	29%	8%	32%
Nemaska	47	59%	53%	29%	7%	29%	37%
Waskaganish	35	42%	63%	31%	14%	0%	33%
Waswanipi	54	82%	67%	67%	58%	67%	67%
Wemindji	35	11%	24%	32%	29%	22%	26%
Whapmagoostui	27	18%	52%	31%	10%	14%	28%
Cree Region *	328	46%	59%	31%	25%	13%	35%
* Totals for The Cree Region as a whole are estimates, based on a re-weighting of the original figures according to the total population in each community in 1983.							

% of Adults who Reported Drinking Alcohol in the Past Year, 1991 ¹⁹¹ According to the Aboriginal Peoples Survey	
Chisasibi	38%
Eastmain	59
Mistissini	19
Nemaska	41
Waskaganish	34
Waswanipi	49
Wemindji	34
Whapmagoostui	52
Cree Region	36
Quebec Aboriginal	63
Canadian Aboriginal	64

How does one reconcile the relatively low proportion of drinkers in the Cree Region with the frequency of alcohol-related problems in some communities, and with the fact that hospitalisation statistics in the late 70s already showed unusually high rates of admission for alcoholism? The explanation may be that most of those who drink at all drink tend to heavily. In 2001, 92% of Cree drinkers “binged” at least occasionally. Almost half (47%) did so several times a month.¹⁹² Binge episodes are strongly associated, by Cree police and social services, with crime and social problems needing intervention.³⁰ The 1991 Santé Québec survey is consistent with this picture. It found that 24% of Cree drinkers had experienced problems caused by alcohol during the previous year. The survey classified 10% of female drinkers, and 20% of male drinkers as “at risk”.

³⁰ Alcohol also contributes to injury rates. A study of motor vehicle crashes over the 1986-1999 period (Kischuk, 2003) demonstrated that alcohol was implicated in 43% of the fatal crashes among Crees.

Type of Drinkers by Geographic Area: Cree Region and Quebec 1991 ¹⁹³ According to the Santé Québec Health Survey (Age 15+)				
	Coastal	Inland	Cree Region	Quebec (1987)
Non-drinkers	28%	16%	23%	15%
Ex-drinkers	27%	30%	28%	6%
Occasional drinkers	24%	20%	22%	20%
Habitual drinkers	21%	35%	27%	60%
Total	100%	100%	100%	100%
Note: percentages have been rounded.				

The data suggest large differences in alcohol use between communities. Some of this may be attributable simply to small sample sizes. It is also possible that geographic patterns associated with alcohol use have changed over time. The 1991 Santé Québec survey showed that, in the inland communities, 83% of those who drank at all had “binged” (consumed 5 or more drinks at one sitting). The comparable proportion in the coastal communities was 55%.¹⁹⁴ More recent results from the 2001 APS suggest that the coastal and inland communities now have roughly equal proportions of “binge” drinkers. However, a detailed examination suggests that the inland communities may have higher proportions of *frequent* bingers.³¹

Frequency of "Binge" Drinking Among Adult Drinkers, 2001 ¹⁹⁵			
	Coastal	Inland	Cree Region
Never	7%	x	8%
Once a month or less	58%	*45%	53%
Up to once a week	27%	*39%	39%
More than once a week	8%	x	8%
Total	100%	100%	100%
Percentages are based on the persons who have had an alcoholic drink in the past 12 months. Figures are for people age 15+ in the territory who identify as Aboriginal. See endnote for a list of the communities included in the coastal/inland groupings. * Signifies that the difference between the Coastal and Inland communities is statistically significant at the 0.05 level. “x” signifies that Statistics Canada suppressed the figure as being based on too small a sample to be reliable.			

Proportion of Adult Drinkers who "Binge," 2001 ¹⁹⁶		
	Number	%
Coastal communities	2020	93%
Inland communities	1270	91%
Cree Region	3290	92%
Quebec total (1998-99)		41%
Canada total (2000-01)		44%
Percentages are based on the people who have had an alcoholic drink in the past 12 months, (i.e., adults who drink at all) and who provided a valid answer to the question on binge drinking. See endnote for a list of the coastal and inland communities.		

³¹ These questions, being sensitive, had high proportions of people who refused to answer – especially in the inland communities. Such methodological problems may also explain the apparent anomalies and changes in pattern over time.

Problems Relating to Alcohol Consumption in the 12 Months Prior to the Survey. Adult Drinkers ³² (Age 15+) in 1991. ¹⁹⁷			
	Males	Females	Total
Hurt yourself or someone else in a fight because of alcohol	17%	7%	12%
Had trouble at work or at school because of drinking	13%	7%	10%
Been warned because of drunken driving ^Φ	13%	5%	9%
Had problems with health because of drinking	12%	5%	8%
Was sent home because of being drunk in a public place	10%	3%	7%
Had an accident, injury or hurt someone accidentally when drunk	8%	3%	6%
Had alcohol-related hospitalisation or had to go for treatment for an alcohol problem	6%	2%	4%
Lost a job (or got kicked out of school) because of drinking	3%	2%	3%
Answered "yes" to at least one of these questions	34%	15%	24%
Φ Figures for “been warned for drunken driving” should be interpreted with caution, since it is suspected that some respondents may have misunderstood the statement.			

Proportion of Drinkers who are “At Risk” According to the Modified ADI, by Age and Sex, 1991 ¹⁹⁸		
Age group	Modified ADI*	
	Males	Females
15-19	16%	18%
20-24	36%	17%
25-44	25%	8%
45-64	8%	4%
65 and over**	4%	0%
All ages	21%	10%
* Modified ADI: a non-validated measure consisting of the CAGE index minus two questions that did not seem to work well in the Cree Region.		
** Caution: small number of people over age 65.		

Consistent with survey evidence showing increasing proportions of drinkers, public concern about alcohol use seems to have increased over time, although comparisons are complicated by changes in survey wording over the years. Whapmagoostui and Waswanipi are the two communities nearest to bars, and hence with easy daily access to alcohol. Around 1985 the residents of these communities perceived alcohol as a serious problem. In contrast, people in the other communities saw it as only “somewhat of a problem.”¹⁹⁹ But by 1991, 73% of all residents of the Cree Region said that alcohol abuse was a problem in their community. No community had fewer than 50% of residents who thought so. Whapmagoostui and Mistissini had particularly high proportions of residents who endorsed this view. Alcohol abuse in 2001 ranked first of all the social problems that people identified in their communities. Eighty percent of residents agreed that it was an issue. Residents of coastal communities were somewhat more likely than those in the inland areas to describe alcohol as a problem.

³² The original title to this table in the Report of the Santé Québec survey reads “population 15+ in 1991,” rather than “drinkers 15+.” However, a look at the skip pattern for the questionnaire used in the survey suggests that this is a clerical error, and that in fact the proportions are based on adults who drink rather than on all adults.

% of Adults Reporting that Alcohol Abuse is a Problem in Their Community, 1991 ²⁰⁰										
Chis	East	Mist	Nem	Wask	Wasw	Wem	Whap	EI	FN in Que	FN in Can
76%	59%	86%	73%	60%	56%	71%	93%	73%	60%	61%

Percent of Adults Reporting that Alcohol Abuse is a Problem in Their Community, 2001 ²⁰¹		
Coastal	Inland	Cree Region
87%	*71%	80%
See endnote for a list of communities included in the various groupings.		
* Indicates that the difference between the coastal and inland communities is statistically significant at the 0.05 level.		

11.5.3.b. Illicit Drugs Consumption

A majority of adults in the Cree Region also say that drug abuse is a problem in their community. However, the proportions of people who report having tried any type of drug during the previous year are much lower than those who report drinking alcohol. In 1991 marijuana and hashish were by far the most commonly used illicit substances. "Hard" drugs such as cocaine were less common. The abuse of solvents (at least in people over 15) was all but non-existent. Alcohol use and drug use both show clear age patterns. Older adults are much less likely to have taken any type of drugs during the past year. People under the age of 24 were most likely to use drugs. Male users outnumbered female users by 3 to 1.

Drug Consumption During the Preceding Year by Age Group, 1991 ²⁰²										
	Marijuana or hashish		Cocaine or crack		Solvents		Other drugs		No drugs	
Age	M	F	M	F	M	F	M	F	M	F
15-19	33%	26%	7%	3%	5%	3%	15%	5%	61%	72%
20-24	45%	19%	12%	8%	-	0	4%	4%	53%	79%
25-44	19%	4%	9%	1%	<1%	0	<1%	0	79%	96%
45-64	0	1%	0	0	0	0	0	0	100	99%
65 and over	0	0	0	0	0	0	0	0	100	100
All ages	21%	7%	7%	2%	1%	<1%	4%	2%	77%	89%

Percent of Adults who Felt that Drug Abuse was a Problem in Their Community, 1991 ²⁰³										
Chis	East	Mist	Nem	Wask	Wasw	Wem	Whap	EI	Que FN	Cdn FN
56%	52%	75%	63%	41%	53%	50%	67%	57%	49%	48%

Percent of Adults who Felt that Drug Abuse was a Problem in Their Community, 2001 ²⁰⁴		
Coastal	Inland	Cree Region
77%	68%	73%
See endnote for a list of communities included in the various groupings.		

11.5.4.Preventative Health Practices

Information on preventative screening practices dates back to 1991. Figures from that time showed that Cree women were much less likely than other Quebec residents to have pap smears or breast exams. In 1991 only 45% of women in the Cree Region had had a pap smear in the previous two years, whereas this was the case for 66% of other women in Quebec. Similarly, only 35% (vs. 86%) had had a breast exam by a professional, and fewer Cree women carried out breast self-exams. As in the rest of Quebec, women over the age of 65 were particularly unlikely to have used these screening procedures. The Cree rates were also unexpectedly low in women age 15-24. This picture may have changed in recent years, as nurses now call women to come in for their regular exams.

% of Women who had a Pap Test in Previous Two Years, 1991 ²⁰⁵		
Cree (1991)	Quebec (1992-93)	
45%	66%	

% of Women who have Performed at Least one Breast Self-Exam ²⁰⁶		
	Cree (1991)	Quebec (1992-93)
15-24	27%	57%
25-44	51%	75%
45-64	45%	78%
65+	32%	65%
Total	40%	72%

Percent of Women who have had a Breast Exam by a Professional, by Age ²⁰⁷		
Age	Cree (1991)	Quebec (1992-93)
15-24	22%	65%
25-44	43%	92%
45-64	43%	92%
65+	38%	81%
Total	35%	86%

11.5.5. Physical Activity

There is a dearth of historical information on physical activity levels in the Cree Region. Since living on the land involved frequent physical activity, it seems fair to assume that at one time large proportions of adults were physically active. However, as discussed in the section on Social Conditions, only a minority of people now make their living from land-based activities. In 1991 less than half of Cree adults were physically active either in their daily activities or in their leisure time. Forty five percent of adults participated in some form of physical activity overall. This is a lower percentage than reported for other Registered Indians in Canada. The proportion seemed to hold constant across most communities with the possible exception of Whapmagoostui.

According to the detailed measures used in the 1991 *Santé-Québec* survey, 62% of the Cree population was “inactive” or “relatively inactive.” Fifty five percent was inactive during daily activities and 83% was classified as “inactive” or “relatively inactive” during leisure time. Men were more likely than women to report being “very active” in both daily activities and recreation but the differences for “moderate” activity levels were less pronounced. Activity levels during leisure time decreased with age. It appeared that children were more active than adults. No data are available for more recent years. However, some communities now have fitness centres and others organise collective activities such as “wellness” walks between communities.

Proportion of Adults and Children who Participate in Physical Activity By Community, 1991 ²⁰⁸										
Chis	East	Mist	Nem	Was k	Was w	Wem	Wha p	EI	Que FN	Cdn FN
44%	52%	45%	47%	47%	34%	41%	58%	45%	52%	54%
60%	63%	61%	66%	73%	64%	65%	73%	64%	67%	67%

Physical Activity Level During Daily Activities, 1991 ²⁰⁹				
	Very active	Moderately active	Relatively inactive	Inactive
Females	11%	28%	49%	12%
Males	22%	29%	40%	9%
Total	16%	29%	44%	11%

Physical Activity Level of Adults During Leisure Time, by Age Group, 1991 ²¹⁰					
Age group		Very active	Moderately active	Relatively inactive	Inactive
15-24	M	10%	18%	22%	50%
	F	6%	14%	13%	67%
25-44	M	12%	11%	17%	60%
	F	3%	7%	11%	79%
45-64	M	4%	5%	7%	85%
	F	1%	5%	4%	91%
65+	M	-	11%	8%	80%
	F	-	3%	3%	93%
Total	T	6%	11%	13%	70%

Overall Physical Activity Level 1991 ²¹¹ (composite measure of leisure and daily activities)				
	Very active	Moderately active	Relatively inactive	Inactive
Females	12%	17%	28%	42%
Males	29%	18%	29%	24%
Total	21%	18%	29%	33%

Endnotes – 11.5. Personal Health Practices

¹³⁴ c.f. Receveur (ca. 2002).

¹³⁵ *ibid.*

¹³⁶ Beaulieu (1984).

¹³⁷ Fortin and Gray-Donald (1984).

¹³⁸ Receveur (ca. 2002).

¹³⁹ Native Harvesting Research Committee, Environmental and Social Impact Review Panel (1978).

¹⁴⁰ *ibid.*

¹⁴¹ 1991 APS, Community Profiles.

¹⁴² Willows (2003).

¹⁴³ Foggin and Lauzon (1986).

¹⁴⁴ 1991 APS, Community Profiles.

¹⁴⁵ Robinson (1985a), p. 58.

¹⁴⁶ *ibid.*

¹⁴⁷ Fortin and Gray-Donald (1984).

¹⁴⁸ *ibid.*

¹⁴⁹ Robinson (1985a). Summarising Fortin's results.

¹⁵⁰ *ibid.*

¹⁵¹ Foggin and Lauzon (1986).

¹⁵² Willows (2003).

¹⁵³ Foggin and Lauzon (1986). The sample consisted of 35-40 households per community. The response rate for the physical-measures component of the survey was 81%.

¹⁵⁴ c.f. Receveur (ca. 2002).

¹⁵⁵ Data from Indian and Northern Affairs Canada, c.f. Schnarch (2001), p. 61.

¹⁵⁶ Willows (2003), Table 3.

¹⁵⁷ *ibid.*

¹⁵⁸ Statistics Canada, 1991 Aboriginal Peoples Survey. Community Profiles.

¹⁵⁹ Vincent (1998).

¹⁶⁰ 2001 APS. Custom tabulations prepared for the CBHSSJB, February 2004. For a table showing these results in more detail, see the Health Status section of this report, under "Diabetes".

¹⁶¹ Receveur (ca. 2002).

¹⁶² Teta et al. (2002). "Overweight" was defined as over the 85th percentile of the NCHS Height for Weight standards.

¹⁶³ Foggin and Lauzon (1986).

¹⁶⁴ Data for 1983: original source is Thouez et al., 1990 (Plasanouq survey). Refers to people age 15+. Note that there were some problems with the survey methodology. The data are reproduced in Receveur (ca. 2002).

Anthropometry (unpublished table). Data are based on physical measures.

Data for 1988 c.f. Receveur op. cit. Original source is Lavallée (1990). *Habitudes de vie et d'activité physique chez les Cris de la Baie James : Enquête préliminaire*. Data are based on interviews with 283 people age 17 and over. Data for 1991 from the Santé Québec survey, c.f. Schnarch (2001), p. 72. Based on physical measures on a sample of 943 people age 15+ in the Cree communities.

Data for 2001 from 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004. Figures are based on self-reported height and weight, for 578 respondents age 15+.

¹⁶⁵ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004. Coastal = Whapmagoostui, Chisasibi, Wemindji, Eastmain, and Waskaganish. Inland = Nemaska, Mistissini, Waswanipi, and Ouje-Bougoumou.

¹⁶⁶ Dewailly and Nieboer (2003).

¹⁶⁷ Health Canada, from www.hc-sc.gc.ca

¹⁶⁸ Cree data from 2001 APS, custom tabulations prepared for the CBHSSJB. Data for Canada and Quebec from Statistics Canada, posted at <http://www.statcan.ca/english/Pgdb/health07a.htm>.

¹⁶⁹ Foggin and Lauzon (1986). Original figures have been re-weighted based on the total population as of May 1983 (although the original question on smoking may not have applied to younger children).

¹⁷⁰ Santé Québec survey, c.f. Schnarch (2001), p. 66.

¹⁷¹ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004.

¹⁷² *ibid.*

¹⁷³ Foggin et al. (1998).

¹⁷⁴ Data for 1983/84 from Foggin and Lauzon (1986), p. 105. Total for the Cree Region has been re-weighted based on the total population in May 1983, although the original report does not specify if young children were excluded from the question on smoking. Figures for 1991 from 1991 APS, Community Profiles - Note that these percentages are slightly lower than those found by the Santé Québec survey in the same year, possibly because of problems with the sampling frame, which was derived from the 1991 Census. (The 1991 Census appeared to under-count certain communities). Data for 2001 from 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004.

¹⁷⁵ Foggin and Lauzon (1986). Estimates for the Territory were derived by weighting the original figures for each age group by the population of that age in each community in 1983.

¹⁷⁶ Canada (1999).

¹⁷⁷ Santé Québec survey, c.f. Schnarch (2001), p. 66. Percentages have been rounded. Data for 2001 from 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004.

¹⁷⁸ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004.

¹⁷⁹ Stevens (1994).

¹⁸⁰ Santé Québec survey, c.f. Schnarch (2001), p. 67.

¹⁸¹ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004.

¹⁸² Saganash (2003).

¹⁸³ Salisbury (1986).

¹⁸⁴ Daveluy et al. (1994), p. 53.

¹⁸⁵ Foggin and Lauzon (1986).

¹⁸⁶ Daveluy et al. (1994); 1991 APS.

¹⁸⁷ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004. The figure was derived by dividing the number of people who had had a drink in the past year (4,260) by a close estimate of the adult population of Eeyou Istchee – the number of people who answered the question on Body Mass Index (7,520). Final figures may differ slightly if it turns out that fewer than 7,520 people answered the specific questions on drinking patterns.

¹⁸⁸ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004.

¹⁸⁹ Berneche (1980) c.f. Robinson (1985a). Percentages have been rounded.

¹⁹⁰ Foggin and Lauzon (1986). Totals for the Territory as a whole are based on a re-weighting of the original figures using the total population from the Beneficiaries List as of May 1983. On the assumption that many children would not have consumed alcohol, this use of the total population as a denominator is less than ideal, but the original report does not describe the age groups to which the “alcohol” question applied. Figures based only on the adult population would be somewhat higher than those shown.

¹⁹¹ 1991 APS, Community Profiles.

¹⁹² 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004.

¹⁹³ Daveluy et al. (1994), p. 52.

¹⁹⁴ Schnarch (2001), p. 68.

¹⁹⁵ 2001 APS op. cit. “Binge” drinking is defined as consuming 5 or more drinks at one sitting.

¹⁹⁶ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004. Data are valid percent (i.e. percentages excluding refusals and “don’t know” answers) for adults 15+ in the territory who self-identify as Aboriginal. “Binge” drinking is defined as consuming 5 or more drinks at one sitting. Data for Canada as a whole from the Statistics Canada website, based on the Canadian Community Health Survey. Data for Quebec from the Statistics Canada website at <http://www.statcan.ca/english/freepub/82-221-XIE/00503/tables/html/2152.htm>.

¹⁹⁷ Santé Québec survey, c.f. Schnarch (2001), p. 69.

¹⁹⁸ *ibid.*

¹⁹⁹ Robinson (1985a).

²⁰⁰ 1991 APS, Community Profiles. Total for the Cree Region was produced by summing the (randomly rounded) numbers for the communities.

²⁰¹ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004.

²⁰² Santé-Québec survey c.f. Schnarch (2001), p. 70

²⁰³ 1991 APS, Community Profiles.

²⁰⁴ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004.

²⁰⁵ Santé Québec health survey, c.f. Schnarch (2001), p. 73.

²⁰⁶ *ibid.*

²⁰⁷ *ibid.*, p. 74.

²⁰⁸ 1991 APS, Community Profiles.

²⁰⁹ Data from Daveluy et al. (1994), p. 61; and from the same survey c.f. Schnarch (2001). For the daily index, inactive individuals are “usually sitting during the day and do not move around very much”. Relatively inactive individuals “stand or walk around quite a lot during the day, but do not have to carry or lift things very often. Moderately active people “usually lift or carry light loads, or have to climb stairs or hills often.” Very active people “do heavy work or carry very heavy loads.”

²¹⁰ Daveluy et al. (1994), p. 61.

²¹¹ *ibid.*

11.6. Health of Mothers and Infants

11.6.1. Birth Rates

Birth rates in the Cree Region are almost double the Quebec average at 28.4 per 1,000 compared to 14.5 per 1,000. Fertility rates are similarly far above Quebec averages. They have dropped substantially over time, from over 200 in the 1960s to 101 in 1996-2002. Despite this drop in fertility, birth rates have not declined at the same pace. This is presumably because there are now more women of childbearing age than before. Birth and fertility rates in the Cree Region resemble those of Registered Indian groups elsewhere in Canada.

Births in the Cree Region, 1975-2002 ²¹²		
	Births	Crude birth rate
1975-81		30.1
1982-84		31
1985	225	28.8
1986	237	28.9
1987	248	29.4
1988	256	29.3
1989	258	28.9
1990	284	31.0
1991	272	25.7
1992	312	29.1
1993	308	28.2
1994	330	29.8
1995	330	29.2
1996	303	26.0
1997	300	24.4
1998	315	24.3
1999	325	23.9
2000	330	27.0
2001	344	27.6
2002	323	25.3
Note: the increase in the early 1990s may be related to the creation of Ouje-Bougoumou.		

Birth and Fertility Rates (per 1,000) Over Time: Cree Region, Quebec, and Canadian Registered Indian ²¹³						
	Birth Rate			General Fertility Rate		
	Cree	Quebec	FN in Can	Cree	Quebec	FN in Can
1960s				>200		
1975-81	30.1	15.4		139	57.6	
1982-84	31			114		
1985-88	28.3			108.6		
1987-92	28.4	14.5 (1990)	29.5 (1991)	106.3	53.0 (1990)	104.2 (1991)
1996-2002	27	9.6 (2002/03)	23 (1999)	101	47 (2003)	n.a.

Births by Community, Over Time (Numbers) ²¹⁴									
	Chis	East	Mist	Nem	Ouje	Wask	Wasw	Wem	Whap
1975	55	6				19		15	12
1976	80	9				30		25	6
1977	50	10				29		20	8
1978	56	5				30		23	11
1979	71	6				28		24	5
1980	45	5				33		21	12
1981	57	14				26		9	6
1982	50	10	53	15	-	40	25	17	8
1983	74	12	62	11		31	29	19	16
1984	74	11	42	11		36	21	19	13
1996	93	11	67	11	12	39	32	19	20
1997	85	12	59	9	16	50	30	26	13
1998	88	12	71	14	12	41	36	18	24
1999	85	16	58	11	20	43	42	21	25
2000	104	18	57	14	16	45	31	30	15
2001	81	13	77	15	19	40	44	33	21
2002	102	9	71	8	10	48	39	21	14

11.6.2.Characteristics and Lifestyle Habits of Mothers

11.6.2.a.Teenage Parenthood

In 1996-2002, 20% of all births in the Cree Region were to teenage mothers. This proportion is high as compared to the rest of Quebec but somewhat lower than it was during the 1980s and 1990s. Similarly, the gap between the fertility rate of Cree teenagers and that of other teenagers in Quebec is not as wide as it used to be. In 1985-88, the teen fertility rate in the Cree Region was eight times the Quebec average of 13.4 per 1,000.²¹⁵ By 1996-2002 it was 3-4 times the Quebec average.

In recent years (1996-2002) about 2/3 of the teenage pregnancies have been in women age 18-19, while the remainder were to younger girls; and 13% of these teen mothers had more than one pregnancy during their teenage years.²¹⁶ There is little information on trends over time in the proportion of very young mothers. One can say that during 1982-84 there was only one pregnancy under age 16,²¹⁷ during 1985-88 there were two pregnancies in girls aged 10-14;²¹⁸ and during 1996-2002 there were 3 births to girls aged 14.²¹⁹ More broadly, data from a study over 1985-1995 found that 6% of pregnancies (159) involved girls aged 12-16.²²⁰ These figures are insufficient to say whether pregnancies in younger girls are becoming more or less common.

Many of the fathers involved in teen pregnancies are slightly older than the mothers, although still under age 24. Between 1996 and 2002, 75% of the fathers were under 24 but only 38% were in the same age bracket as the mother (i.e., aged 10-19).²²¹

What contributes to high rates of Cree teenage pregnancy? Morel²²² suggested a number of contributing factors including:

- a tradition that values motherhood;

- rapid transitions and a resulting “role ambiguity” for teenagers, such that they seek purpose and identity in motherhood;
- widespread viewing of TV and videos leading to the belief that sexual activity is acceptable at any age;
- a lack of information on sexuality and contraception from either families or schools in the Cree Region; and
- very few abortions (which may help to explain some of the difference between Cree teen fertility rates and those in the rest of Quebec).

Teenage pregnancies are often associated with a higher risk of complications for the mother and baby. It is not clear that this holds true in the Cree Region. Morel noted that during 1982-88 teenage pregnancies did not cause any physical problems. Data for 1996-2002 similarly indicate that teenage and adult mothers in the Cree Region had comparable risks of stillbirth, low birth weight babies, and premature delivery.²²³ The only risk documented to date is a somewhat higher smoking rate in teen mothers: based on a review of 2,221 charts from 1994-2000, Willows found that 60% of teen mothers smoked, compared to 50% of older mothers.²²⁴

While teen pregnancy in the Cree Region has not been shown to be higher risk than Cree pregnancy during subsequent childbearing years, one should not assume that Cree teen pregnancy is considered low risk. Regional medical services consider the obstetrics caseload to be generally high risk due to factors such as: maternal obesity, gestational diabetes, and maternal anaemia. This is a principal confounding factor against the re-introduction of obstetrics services at Chisasibi Hospital following their cessation in 2000/01.

Percent of Births to Teen Mothers (Under 20 Years of Age) 1982-2002 ²²⁵		
1982-84	25%	
1985-88	23%	
1988	27%	
1989	26%	
1990	26%	
1991	25%	
1992	28%	
1993	22%	
1994	25%	
1995	27%	
1996	21%	
1997	23%	
1998	22%	
1999	17%	
2000	18%	
2001	17%	
2002	21%	
1996-2002	20%	
Teen Pregnancy Rates per 1,000 (1996-1998) ²²⁶		
	Cree Region	Quebec
Mothers age 14-17	71	19
Mothers age 18-19	232	69

Mother's Age Group, 1985-1995 ²²⁷		
	N	%
12 to 16	159	6%
17-19	555	20%
20-34	1891	70%
≥ 35	113	4%
All ages	2718	100%

Percent of Teenage Pregnancies (<20 Years) By Community, 1982 to 2002 ²²⁸			
	1982-84	1985-98	1996-2002
Chisasibi	26	27.5	21.0
Eastmain	13	23.5	20.9
Mistissini	26	22.9	18.0
Nemaska	13	22.6	24.4
Ouje-Bougoumou	-	19.2	15.2
Waskaganish	18	24.6	22.2
Waswanipi	27	28.3	22.8
Wemindji	26	20.1	13.7
Whapmagoostui	27	22.8	13.6
Cree Region	23%	24.7%	20%

11.6.2.b.Education Level of Mothers

Mothers in the Cree Region generally have less formal education than mothers elsewhere in Quebec. In 1994-98, 58% had less than 11 years of schooling compared to 14.7% in the rest of the Province. The picture in 1998/99 was only marginally different: 53% of Cree mothers had less than 11 years of schooling, compared to 12% in Quebec as a whole.

Births According to Mother's Education Level, 1994-1998 ²²⁹		
	Cree	Quebec
<11 years	58.1%*	14.7%
11 years	11.8%	11.8%
12-13 years	20.3% *	25.9%
14-15 years	6.2%	22.4%
16 years +	3.7%	25.1%
All mothers	100%	100%
* indicates that the Cree figure is significantly different from the Quebec one.		

11.6.2.c.Smoking During Pregnancy

During the period 1998-2000, 55% of Cree women smoked during their pregnancies.²³⁰ The proportion of pregnant smokers seems to have increased steadily over time, from 37% in 1988²³¹ to 47% in 1994-1997, and then to 55% in 1998-2000.²³² However, most seem to be light smokers: in 1994-2000, only 6% smoked 10 or more cigarettes per day.²³³ In a smaller study²³⁴ conducted between 1998 and 2000,

smoking during pregnancy was found to correlate with maternal anaemia and with food insecurity. That is, smoking during pregnancy was more common in households where the woman was worried about having enough money to buy food, and where the mother was herself anaemic.³³

Use of Tobacco by Women Giving Birth in 1988 ²³⁵		
	James Bay (except Mistissini)	Registered Indian and Inuit in Canada
Before pregnancy	38.0%	52.8%
During pregnancy	37.3%	48.2%
After pregnancy	33.9%	48.2%
The study was based on 154 births, which constituted about 80% of the total in these villages.		

Percent of Women who Smoke During Their Pregnancies, by Community, 1994-2000 ²³⁶	
Chisasibi	53%
Eastmain	65
Mistissini	34
Nemaska	65
Ouje-Bougoumou	46
Waskaganish	62
Waswanipi	55
Wemindji	51
Whapmagoostui	42
Cree Region	50%

11.6.2.d. Alcohol and Drug Consumption During Pregnancy

A review of charts for 1994-2000 indicated that 18% of Cree women used alcohol or drugs during their pregnancies.³⁴ Only 3.4% of charts showed that the mother had used drugs and all of these women had also used alcohol. The mothers who used alcohol or drugs had double the risk of having a low birth weight baby – a fact which raised their risk to the Quebec average, since Cree women are generally less likely than other Quebec mothers to bear low birth weight infants. Since the women using alcohol/drugs were no more likely than others to have a premature baby, the difference in birth weight is probably due to intrauterine growth retardation.²³⁷

³³ Because cigarettes are not taxable in the Cree communities, the researcher suggested that the cost of smoking was unlikely to be a significant contributor to food insecurity, and was more probably a “marker” for household stress.

³⁴ This is probably a minimum estimate, since research suggests that medical charts tend to understate alcohol consumption by a considerable amount.

Percent of Women Bearing a Low Birth Weight Baby By Mother's Use of Alcohol /Drugs 1994-2000 Combined. ²³⁸	
Women who used alcohol or drugs during pregnancy	5.7%
Women who did not use alcohol/drugs	2.9%
All Cree women in the Cree Region	3.4%
Quebec average (1999)	5.7%
Based on a review of 2221 charts. Information on alcohol/drug use was available on 86% of charts. Low birth weight is defined as < 2.5 kg.	

Percent of Women Using Alcohol During their Pregnancies, by Community 1994-2000 ²³⁹	
Chisasibi	16%
Eastmain	12%
Mistissini	15%
Nemaska	24%
Ouje-Bougoumou	33%
Waskaganish	15%
Waswanipi	28%
Wemindji	27%
Whapmagoostui	13%
Cree Region	18%
Based on a review of medical charts for 343 pregnancies.	

11.6.3. Infant Feeding Practices

Studies among Aboriginal groups elsewhere in Canada correlate low rates of breastfeeding with the incidence of respiratory disease, otitis media, and gastroenteritis.²⁴⁰ Breastfeeding rates in the Cree Region have varied enormously over time. Historically, breastfeeding was the default option, and the social arrangements supported it. Breastfeeding was inextricably bound up with the notion of loving the child: "The baby counts on love to keep the breast flowing." And in the bush, breast milk was simpler, constantly available, cheap, and did not require the mother to get up in the cold of night or to have clean bottles ready.²⁴¹

Breastfeeding rates seem to have fallen during the 1950s, 1960s, and 1970s. During the 1960s and 1970s health care personnel apparently encouraged women to bottle-feed.²⁴² Romaniuk's 1974 study of four Cree communities found that the proportion of mothers breastfeeding their first child had decreased from 96% for children born before 1940 to 75% for children born since 1960.²⁴³ Studies in 1979 found breastfeeding rates between 55% and 76%, and they appear to have fallen even further during 1976-81.

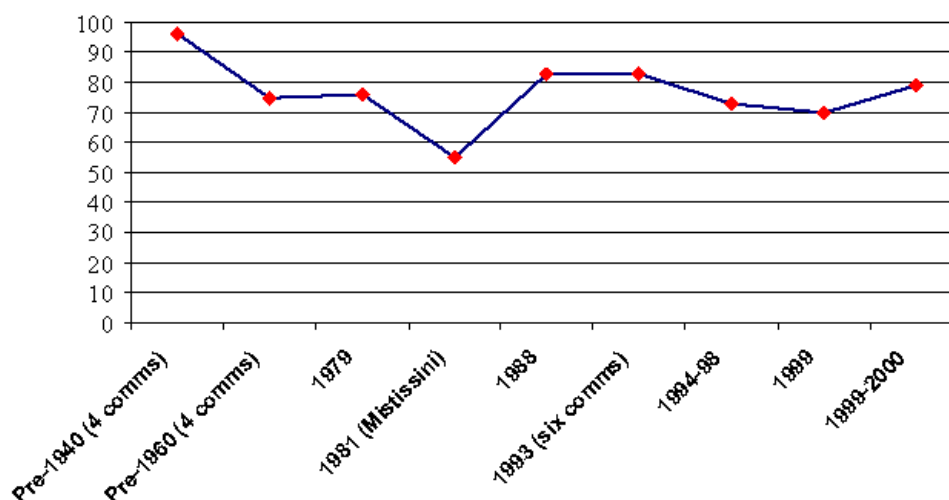
Nineteen Eighty-One seems to have been the low point in terms of breastfeeding initiation. In 1980-81 Pekeles described extremely low rates. In Waskaganish only 20% of mothers initiated breastfeeding and almost none of them continued to six months. In Nemaska the rates were also low and most mothers

stopped breastfeeding in the first month.²⁴⁴ When Marshall interviewed all available mothers with children under the age of two in Mistissini (a total of 75 women), she found that 55% of first-time mothers breastfed while a slightly larger proportion (60%) breastfed the second child.

Thereafter, the Health Board made efforts to promote breastfeeding through various means. Breastfeeding rates rose to 83% in 1988, and were particularly high in Whapmagoostui, Chisasibi, and Wemindji, as women from these communities tended to give birth in the Chisasibi Hospital, which had policies that promoted breastfeeding.²⁴⁵ Since 1994, rates have mostly fluctuated in the 70% range, with considerable variation according to which year is considered and whether the information is based on surveys or on chart reviews.

Breastfeeding Rates Over Time in the Cree Region ²⁴⁶	
Children born before 1940 (4 communities)	96%
Children born before 1960 (4 communities)	75%
1979 (4 communities)	55%
1979 (Methyl mercury study)	>76%
1981 (Mistissini only)	55%
1988	>83%
1988 (six communities)	87%
1993 (six communities)	83%
1994-1998 (chart review)	73%
1999 (survey)	70%
1999-2000 (chart review)	79%
1998-2001 (survey)	66%

Breastfeeding Rates Over Time in Eeyou Istchee



What contributed to these large variations in breastfeeding initiation? A number of explanations have been offered. Marshall attributed the low rates in Mistissini in 1981 to hospital practices at the time,

which did not bring the infant to the mother until 24-48 hours after birth and then did so on a fixed 4-hour schedule. Language and cultural barriers meant that no advice was provided to mothers. However, the hospital staff (i.e., at Chibougamau Hospital) distributed glossy formula brochures and tended to recommend switching to bottles the minute there were any health concerns. Marshall also suggests that the Income Security Programme had the unanticipated effect of separating the generations thereby reducing the transmission of traditional knowledge. She states that the ISP revitalised bush life, but since the people going onto the land were those over 35, this effectively separated the older women from the younger ones and created a communication gap:

Through reduced contact the relations between generations have become attenuated rendering the credibility of the older people questionable. The younger people, especially those who stay in Mistissini year round, do not always find the ideas of their more bush oriented parents relevant.
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The most common reason at the time for not breastfeeding was lack of knowledge. Women often interpreted problems to mean there was something wrong with their milk. Less frequent reasons included: sore breasts, illness in the mother or baby, or return to work or school. Those living in the settlement itself had a new reason. As the settlement grew, friends and shopping were further from home. More people now had cars and so were able to shop in Chibougamau. This opportunity to travel provided an incentive to bottle feed so that the child could be left with a sitter.²⁴⁸ The study found a definite difference in breastfeeding rates between the “bush” and settlement women, and also a distinct age pattern.

Percent of Infants Who were Breastfed By Age and Residence of Mother Mistissini, Summer 1981. ²⁴⁹		
Age of mother	Settlement women % breastfeeding (no. of babies)	Bush women % breastfeeding (no. of babies)
<25 years	32% (34)	78% (9)
25-29 years	54% (59)	53% (41)
30-34 years	60% (41)	57% (53)
The information covers all the births to those women over their lifetimes.		

After 1981 the Cree Health Board promoted breastfeeding as a matter of policy:

*Les efforts de promotion de l'allaitement maternel chez les femmes criees sont surtout allés dans le sens de la diffusion d'informations par divers canaux : la radio, les effectifs infirmiers et médicaux, l'enregistrement d'une audio-cassette en cri, écoutée par la mère après son accouchement, lors de son séjour à l'hôpital et enfin, par le développement d'une structure de support à l'allaitement, tant à l'hôpital que dans la communauté (via la 'CHR').*²⁵⁰

The increase in rates during the subsequent years suggests that this promotion had substantial effect. However, there is evidence that hospital policies are still a factor in whether Cree women initiate breastfeeding. A study over 1994-2000²⁵¹ found large variations in breastfeeding rates by hospital of delivery. In Chisasibi Hospital 90% of new mothers breastfed exclusively; in Val D'Or hospital the figure was 76%; and in Chibougamau Hospital it was 67%. These variations produce large differences in breastfeeding rates between the coastal and inland communities. The 2001 APS showed this clearly.

Proportion of Children Under Four Years of Age who Were Breastfed ²⁵² 2001 Aboriginal Peoples Survey	
Coastal	78%
Inland	*47%
Cree Region	66%
<p>* The difference between the Coastal and Inland communities is statistically significant at the 0.05 level.</p> <p>The question applied to children who were under 4 years old at the time of the survey in 2001, so this measures breastfeeding initiation rates over the 1998-2001 period.</p> <p>Please see endnote for a list of communities included in the Coastal and Inland areas.</p>	

Breastfeeding Rates by Community: 1988 and 1999 Compared				
	1988 ²⁵³			1999 ²⁵⁴
	1 month (%)	4 months (%)	6 months (%)	At birth (%)
Chisasibi	89.5	70	25.9	92%
Eastmain	66.6	33.3	25	73%
Mistissini	82.8	27.1	20.3	66%
Ouje-Bougoumou	-	-	-	59%
Waskaganish	73.1	36.9	31.6	61%
Waswanipi	60.8	17.2	12.1	47%
Wemindji	89.5	50	37.1	85%
Whapmagoostui	90.3	74	75	89%
Cree Region	83.2	50.3	41.1	70%
Note: no information for Nemaska provided in the original sources.				

The *duration* of breastfeeding also seems to have dropped since the 1960s when a majority of infants were breastfed for three months or longer.²⁵⁵ Marshall's 1981 study of Mistissini noted that younger mothers breastfed for shorter durations than older women, while mothers living in the bush breastfed for much longer than mothers in the village. In recent years about half of all mothers have ceased breastfeeding by the third or fourth month.²⁵⁶ Yet some mothers must breastfeed for extended periods. Figures from a 2001 survey indicate that the average duration of breastfeeding is almost 12 months (for those women who breastfeed at all). Consistent with the large coastal/inland differences in breastfeeding *initiation*, the survey results also suggest that women in the inland communities breastfeed for shorter lengths of time – an average of just over 8 months, compared to 13 in the coastal communities.

Duration of Breastfeeding for Children Born between Mid-1979 and Mid-1981 Who Were Breastfed At All ²⁵⁷	
3 weeks or less	29%
1-3 months	25%
4-8 months	15%
9-15 months	27%
16-24 months	4%
Based on 33 children. Percentages have been rounded.	

Average Duration of Breastfeeding for Children Born Between 1987 and 2001 ²⁵⁸	
	Avg duration (months)
Coastal communities	13.2
Inland communities	8.6
Cree Region	11.9
Caution: high sampling variability for these figures, particularly the Inland one. Differences do not reach statistical significance at the 0.05 level. See endnotes for list of coastal and inland communities.	

Changes in Duration of Breastfeeding, 1940-2000 ²⁵⁹		
	Breastfed < 3 months	Breastfed 9 months +
Births 1940-49	9%	45%
Births 1950-59	25%	33%
Births 1960-1968	31%	23%
Births 1979-1981	54%	12%
1988	50% (<4 months)	
1993 (six communities)	68%	
1994-2000	50% (<4 months)	
1998-2000		19%
Figures for the 1940s-1960s are for first births; figures for 1988 are for any births that year; figures for 1998-2000 are for infants who were 9 months old at any time during those years, meaning that they would have been born sometime between April 1997 and March 2000. The 1998-2000 and 1994-2000 figures include are for infants receiving breast milk exclusively. Infants were not counted if they received a combination of breast milk and formula.		

Apart from the question of breastfeeding, a study by Willows et al. over the period August 1998-February 2000 looked at broader issues of diet and food security. The study found that at nine months of age, 19% of infants were still receiving some breast milk, 65% were being bottle-fed and another 16% were receiving a combination of breast and bottle. In addition, about 70% of infants had eaten traditional foods. In all, 21% of these households reported food insecurity (“Do you ever worry you don’t have enough money to buy your children enough food to eat?”) and 13% of infants had anaemia (haemoglobin < 105 g/L). Food insecurity correlated with geographic isolation, parity, maternal smoking, maternal anaemia, and a tendency to bottle-feed the infant at nine months of age, or to use a combination of breast and bottle. The researcher suggested that the high cost of formula in the north may contribute to food insecurity, and calculated that the costs of bottle-feeding an infant for one month in the remote communities would be:

- \$481.12 for ready-made formula.
- \$208.32 for concentrated formula prepared with bottled water (which many people use because of concerns about the purity and taste of local tap water).
- \$193.13 for powdered formula with bottled water.
- \$64.79 for UHT milk.
- \$49.83 for homogenised whole milk. ²⁶⁰

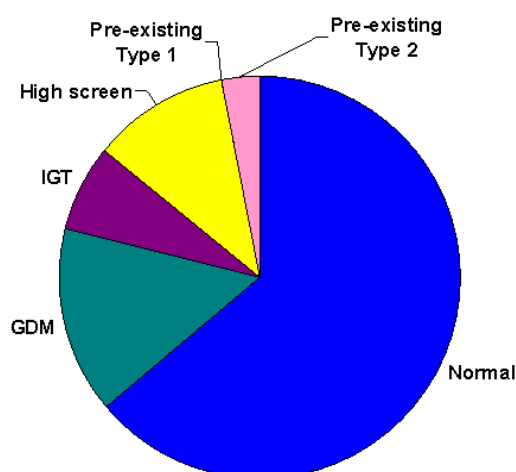
11.6.4. Maternal Health

11.6.4.a. Gestational Diabetes

Gestational diabetes (GDM) has been a concern for some time. Writing about the coastal communities during the 1975-84 period, Robinson expressed surprise that perinatal mortality rates were low because “experience with Cree pregnant women indicates that they have a high incidence of ‘risk factors’ such as high blood pressure, gestational diabetes, high parity, etc.”²⁶¹ Figures from 1988 show that 7.5% of pregnant women had diabetes. This was a higher percentage than other Registered Indians in Canada and a much higher proportion than Quebec.²⁶² More recent data (for 1994-2000) show that 15% of pregnant women had gestational diabetes. This is one of the highest prevalences reported among Aboriginals. In addition, 6% of pregnant women had impaired glucose tolerance (IGT), meaning that their glucose levels were high but below the threshold for diagnosis of gestational diabetes. Another 11% had high glucose levels on initial screening but no follow-up test to establish a definitive diagnosis. All told, 36% of pregnant women had some evidence of abnormal glucose levels.²⁶³

Percent of Pregnancies Involving Diabetes Diagnosis, 1988 ²⁶⁴		
James Bay (except Mistissini)	Registered Indians and Inuit in Canada	Quebec total
7.5%	5.7%	< 3%

Glucose Levels of Pregnant Cree Women, 1994-2000. ²⁶⁵



Glucose Metabolism in Pregnant Cree women, 1994-2000 ²⁶⁶		
Category of glucose metabolism	N	%
Normal	1271	64%
Gestational diabetes	303	15%
Impaired glucose tolerance	130	7%
High screen but no Oral Glucose Tolerance Test	217	11%
Pre-existing Type 1 diabetes	2	0.1%
Pre-existing Type 2 diabetes	63	3%
Total	1986	100%

Glucose Levels Among Pregnant Women, by Community, 1994-2000 ²⁶⁷ (percent)				
	Normal glucose	Abnormal glucose*	Pre-existing diabetes	Total
Chisasibi	78%	20%	1.7%	100%
Eastmain	47	51	2.3	100%
Mistissini	58	38	4.3	100%
Nemaska	62	37	1.4	100%
Ouje-Bougoumou	51	38	10.7	100%
Waswanipi	47	46	6.7	100%
Waskaganish	65	33	2.2	100%
Wemindji	62	35	26	100%
Whapmagoostui	66	32	1.5	100%
Total	64	33	3.3	100%
* Abnormal glucose = gestational diabetes, impaired glucose tolerance, or a high result on an initial screening test.				

11.6.4.b. Stillbirths

Stillbirth rates have apparently never been an issue in the region. Since 1975 they appear to have dropped from “average” to below Quebec averages. Based on statistics for 1975-1984 Robinson stated that stillbirth rates were not a concern.²⁶⁸ Courteau reported a stillbirth rate of 4.3 per 1,000 for the period 1982-86. This was comparable to the Canadian rate of 4.8 during 1981-1985.²⁶⁹ The INSPQ estimated the Cree stillbirth rate during 1984-88 at 1.9 per 1,000, compared to 4.1 in Quebec as a whole, 4.7 in Nord-du-Quebec, and 8 per 1,000 in Nunavik.²⁷⁰ Between 1991 and 1996 the Cree stillbirth rate was 2.6 compared to a Quebec-wide rate of 4.1.²⁷¹

11.6.4.c. Anaemia

Willow’s study of 245 pregnant women (conducted over August 1998-February 2000) found that the prevalence of maternal anaemia at the first prenatal visit was 7.3% over all. It was higher in food-insecure households, suggesting that food insufficiency was a factor, although higher parity in these households might also have contributed to maternal anaemia.²⁷² The women with *severe* anaemia were more likely to have a pre-term birth and their babies tended to weigh less at birth. However, many of these women had not sought prenatal care until their third trimester, thus raising the possibility that they had other risk factors were also at work (e.g., poor diet and poor home environment). Even when the analysis was restricted to women who had begun receiving care in their first trimester, anaemic women had a greater risk of pre-term birth and slightly lower birth weights.²⁷³

Percent of Women with Anaemia during Pregnancy, by Trimester ²⁷⁴			
	1 st trimester	2 nd trimester	3 rd trimester
Anaemia*	6.6%	6.0%	33.0%
Severe anaemia (hgb < 100 g/L)	2.1%	3.6%	9.9%
Low Mean Cell Volume (< 80 fL)	11.6%	9.7%	17.9%
* Assessed using trimester-specific guidelines.			

11.6.4.d.Prematurity and Intrauterine Growth Retardation

Rates of prematurity and intrauterine growth retardation in the Cree Region are at or below Quebec averages. In 1994-98, 5.8% of births were premature and just 1.9% had intrauterine growth retardation.

Prematurity and Intrauterine Growth Retardation, Cree Region and Quebec, 1994 to 2000 ²⁷⁵				
	% of premature births (<37 weeks gestation)		% of births with intrauterine growth retardation	
	Cree Region	Quebec	Cree Region	Quebec
1994-98	5.8%	7.2%	1.9%*	8.6%
1994-2000	6.5%	7.7% (1999)		
Note: the differences shown for prematurity in 1994-98 are not statistically significant; those for intrauterine growth retardation are.				

Percent of Premature Births (<37 weeks), 1994-1998: Cree Region and Neighbouring Regions Compared ²⁷⁶	
Cree Region	5.8%
Nord du Quebec	7.5%
Nunavik	11.8%
Quebec total	7.2%

11.6.4.e.Caesarean Section Birth

Rates of caesarean sections for Cree women appear to be comparable to those of other Quebec women. This was also the case as early as 1988 when the rate in James Bay was 18.7%.²⁷⁷ Rates held constant over the period 1988-1993.²⁷⁸

Percent of Deliveries by Caesarean Section 1986-1990 ²⁷⁹	
1986-87	17.9%
1991-92	17.6
1992-93	20.9
1993-94	19.3
1994-95	18.9
1995-96	21.0
1996-97	13.3
1997-98	15.3
1998-90	13.3

C-Sections During 1998-99 Cree Region and Neighbouring Regions Compared ²⁸⁰	
Cree Region	13.3%
Nord-du-Quebec	19.4%
Quebec	17.3%
Nunavik	2.7%

Rates of Selected Obstetrical Interventions During Delivery, Mothers in the Cree Region 1986-87 and 1991-1995 ²⁸¹						
	1986-87		1991-92	1992-93	1993-94	1994-95
Caesarean (/100 births)	17.9%		17.6	20.9	19.3	18.9
Gen anaesthetic (/100 caesareans)	74.3		51.1	62.7	52.5	46.7
Vaginal birth after caesarean	0		6.5	8.3	17.2	19.4
Episiotomy (/100 vaginal births)	37.3		24.5	22.0	15.7	17.9
Forceps or suction (/100 vaginal births)	4.3		5.9	9.0	9.0	11.7

11.6.4.e. Maternal Death

Only one maternal death has been recorded since 1975. This was a postpartum haemorrhage that occurred in the bush in 1987.²⁸²

Maternal death - and indeed infant death - can be preventable when adequate medical facilities are immediately available. Note that only low-risk obstetrics were available in the Cree Region from 1980, when the hospital at Fort George Hospital closed. Its successor (Chisasibi Hospital) has never had a surgical suite, or a resident or visiting surgical team. This limited the Chisasibi obstetrics cases to the low-risk type until the 'regional' obstetrics programme closed down during 2000/01. Medium-risk and high-risk cases were routinely evacuated, well in advance of the due date, to a fully equipped hospital outside of the region. Since 2000/01 all coastal obstetrics cases have been evacuated well in advance, the same as inland cases not close to hospitals.

11.6.5. Infant Health

11.6.5.a. Birth Weight

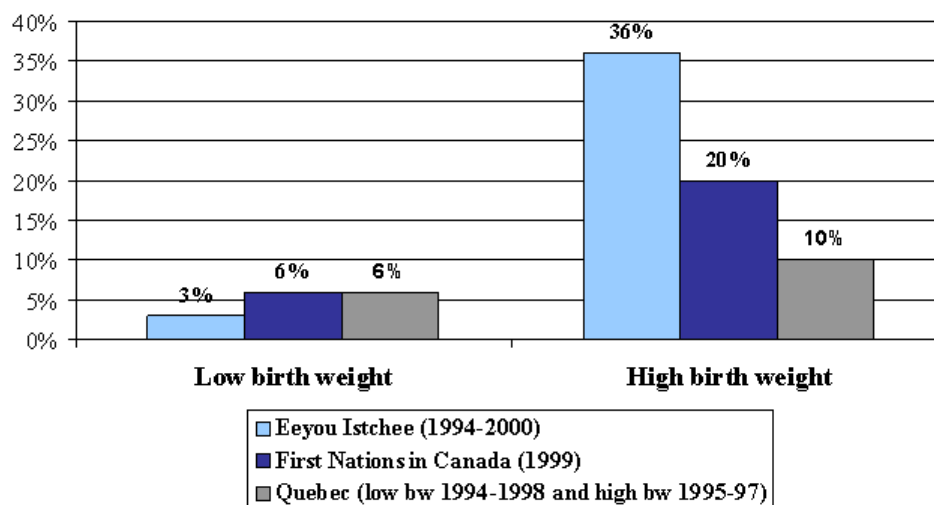
Cree babies are less likely than others to have low birth weight (under 2500 gm) but more likely to have high birth weight (over 4 kg).³⁵ This holds true when comparing to other Registered Indians across Canada, and to an even greater extent when compared against the non-Aboriginal population.

³⁵ Some studies define high birth weight as 4 kg+, while others count only births *over* 4 kg. The tables included in this section - being drawn from different sources - skip back and forth between the two definitions. In practical terms, the distinction is unlikely to have any serious effect the numbers.

Percent of Low Birth Weight Babies Cree Region and Neighbouring Regions, 1994-1998 ²⁸³	
Region	<2500 gm
Cree Region	2.9%
Nunavik	6.2%
Nord-du-Québec	6.5%
Quebec	6.0%

Birth Weights Over time Cree in the Cree Region Compared to On-Reserve Registered Indians in Canada ²⁸⁴				
	Low birth weight (< 2.5 kg)		High birth weight (>4 kg)	
	Cree	Reserves FN	Cree	Reserves
1988	2%	5%	40%	21%
1985-1995 (Reserves 1990)	2%	3.8	36%	n/av
1994-2000 (Reserves 1999)	3%	6%	36%	20%

Birth Weights: Cree Region Compared to Other Regions. ²⁸⁵



What affects a baby's birth weight? Based on a review of 2,221 charts for the years 1994-2000, Willows found that 3.4% of births were <2.5 kg. However, Cree mothers who used alcohol had twice the risk of a low birth weight baby: 5.7% (similar to the Quebec average) vs. just 2.9% for the mothers who did not drink.²⁸⁶ Several studies have considered the effect of the mother's age on birth weight. Unexpectedly, these have not demonstrated that younger mothers are at greater risk of having a low birth weight baby. If anything the younger mothers seem to have better outcomes, insofar as they are less likely to bear high birth weight babies.²⁸⁷

Percent of Low Birth Weight and Macrosomic Infants by Mother's Age Group, 1985-1995 ²⁸⁸			
Mother's age		<2500g	≥ 4000g
	No.	%	%
12 to 16 years	159	2.5%	28.3%
17-19 years	555	2.0%	31.6%
20-34 years	1891	2.5%	37.9%
≥ 35 years	113	1.8%	41.6%
All ages	2718	2.3%	36.1%

Birth Weight by Age of Mother								
Cree Region, 1996-2002 ²⁸⁹								
Birth weight	Teen mother		Adult mother		Unknown age		All mothers	
	Number	%	Number	%	Number	%	Number	%
Low (under 2.5 kg)	15	3%	50	3%	0	0%	65	3%
Average (2.5 - 3.9 kg)	278	63%	1051	59%	6	46%	1335	59%
High (4 kg +)	139	31%	640	36%	2	15%	781	35%
Unknown weight	10	2%	53	3%	5	38%	68	3%
All babies	442	100%	1794	100%	13	100%	2249	100%
Mean birth weight	3728*		3799*				3785	
* Difference in mean birth weight between teen and adult mothers is (just) statistically significant.								

Birth Weight by Age of Mother								
Using percentiles* rather than absolute cut-off points for low and high birth weights ²⁹⁰								
	Teenage mother		Adult mother		Unknown age		All mothers	
Baby's birth weight	Number	%	Number	%	Number	%	Number	%
< 3071 gm (bottom 10%)	46	10%	170	9%	0	0%	216	10
3071 – 4525 gm	355	80%	1378	77%	7	54%	1740	77
> 4525 gm (top 10%)	31	7%	193	11%	1	8%	225	10
Weight unknown	10	2%	53	3%	5	38%	68	3
Total	442	100%	1794	100%	13	100%	2249	100
* Percentiles are based on the distribution of all Cree birth weights over the period.								

As a rule, high birth weight (> 4 kg) also carries risks for the infant. In particular there is greater risk of birth trauma such as: shoulder dystocia, clavicular fracture, and injury to the brachial plexus. Since over a third of Cree babies weigh more than 4 kg at birth, a 2003 study investigated birth outcomes (C-section, birth injury, and 5-minute APGAR score) according to the baby's birth weight.²⁹¹ The study concluded that Cree infants between 4.0 and 4.525 kg were at no special risk, and that only the infants above 4.525 kg were at high risk for birth injury. In light of these results, the researchers questioned the value of using the conventional cut-off point (4 kg) as a way of identifying high-risk infants in the Cree population.

Birth Outcomes by Baby's Birth Weight Cree Region, 1994-2000 ²⁹²						
	Delivery by C-section		Birth injury		5-minute APGAR < 7	
Birth weight (g)	N	%	N	%	N	%
<2500 gm	46	39.1%	50	8	36	13.9
2500 - <3150 gm	152	17	154	1.3	143	0.7
3150 – 4000 gm	1136	13.2	1111	1.8	1111	0.9
> 4000 – 4525 gm	555	15.5	554	5.6	533	1.5
> 4525	205	24.9	207	15	200	1
All births	2095	15.8	2076	4.2	2023	1.3

11.6.5.b. Infant Morbidity

Vaccine-preventable diseases in infants do not seem to be a major issue in the Cree Region. In 1992 Smeja wrote that vaccine coverage in the Cree Region was so high that the territory missed some outbreaks that occurred in neighbouring regions. The main concern at the time was Hib whose rates were six times above average. The vaccine introduced in 1989 could not be used in infants. However, a new vaccine introduced in 1992 is offered at 2, 4, and 6 months.²⁹³ Since then the immunisation rates have apparently remained at acceptable levels. Infections and anaemia may be more of a concern. Willows' 1998-2000 study of 245 nine-month-old infants found that 53% had an infection in the previous two weeks and 13% were anaemic (haemoglobin < 105 g/L).²⁹⁴

11.6.5.c. Infant Mortality

The general infant mortality rate in the Cree Region was triple the Quebec average in 1975-82.²⁹⁵ An elevated rate is still evident in more recent years, although in absolute terms the rates for both Cree and other Quebecers have dropped over time. The specific Cree rates also seem to be higher than in other Registered Indian groups in Canada (although comparisons are hindered by large yearly variations in the Cree rates and by differences in methodology).

Infant mortality fell from 50 per 1,000 in 1976 to 15 per 1,000 in 1994-98. There was a rapid drop between 1976 and 1986 followed by more gradual declines. The various types of infant mortality have fallen at very different paces:

- Perinatal mortality in the Cree Region was already close to Canadian averages in 1975.
- Neonatal mortality fell over 1975-1986 to the point that the rates were at or even below national and provincial ones.²⁹⁶ (A similar decline in neonatal mortality was noted for other Registered Indian groups in Canada over 1979-1993.²⁹⁷
- Post-neonatal mortality dropped during 1987-92 as compared to previous years, but it remains high as compared to other populations.

The causes of infant mortality have changed over time. During the period 1976-1982, 24 of the 65 infant deaths were from potentially preventable causes such as gastroenteritis, meningitis, and pneumonia.²⁹⁸ Improvements in socio-sanitary infrastructure have apparently made these causes of infant death recede in importance. Instead, beginning with the period 1986-1992, attention has focused on Cree leuco-encephaly as the major cause of high observed rates. Saint-Pierre noted that post-neonatal death rates, when examined by specific ICD chapter, were similar to those of other Quebecers with one exception:

ICD Chapter 6 (Diseases of the Nervous System), where leuko-encephaly is included. She concluded that:

Le taux de mortalité post-néonatale chez les Cris serait l'un des plus élevés enregistré chez les populations autochtones d'Amérique du Nord. (...) On remarque que 40% des décès sont dus à des pathologies à caractère génétique dont les causes demeurent encore inconnues ce qui rend impossible le développement d'interventions de nature préventive. Ces maladies se sont présentées presque exclusivement dans les villages de la côte.(.....)
Il est sans doute raisonnable de penser que la principale raison de la surmortalité post-néonatale dans les huit villages cris de la Baie James en 1987-1992 par rapport au Québec en 1990 vient des décès causés par la leucoencéphalopathie crie.²⁹⁹

Pregnant women can now be test to see whether the foetus is likely to develop leuco-encephaly. However, it is hard to predict what impact this will have on infant mortality rate because since termination of pregnancy is not usually a social option in the Cree Region.

Consistent with the shift in the causes of infant mortality, the historic difference in rates between inland and coastal communities has disappeared. In 1975-82 infant mortality was far higher in the inland communities than the coastal ones (49.2 inland vs. 27.4 coastal). This difference persisted over 1982-86. It waned thereafter as infant mortality rates in the inland communities improved.³⁰⁰

Infant Mortality by Type, Cree Region and Neighbouring Areas, 1994-1998. ³⁰¹ Rates per 1,000				
	Nord-du-Québec	Nunavik	Cree Region*	Quebec
Perinatal (stillbirths & 0-6 days)	9.4	16.8	6.5	7.2
Early neonatal (0-6 days)	4.7	8.8	4.5	3.1
Late neonatal (7 -27 days)	1.6	1.5	1.9 #	0.7
Neonatal (0-27 days)\	6.3	10.3	6.5	3.8
Post neonatal (28-365 days)	0.8	9.6	8.4 #	1.5
Total infant (0-365 days)	7.1	19.9	14.9 #	5.3
* Caution: based on just 23 cases in the Cree population.				
# Indicates that the Cree rate is significantly different from the Quebec average.				

Infant mortality by Type: Cree Region Compared to Other Aboriginal Groups in 1992-97 ³⁰² Rates per 1,000				
	Perinatal	Neonatal	Post-neonatal	Infant
Cree Region	6.7	3.1	8.0	11.0
Reserves 1991	13.9*	5.0	6.9	11.9
Nunavik	16.4*	11.3*	18.5*	29.8*
* Indicates rate differs significantly from the Cree one.				

Infant Mortality by Type in Earlier Years: Perinatal and Neonatal mortality Cree rates (per 1,000) compared to Quebec and Canadian averages ³⁰³				
	Cree 1975-81	Cree 1982-86	Canada 1984	Québec 1985
Perinatal	9.6	6.8	8.7	8.2
Neonatal	8.0	2.6	5.2	5.0

Infant Mortality by Type in Earlier Years:

Post-neonatal and Total Infant Mortality

Cree rates (per 1,000) compared to Quebec and Canadian averages ³⁰⁴

	Cree 1975-81	Quebec 1975-82	Cree 1982-86	Quebec 1985	Canada 1984
Post-neonatal	29	3.6	14.6	2.2	3.0
Infant	37	10.8	17.2	7.2	8.1

Infant Mortality

Cree Rates Compared to other Registered Indians and all Canadians
1975-83 and 1994-98 ³⁰⁵

	Cree	FN in Canada	Canada
1975-81	37	27.6 (1979)	10.9 (1979)
1981-83	20.1	17.1 (1982)	9.1 (1982)
1994-98	14.9	8.0 (1999)	5.5

Infant Mortality Rate by Period ³⁰⁶

Period (source)	Infant mortality
1976 (Robinson)	49.7
1978 (Robinson)	36.5
1975-81 (Courteau)	37
1980 (Robinson)	31.2
1982 (Robinson)	22.2
1981-83 (QMHSS)	20.1
1982-86 (Courteau)	17.2
1984-86 (QMHSS)	14.5
1984-88 (Choinière)	10.7
1987-92 (St-Pierre)	11.0
1988-92 (QMHSS)	8.9
1989-93 (Choinière)	12.1
1993-97 (GMHSS)	11.0
1994-98 (Choinière/ISQ)	14.9

Trends Over Time in Types of Infant Mortality in the Cree Region ³⁰⁷

Rates per 1,000

Time period	Perinatal	Neonatal	Post-neonatal	Infant
1975-81 Robinson	9.6	8.0	29.0	37.0
1982-86 (Courteau)	6.8	2.6	14.6	17.2
1987-92 (St-Pierre)	6.7	3.1	8.0	11.0
1994-98 (ISQ)	6.5	6.5	8.4	14.9

Note: Interpret cautiously because data sources vary and numbers are small.

Historical Trends: Causes of Infant Mortality 1987-1992 ³⁰⁸		
Numbers		
ICD	Neonatal	Post-neonatal
6 – Nervous system Leuco-encephalopathy		5
8 Respiratory		1
10 Genito-urinary	1	
14 Congenital anomalies	1	1
15 Perinatal conditions	2	4
Respiratory disorders	2	1
16 Symptoms (SIDS)		2
Unknown	1	
Total	5	13

Historical Trends: Causes of Infant Death from 1975-1982, by Main ICD-8 Chapter ³⁰⁹			
Numbers			
ICD		Detailed cause	Total for chapter
I	Infectious Gastroenteritis Meningococemia	7 1	8
VI	Nervous system and sense organs Meningitis Leuco-dystrophy Other	5 4 1	10
VII	Circulatory		1
VIII	Respiratory Pneumonia Other	11 1	12
XII	Skin/subcutaneous		1
XIV	Congenital		11
XV	Perinatal		5
XVI	Ill-defined SIDS Unknown	1 14	15
XVII	Injury and poisoning		2
All causes			65

11.6.5.d.Dental Health of Toddlers

Efforts to improve the dental health of infants and toddlers have been in place since at least 1988. Figures for that year show 50-75% of infants receiving fluoride supplements. This figure compares favourably to figures for Registered Indians in Hudson Bay and Ungava Bay.³¹⁰

Percent of Infants Receiving Fluoride Supplements, James Bay Cree population, 1988 ³¹¹ Birth to Six Months						
At birth	1 month	2 months	3 months	4 months	5 months	6 months
51.4	63.6	70.3	67.6	73.2	62.2	75.2
Note: Figures do not include Mistissini.						

A regime of fluoride supplements, information for parents, and dental examinations was integrated into the Well-Baby Clinics around 1988. Babies received vitamin drops containing fluoride during these visits. Thereafter mothers were supposed to obtain fluoride tablets from the clinic and administer them each day until the child reached school age (when the schools assumed this function).³¹² When a child reached age four, clinic staff were supposed to refer the child to the dentist for an examination, although predictably the percent of such exams that were actually carried out varied by community.

Percent of Dental Exams Carried Out on Toddlers Classified as Normal and Abnormal By Age of Child and Community, 1988 ³¹³						
	15 months		24 months		36 months	
	Normal	Abnormal	Normal	Abnormal	Normal	Abnormal
Chisasibi	50.6	12.0	40.4	25.5	24.2	24.2
Eastmain	46.1	15.3	0	50.0	0	0
Mistissini	7.0	2.0	1.3	9.3	0	6.2
Waskaganish	77.1	14.0	6.6	20.0	0	0
Waswanipi	22.5	7.5	4.3	4.3	0	0
Wemindji	66.6	5.5	20.0	0	20.0	0
Whapmagoostui	63.1	31.5	20.0	40.0	0	0
Total	43.0	9.9	19.6	17.4	11.6	13.6
Note: figures for Nemaska not included in the source report.						

Dental hygienists in 2001 carried out assessments of the dental health of toddlers in Mistissini and Chisasibi. Despite calls and radio announcements the response rate was only about 50% (viz., 79 children between the ages of 12 and 24 months). Of these 30% had some decay with a deft of 1.34.³⁶ It was observed that 57% of the children did not brush their teeth at all.³¹⁴ The only available point of comparison was to a non-random sample of four regions in Quebec, in which only 4% of toddlers had any decay and the deft was 0.16. Using this as a point of comparison, the decay rates in Cree children were eight times higher than elsewhere.

³⁶ The deft index is the number of decayed, extracted, or filled teeth. Since at this age no teeth are likely to be either filled or extracted, this basically represents just the average number of decayed teeth per toddler.

Endnotes – 11.6. Health of Mothers and Infants

²¹² Data for years up to 1984 from Robinson (1985); Data for 1984-1999 from Schnarch (2001). Schnarch's birth counts are from the Public Health Module, Cree Region of James Bay. Rates are calculated based on Cree beneficiary population total for 1985 to 1990 and using *Institut National de la Statistique du Québec* estimates for 1991 to 1999). For 2000-2002, birth counts are from the Public Health Module, rates based on the Beneficiaries List.

²¹³ Robinson (1985a); Robinson (1985b); Morel (1989); Saint-Pierre (1995). Figures for most recent period are based on calculations for the CBHSSJB's Birth Registry. Birth figures for Quebec province in 2002 are from Statistics Canada, Catalogue no. 91-213-XIB as found at <http://www.statcan.ca/english/Pgdb/demo04b.htm>. Fertility rate calculated on the basis of figures from the Ministère de la santé et des services sociaux, at www.MSSSQ.gouv.qc.ca/statistiques, based on 73,600 births and 1,564,287 women age 15 to 44.

²¹⁴ Robinson (1985b). Bobet (2003b).

²¹⁵ Morel (1989).

²¹⁶ Bobet (2003b).

²¹⁷ Robinson (1985b).

²¹⁸ Morel (1989).

²¹⁹ Bobet (2003b).

²²⁰ Based on data reconstructed from: Armstrong et al. (1998) Prevalence of low and high birth weight among the James Bay Cree of Northern Quebec. *Canadian Journal of Public Health*, November-December, pp. 419-420, c.f. Schnarch (2001).

²²¹ Bobet (2003b).

²²² Morel (1989).

²²³ Bobet (2003b).

²²⁴ Willows and Johnson (2003a).

²²⁵ Data for 1988 are from Health Canada Study of Infant Feeding Practices, c.f. Schaefer and Robinson (1992). The data are for all communities except Mistissini; Other data prior to 1989 from Morel (1989); Data for 1989-1999 from Schnarch (2001), p. 75; Data for 1999-present from Bobet (2003b).

²²⁶ Pageau et al. (2003)

²²⁷ Proportions deduced from a report on birth weight c.f. Schnarch (2001), p. 75; Armstrong et al. (1998).

²²⁸ Data for 1982-84 from Robinson (1985a); Schnarch (2001); Bobet (2003b).

²²⁹ Pageau et al. (2003).

²³⁰ Willows and Johnson (2003a). Robinson also mentions that rates of smoking during pregnancy increased between 1988 and 1993, in her summary "Main findings of Robert Harris' breastfeeding study" (unpublished document prepared by Elizabeth Robinson for the Cree Board of Health and Social Services, 29 October 1996).

²³¹ Schaefer and Robinson (1992).

²³² Willows and Johnson (2003).

²³³ *ibid.*

²³⁴ *ibid.*

²³⁵ Health Canada, *Survey of Infant Feeding Practices Among Indians and Inuit*, c.f. Schaefer and Robinson (1992), p. 8.

²³⁶ Willows and Johnson (2003a).

²³⁷ *ibid.*

²³⁸ *ibid.*

²³⁹ *ibid.*

²⁴⁰ Marshall (1981).

²⁴¹ *ibid.*

²⁴² *ibid.*

²⁴³ c.f. Marshall (1981).

²⁴⁴ Pekeles (1981a).

²⁴⁵ Schaefer and Robinson (1992), p. 18.

²⁴⁶ Data for 1940 and 1960: Romaniuk c.f. Marshall (1981). Refers to mothers breastfeeding their first child.

Data for 1979 from Health Canada's *Methyl Mercury in Canada*, c.f. Schaefer and Robinson (1992). Schaeffer's figures show that 76% were being breastfed at one month, therefore at least that many were breastfed at birth. Data for 1981 from Marshall (1981). Refers to first children in Mistissini.

Data for 1988 from Passarell, c.f. Schaefer and Robinson (1992). 83% were breastfed at 1 month.

Data for six communities in 1988 and in 1993 are from Harris-Giraldo et al. (1997), c.f. Schnarch, (2001), p. 78.

The six communities were, in 1988, Chisasibi, Nemaska, Waskaganish, Waswanipi, Wemindji and Whapmagoostui, and in 1993 Chisasibi, Eastmain, Mistissini, Waskaganish, Wemindji and Whapmagoostui. Data for 1994-98 from Willows and Johnson (2003). Data for 1998-2000 from Willows (2003). Data for 1999 from Torrie and Moses-Petawabano (1999), c.f. Schnarch (2001). Data for 1998-2001 from 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004. The figures are for children who were under age four at the time of the survey, hence they measure breastfeeding initiation over the period July 1998-July 2001.

²⁴⁷ Marshall (1981), p. 8.

²⁴⁸ *ibid.*

²⁴⁹ *ibid.*

²⁵⁰ Schaefer and Robinson (1992), p. 17.

²⁵¹ Willows and Johnson (2003).

²⁵² 2001 APS, op. cit.

²⁵³ Passarell (1988) c.f. Schaefer and Robinson (1992), p. 19.

²⁵⁴ Data from Schnarch (2001), p. 78. Original source: Torrie and Moses-Petawabano (1999). The results are based on interviews with 564 families who had children age 0-6 (830 children). This represents a sample of more than 50% of the target families. Children living with non-biological mothers excluded. As the survey coincided with "goose break," some families were in the bush and unavailable for interview. People receiving income security, unemployment or welfare benefits and those with no children in school are believed to be under-represented. The research design also preferentially sought out families with "greater needs."

²⁵⁵ Willows and Johnson (2003).

²⁵⁶ *ibid.*

²⁵⁷ Marshall (1981), p. 29.

²⁵⁸ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004. Data obtained from mothers in spring of 2001, with reference to all children who were under the age of 14 at that time. Numbers exclude the children who were still being breastfed at the time of the survey, who would have artificially lowered the average.

²⁵⁹ Data for 1940-1960s from Romaniuk, c.f. Marshall (1981). Data for 1979-81 from Marshall, as above.

Data for 1988 from Passarell c.f. Schaefer and Robinson (1992). Data for 1998-2000 from Willows (2003).

Data for 1994-2000 data from Willows and Johnson (2003b). Data for 1993 deduced from a summary by Elizabeth Robinson, 29 Nov 1996, "Main findings of Robert Harris' breastfeeding study" (based on Harris's analysis of data collected by Health Canada in six communities, and never analysed by them).

²⁶⁰ Willows (2003).

²⁶¹ Robinson (1985a), p. 12.

²⁶² Health Canada, *Survey of Infant Feeding Practices in Indians and Inuit*, c.f. Schaefer and Robinson (1992), p. 8..

²⁶³ Willows and Johnson (2003c).

²⁶⁴ Health Canada, *Survey of infant feeding practices in Indians and Inuit*, c.f. Schaefer and Robinson (1992), p. 8.

²⁶⁵ Data from Willows and Johnson (2003c).

²⁶⁶ *ibid.* Percentages have been rounded in most cases.

²⁶⁷ *ibid.* Percentages have been rounded in most cases.

²⁶⁸ Robinson (1985a).

²⁶⁹ Courteau, J.-P. (1989). *Mortality among the James Bay Cree of northern Quebec: 1982-1986*. Unpublished MSc, McGill University, Montreal.

²⁷⁰ c.f. Schnarch (2001).

²⁷¹ Pageau et al. (2003).

²⁷² Willows (2003).

²⁷³ Willows and Johnson (2003a).

²⁷⁴ *ibid.*

²⁷⁵ Data for 1994-2000 data from Willows and Johnson (2003a); Other data from Pageau et al. (2003).

²⁷⁶ Pageau et al. (2003),

²⁷⁷ Schaefer and Robinson (1992).

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- ²⁷⁸ Robinson, Elizabeth, "Main findings of Robert Harris' breastfeeding study". Unpublished document dated 29 October 1996. Cree Board of Health and Social Services of James Bay.
- ²⁷⁹ *ibid.*, p 76, using data from the MSSSQ. Excludes any deliveries at home or in birthing centres.
- ²⁸⁰ Schnarch (2001).
- ²⁸¹ *ibid.*, p. 77.
- ²⁸² Robinson (1985a). Data for 1975-2002 from the CBHSSJB Death Registry.
- ²⁸³ Pageau et al. (2003) c.f. Schnarch (2001), p. 76.
- ²⁸⁴ Data for 1988 from Health Canada's *Survey of Infant Feeding Practices*, c.f. Schaefer and Robinson (1992). Data for 1985-95 for the Crees from Armstrong et al. c.f. Schnarch (2001). Data for the Crees 1994-2000 from Willows and Johnson (2003d, 2003a). Data for Registered Indians in Canada in 1990 from Lemchuk-Favel (1996). Data for Registered Indians in Canada in 1999 from Canada (2003).
- ²⁸⁵ Data for low birth weight in Quebec from Pageau et al. (2003). Data for high birth weight in Quebec from Statistics Canada (1995, 1996, 1997). *Births: shelf tables*. Cat. 84-F0210X-PB. Ottawa: Statistics Canada. Data on high birth weight in Cree Region from Willows and Johnson (2003d, 2003a). Data for Registered Indians in Canada from Canada (2003).
- ²⁸⁶ Willows and Johnson, (2003a).
- ²⁸⁷ Bobet (2003a).
- ²⁸⁸ Armstrong et al. c.f. Schnarch (2001), p. 75.
- ²⁸⁹ Bobet (2003a).
- ²⁹⁰ *ibid.*
- ²⁹¹ Willows and Johnson (2003d)..
- ²⁹² *ibid.*
- ²⁹³ Smeja (1992).
- ²⁹⁴ Willows (2003).
- ²⁹⁵ Robinson (1985a).
- ²⁹⁶ Saint-Pierre (1995).
- ²⁹⁷ Canada (1996a).
- ²⁹⁸ Robinson (1985a).
- ²⁹⁹ Saint-Pierre (1995), pp. 31 and 58.
- ³⁰⁰ *ibid.*, p. 33.
- ³⁰¹ Reproduced from Schnarch (2001), p. 109. Data from the *Institut national de la statistique du Québec*..
- ³⁰² Saint-Pierre (1995), p. vi.
- ³⁰³ Courteau (1989), p. 5.
- ³⁰⁴ *ibid.*; Robinson (1985a); MSSSQ c.f. Schaefer and Robinson (1992), p. 30.
- ³⁰⁵ Data for Canadian population and for Registered Indians in Canada from Canada (1996a) and Canada (2003). Data for Cree population 1975-81 from Courteau (1989). Data for 1981-83 from Québec, Direction générale de la santé publique (1997) *Indicateurs Sociosanitaires: Le Québec et ses régions*, p. 115, c.f. Schnarch (2001). Other data from Pageau et al. (2003), c.f. Schnarch as above.
- ³⁰⁶ Schnarch (2001), p 111.
- ³⁰⁷ Reproduced from Schnarch (2001), p. 110. Original sources: Cree Board of Health and Social Services, Quebec Ministry of Health, *Institut national de la statistique du Québec*.
- ³⁰⁸ Saint-Pierre (1995), p. 58.
- ³⁰⁹ Robinson (1985a), p. 35.
- ³¹⁰ Schaefer and Robinson (1992).
- ³¹¹ Health Canada, *Survey of infant feeding practices in Indians and Inuit 1988*, c.f. Schaefer and Robinson (1992), p 48.
- ³¹² Schaefer and Robinson (1992).
- ³¹³ Passarell, c.f. Schaefer and Robinson (1992), p. 49.
- ³¹⁴ Véronneau et al. (2002).

11.7.Children's Health

11.7.1.Children's Health - Self-Rated Health

As is also the case for Cree adults, the proportion of Cree children who report “very good” or “excellent” health is lower than elsewhere in Canada. About three quarters of Cree children report very good or excellent health compared to 84% of children in the country as a whole.

Percent of Children Whose Health is Rated “Excellent” or “Very Good” Cree Region and Canada Compared ³¹⁵	
Cree Region 2001	Canada 1994/95
77%	84%

11.7.2.Children's Health - Communicable Diseases (Enteric, Vaccine-Preventable, and Sexually Transmissible)

As with the Cree population in general, infectious diseases among children was a serious health during the 1970s and early 1980s but are no longer mentioned in reports. There are abundant references from the period 1975-86 attesting to a higher prominence of infectious diseases among children:

- A McGill Methyl Mercury Group study (1978) found that 2.1% of children in Mistissini suffered from otitis media, 15.4% from respiratory disease, and 16.4% from skin infections. There was also anecdotal evidence that Cree children were more frequently hospitalised than others.³¹⁶
- A 1980-81 investigation in Nemaska found that skin infections in children were endemic, and the health committee reported that most children had had diarrhoea in the previous three months.³¹⁷
- A 1982 study in all eight existing villages found that 29% of the population had parasites, and that children had the highest rates and were probably the “reservoir” that kept the parasites endemic.³¹⁸
- Robinson³¹⁹ in 1985 noted that otitis media was extremely common among Cree children (although less so than among Inuit children).
- Courteau’s review of statistics for 1982-1986 found that mortality rates in Cree children age 5-15 were 2.5 times the Quebec average. The excess was due to infectious diseases, to injuries (such as drowning and suffocation), and to some extent to Cree leuco-dystrophy.³²⁰

Vaccine-preventable diseases were a serious health issue until the early 1980s. The 1980-81 investigations found low immunisation rates in many communities, and diseases such as TB were frequently mentioned. Cree rates of TB during 1980-1984 were ten times the Canadian average³²¹ and 40% of the new active cases were in children under 14.³²² However, by 1983 immunisation rates had improved, with high inoculation counts everywhere except Waswanipi. This, along with better living conditions, appears to have had a major impact on the prevalence of infectious and enteric diseases.

Percent of Children with Up-to-date Immunisation Status By Community and Age Group, 1983 ³²³			
	2 year olds	Grade 1	Grade 6
Chisasibi	98%	100%	99%
Eastmain	100%	100%	100%
Mistissini	80%	80%	83%
Nemaska (1984)	97%	80%	63%
Waskaganish	100%	96%	100%
Waswanipi	41%	67%	61%
Wemindji	100%	86%	100%
Whapmagoostui	100%	100%	100%

Sexually transmissible infections (STIs) among the teenage population are a concern. Although rates of vaccine-preventable and infectious diseases have dropped, Chlamydia is the most commonly reported STI and the rates are highest in 15-19 year-olds. This is far higher than in the rest of Quebec.³²⁴

Rates of Genital Chlamydia (per 100,000) in the Cree Region, 1989-1999 ³²⁵						
Age group		Quebec 1989	Cree Region 1989	1990	1991	1997-1999
15-19	M	258	1176	326	158	
	F	1692	9187	7667	7425	
	T	957	5082	4201	3791	2846
20-24	M	585	1035	975	554	
	F	1591	10064	7708	5395	
	T	1084	5474	4274	2922	2433
25-29	M	380	528	243	225	
	F	718	4113	2878	2691	
	T	550	2344	1570	1461	1458
30-39	M	177	409	375	173	
	F	298	977	360	1235	
	T	238	699	368	681	
Total	M	151	362	215	164	
	F	391	2965	2350	2016	
	T	290	1663	1280	1087	
Total for the years 1989-1991 includes cases under age 15 and of unknown age. Rates are based on approximately 120 cases per year. Note that chlamydia only became reportable in 1988.						

11.7.3.Children's Health - Disability

A 1982 study in Chisasibi estimated that motor handicaps were far more common in the Cree Region than elsewhere.³²⁶ However, a more extended study in 1985³²⁷ found that this was an over-estimate because the majority of handicapped children were in Chisasibi. It has been suggested that some may have been

moved there in order to be close to the region's hospital, but this is speculative in the absence of explanatory records.

The 1985 study showed 19 handicapped children under age 17. The resulting rate of 5.2 per 1,000 was slightly higher than elsewhere. The most frequent causes of the observed disabilities were diseases of the central nervous system (a quarter of the 19 cases). Almost half the disabled children were quadriplegics. Many also had other problems such as epilepsy and intellectual or language deficits. Most were totally dependent on others for basic activities such as eating, dressing, hygiene, and moving around. The study found that, on average, each child had been referred to specialised services outside the region four times, and had spent an average of 21 days in hospital on each occasion.

% of Handicapped Children in 1985 who were Totally Dependent on Others for.... ³²⁸ Based on 19 children.	
Eating	37%
Personal hygiene	58%
Dressing/undressing	40%
Locomotion	57%

11.7.4.Children's Health - Injury³⁷

A 2001 survey indicates that 12% of Cree children have some type of injury serious enough to limit their activities during the previous year. Examples are: a broken bone, a serious sprain or strain, a bad cut, or a burn. Unfortunately, comparable figures for non-Cree children date back to 1993. The Cree figure appears roughly similar to the 10% of Canadian children reported injured during 1993.³²⁹

11.7.5.Children's Health - Dental Health

Robinson in 1985 noted a perception that dental health had deteriorated over the past 50 years as people began to eat more "white" food.³³⁰ Studies since that time suggest continuing high rates of decay despite improvements in both preventative practices and the availability of dental care.

A 1983 study of dental health in children in Grades 2 and 6 found that preventative practices, dental health, and treatment in the Cree Region were all worse than elsewhere in Quebec. Forty percent said they had brushed their teeth the day before (and 26% brushed daily), compared to 75% for other Quebec children. Almost half of Quebec schools, but none of the Cree schools, had a fluoride rinse programme. Cree children had 20% more cavities than other Quebec children. Only 1/3 of the decayed teeth of Cree children were filled. The rest were either untreated or extracted. Cree children were much more likely than others to have had a permanent tooth extracted (34% vs. 4% in Quebec).

By 1991 another survey³⁸ found that preventative practices and dental treatment had improved substantially although decay rates had changed very little from the previous period. Sixty five percent of Cree children now said that they brushed their teeth at least once a day; 53% participated in a fluoride

³⁷ Children's injuries are also discussed in the section devoted to injuries.

³⁸ The survey covered 70% of the children age 6 and 12 in the communities (313 children).

rinse programme in school; 20% used floss; and 74% had seen a dentist during the year previous. Against this progress, no less than 97% had consumed one or more sugary snacks over the past 24 hours.

The percentage of decayed teeth of six-year-olds that were filled (rather than extracted or left untreated) had increased from 31% to 55%. Among 12-year-olds the percentage went up from 33% to 49%. Nevertheless, the dental health of Cree children still lagged behind the Provincial norm. In 1991 the dmfs (index of decayed, missing and filled teeth) among six-year-olds was as high as in 1983, at 8.1 (deciduous teeth only). Among 12-year-olds it had decreased only slightly from 5.2 to 4.8 (permanent teeth only). A mere 4.5% of the 12-year-olds were caries-free. This was true of 9% of other Aboriginal children in Canada and 30% of all children in Quebec.³³¹

Results from Dental Survey of 6 and 12-year-olds, 1991 ³³²									
	Chis	East	Mist	Nem	Wask	Wasw	Wem	Whap	Total
Number in sample	111	8	75	13	39	14	38	15	313
No. of six-year-olds	64	5	41	4	30	6	22	9	181
No. of 12 year olds	47	3	34	9	9	8	16	6	132
% who make appts for check-up	58	29	33	31	45	71	66	71	51
% who make appts for trouble	39	71	58	69	55	29	32	29	46
% pain in teeth in last 4 weeks	16	25	25	15	18	14	16	20	19
dmf in both 6 and 12 yr olds (both deciduous and permanent teeth)	7.8	8.8	6.9	4.2	7.5	5.6	6.5	10.7	7.5
Filled teeth as % of dmf (deciduous and permanent teeth)	65	47	42	51	58	71	19	29	50

Dental hygienists in 2001 collected statistics on children aged 1-12 in each community.³³³ The rationale for beginning at age one was that, by the time of school entry, Cree children were known to have serious dental problems; ergo prevention efforts should begin early. Indeed, Cree babies 12-24 months of age had far higher rates of decay than children in comparable regions of Quebec.³⁹ The survey results were as follows:

Children Aged 4-5: By age 4-5, 86% of Cree children had one or more decayed, missing or filled *surfaces*.⁴⁰ More than a quarter had had an extraction. Seventy percent of children in this age group had untreated caries. The Cree dmfs index at this age was 5 times higher than in the rest of Quebec.

Children Aged 7-8 (Grade 2): Over the period 1983-2001 the dmft for children of this age decreased substantially in Quebec. For Registered Indians elsewhere it seems to have fallen slightly but among Cree children it increased slightly. The difference was especially striking with

³⁹ More information on the dental health of infants and toddlers can be found in the section *Health of Mothers and Young Children*.

⁴⁰ There is a distinction between decayed/missing/filled *surfaces* (dmfs) and decayed/missing/filled *teeth* (dmft), since each tooth has several surfaces that can be affected.

respect to primary dentition. The Cree rates compared badly even to those for Abitibi-Temiscamingue.

Children Aged 11-12 (Grade 6): Decay rates at this age show little change between 2001 and 1983. The proportion of children in “evident need of treatment” grew and always included more than half the children. In 2001 a quarter of 4-5 and 7-8 year-old children were in the “most urgent” category, meaning that they had deep caries on multiple surfaces.

Overview of Children’s Dental Health According to Age, Prevalence, and defs/dmfs ³³⁴			
Age group	Prevalence of caries	defs/dmfs	
		Per dentition (Cree Children)	Comparison factors with Quebec
12-24 months	30.4%	Primary: 1.34	8 times higher
4-5 years	86.3%	Primary: 18.67	5 times higher
7-8 years	98%	Both: 24.47	4 times higher
11-12 years	92.8%	Permanent: 7.86	3 times higher

Deft in 7-8 Year-olds over Time (Primary and Permanent Teeth) ³³⁵				
	1983	1990	2001	% change
Quebec	5.12	n/av	3.16	Down 39%
Cree	7.27	n/av	7.46	Up 3%
Other Registered Indians	9.5	8.2	n/av	Down 14%

Deft = decayed, extracted or filled teeth.

dmft in Permanent Teeth, Children in Grade 6 ³³⁶		
	1983	2001
Cree	5.18	5.08
Quebec	3.80	3.1 (data for 1996-97)

Evident Need of Treatment in 11-12 Year-olds over Time, by Community ³³⁷							
	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Chisasibi	48%	n/av	81%	75%	61%	77%	86%
Eastmain	62	n/av	62	66	51	70	91
Mistissini	53	42	44	38	41	63	n/av
Nemaska	42	40	43	55	69	82	n/av
Ouje-Bougoumou	Na	50	57	52	48	62	n/av
Waswanipi	56	45	38	43	53	68	n/av
Waskaganish	59	Na	63	77	50	76	84
Wemindji	64	Na	61	67	29	63	88
Whapmagoostui	56	Na	83	73	45	65	89
Average	55	44	59	60	50	69	87%

11.7.6.Children's Health – Body Weight

Recent studies in Canada and in Europe conclude that height, weight, and the prevalence of overweight are all increasing in children.³³⁸ In Canada the prevalence of overweight in children doubled between 1981 and 1996 while rates of obesity tripled.³³⁹ The available data suggest that Cree children also participate in this trend towards greater body mass.

Bernard et al. investigated at diet, activity, TV viewing, and body weight in 144 schoolchildren (some in elementary and some in high school) during February to April 1992, in Chisasibi and Eastmain. They found 38% of children were overweight, in terms of Body Mass Index, when “overweight” is defined as “over the 90th percentile from NHANESII.”⁴¹ No differences in overweight condition were observed along lines of gender, age, or community. However, when they used “over the 95th percentile” as a cut-off point, overweight girls outnumbered overweight boys (24% of girls vs. 9% of boys). Compared to the normal-weight children, the overweight ones ate fewer fruits/vegetables and milk products, were less active, and spent more time watching TV.³⁴⁰

Teta³⁴¹ compared boarding-school records, from schools that Cree children attended between 1934 and 1952, against survey data from 2000-2002 collected at Nemaska, Wemindji, and Chisasibi. This allowed for the observation of trends in height and weight among Cree children aged 6-12. Teta found that height and weight had increased at all ages. Body Mass Index had increased for both boys and girls. The increase was particularly marked among older children. Generally speaking, the gains in weight were disproportional to the gains in height. Compared to the 1930-1950s period, the proportion of children who were overweight increased from 8% to 21% among girls and from 5% to 27% among boys. The proportion of children (of both sexes) considered obese rose from 2% to 35%. This growth is far higher than the 15% documented for other children in Canada.³⁴²

11.7.7.Children's Health - Chronic Conditions

Close to one half of Cree children are reported to have one or more chronic conditions; that is, a health problem which has lasted, or is expected to last, six months or longer. The most commonly-reported chronic ailments are ear infections and asthma. These conditions are likewise common among other Registered Indian children and in Canadian children in general. The figures suggest that rates in the Cree Region are comparable to, or slightly higher than, those for other Registered Indian children.

Asthma is of special concern because rates for children throughout Canada have risen rapidly in recent years – from 2.5% in 1978-79 to 12% in 1998-99.³⁴³ The asthma rates among children in the Cree Region appear to be at least as high as elsewhere in the country, at 15% in 2001.

⁴¹ The National Health and Nutrition Examination Survey (NHANES) is a large American study that is repeated at intervals. It produces growth charts for children of different ages, showing percentiles of height for weight.

Percent of Children with Chronic Conditions, 2001 ³⁴⁴ Cree Region and Registered Indians in Canada				
	Coastal	Inland	Cree Region	Cdn FN 1997
Ear infections or ear problems	24	21	23	15
Diabetes	x	x	x	n/a
Learning disability	x	x	x	n/a
Allergies	9	10	9	13
Asthma	17	12	15	12
One or more conditions*	45	46	46	n/a
<p>* Note that this includes not just the conditions shown above, but also less-common ones such as tuberculosis or cerebral palsy.</p> <p>"x" indicates that Statistics Canada suppressed the numbers as being based on too small a sample to be reliable. The differences that appear in this table do not reach statistical significance at the 0.05 level.</p>				

11.7.8. Health-Related Habits of Children

11.7.8.a. Health-Related Habits of Children - Diet

Fortin³⁴⁵ in 1983 surveyed 131 children aged 10-14 in Chisasibi about their eating habits. The results showed that although 51% drank milk daily, their most common beverage was tea, which 63% drank regularly. Only 23% reported eating fruit and vegetables daily. Barriers to greater fruit and vegetable consumption were apparently the high cost of these foods and the unfamiliarity of children with them. Consumption of “junk” foods seemed to be commonplace. Twenty four percent of children reported that they went to the restaurant each day. The foods most frequently consumed there were (in order): French fries, soft drinks, hamburgers, hot dogs, pie and ice cream, club sandwiches, cheeseburgers, tea, juice, sandwiches, and soup. Even without the benefit of a scientific survey it is fair to say that, in 2004, these are prominent and popular menu items in restaurants in the Cree Region.

A dental health survey in 1991 considered diet of children 6 and 12 years of age. The results showed that 98% of the children had consumed a sugary snack in the past 24 hours while 68% had had three or more:

% of Cree Schoolchildren Age 6 and 12 who Consumed Various Sugary Snacks During the Preceding 24 Hours, 1991 ³⁴⁶	
Chocolate or candy bars	42%
Tang or similar drinks	66%
Gum with sugar	51%
Note: this particular survey did not ask about non-sugary “junk” foods such as French fries and hamburgers.	

A 1992 study of selected grades in Chisasibi and Eastmain³⁴⁷ found more encouraging results. The researchers concluded that children's average consumption of items from the various food groups met the standards set by the Canada Food Guide.⁴² Younger children had better diets than adolescents particularly in terms of the variety of different foods eaten each day. Children averaged 19.6 items of "junk food" per week. Fruit drinks, soft drinks, and potato chips were the most commonly consumed. However, junk food intake did not correlate with poor-quality diet. This suggested that the junk food supplemented the child's regular diet rather than simply replaced it. The study also found some differences in diet between Chisasibi and Eastmain, possibly because of differences in the cost and availability of food in these places.⁴³ Eastmain children ate more junk food than Chisasibi children. They also ate more meat but this appeared to be mainly because the Eastmain sample contained a higher proportion of teenagers than in Chisasibi.

11.7.8.b. Health-Related Habits of Children - Physical Activity

A 1992 study in Chisasibi and Eastmain observed that Cree children watched an average of 13 hours of television each week, but engaged in less than 3 hours of physical activity.³⁴⁸ Data from a 2001 survey paint a similar picture: while the majority of children in the Cree Region participated in sports, 18% did so less than once a week. Predictably, gender and participation in sports were related: 14% of boys, but 23% of girls, participated in sports less than once a week.

Percent of Children in the Cree Region Who Participate in Sports Less than Once a Week, 2001 ³⁴⁹	
Coastal	19%
Inland	17%
Cree Region	18%
Caution: high sampling variability for these numbers. Differences between geographic areas are not statistically significant at the 0.05 level. Please see endnote for a list of the communities included in the different areas.	

11.7.8.c. Health-Related Habits of Children - Smoking

Smoking rates are known to be high in many Registered Indian groups.³⁵⁰ The most recent national data (for 1997) show that almost a quarter of Registered Indians in their early twenties smoke, while some begin as early as eight years of age.³⁵¹ The picture among Cree youth appears to be similar. The Plasanouq survey (1983) showed that smoking rates tended to be highest before age 25, while 61-88% of youth aged 15-19 smoked, depending on the community.

⁴² This study used a version of the Canada Food Guide, since revised. By today's standards, fruit and vegetable intake would have been categorised as low for all age groups (i.e., below 5 servings daily).

⁴³ Eastmain's road access was limited to a winter road open for two months of the year, whereas Chisasibi had continual road access and hence an ongoing supply of commercial foods.

Percent of 15-19 Year-Olds who Smoked by Community, 1983-84 ³⁵²	
Chisasibi	76%
Eastmain	71%
Mistissini	61%
Nemaska	76%
Waskaganish	71%
Waswanipi	64%
Wemindji	67%
Whapmagoostui	88%
Cree Region	70%
Caution: based on small numbers Total for the Cree Region is an estimate based on re-weighting of the original numbers.	

Pickering's 1986 study of smoking and associated factors in 649 schoolchildren (Grade 4 to Secondary Level V) found extremely high prevalence rates: 51.4% were current smokers (of whom 65% smoked every day), and 35.4% ex-smokers; and only 13.2% of children had never smoked. Logistic regression suggested that current smoking correlated with age, being female, having a mother who smoked, and (most important) having a best friend who smoked. Half of the smokers started by age 13 and all of them by age 17. The rates dropped at age 18.³⁵³

Percent of Current Smokers, Schoolchildren Grade 4 to Secondary Level V, 1986 ³⁵⁴		
	% Smokers (rounded)	Number in sample
Chisasibi	58%	276
Eastmain	50%	38
Mistissini	33%	82
Nemaska	29%	14
Waskaganish	59%	120
Waswanipi	44%	46
Wemindji	41%	85
Whapmagoostui	61%	28
Cree Region	51%	689

The 1991 Santé-Québec survey found similar results: 61% of young adults aged 15-24 were current smokers and only 9% had never smoked.³⁵⁵ Willows in 2001 found that smoking rates among pregnant teenagers were 60%, although this proportion may not necessarily apply to all teenagers.

Smoking Status of Youth Aged 15-24, ca. 1991 ³⁵⁶ Cree Region Compared to Quebec		
	Cree youth 1991	Quebec youth 1992/93
Never smoked	8.7%	44.6
Ex-smoker	14.5%	20.8
Occasional smoker	15.6%	7.2
Regular smoker	61.2%	27.4
Total	100%	100%

Proportion of Youth who Smoke: Cree Communities, other Registered Indians, Quebec and Canada Compared ³⁵⁷			
Region	Year of survey	Age group measured	% of daily or occasional smokers
Cree communities	1991	15-24	77%
Pregnant teenagers in Cree communities	2001	<20	60%
Registered Indians (on reserve) in Canada and Labrador Inuit	1997	20-24	72%
Quebec	1992-93	15-24	34.6%
Canada total	1991	15-19	22.6%
		20-24	39.7%
	2001	15-19	22.5%
		20-24	32.1%

11.7.8.d. Health-Related Habits of Children – Alcohol and Drug Consumption

There is relatively little information about alcohol use among Cree youth. Robinson in 1985³⁵⁸ cited a 1983 survey in which a consulting company “circulated a questionnaire in the schools.” This survey found that 85% of secondary school children had tried alcohol. More recently the 1991 Santé-Quebec survey classified 16-18% of 15-19 year-olds as “at risk” drinkers according to the Modified ADI scale.

Substance Use by Children in Elementary and Secondary Schools, 1983 ³⁵⁹					
	% response	Have tried alcohol	Have been drunk or high on alcohol recently	Have ever tried sniffing solvents	Have ever tried marijuana
Elementary (grades 5-6- 7)	74%	39%	11%	17%	12%
Secondary	65%	85%	33%	34%	47%

Proportion of 15-19 Year-Olds in the Cree Region

who are “At risk” Drinkers According to the Modified ADI scale, 1991 ³⁶⁰	
Males	16.4%
Females	18.4%
Note: the “modified ADI” is a non-validated validated measure. It omits certain questions that proved not to work well in the Cree Region from the standard ADI (Alcohol Dependence Index) scale.	

Endnotes – 11.7. Children’s Health

³¹⁵ Data for the Cree Region from 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004. Canadian data from the National Population Health Survey and the National Longitudinal Survey of Children and Youth, as posted on Statistics Canada’s website. The numbers are for children age 14 and under. The rating may be provided by the child him/herself, or (for younger children) by the parent. The difference in the Cree and Canadian figures is probably statistically significant at the 0.05 level: we do not know what the confidence interval around the Canadian figure was, but the figure of 84% is clearly outside the confidence interval associated with the Cree number, which runs from 72% to 82%.

³¹⁶ Marshall (1989).

³¹⁷ Pekeles (1981a).

³¹⁸ Brassard (1983)..

³¹⁹ Robinson (1985a).

³²⁰ Courteau (1989).

³²¹ Robinson (1985a).

³²² Renaud (1984b).

³²³ Robinson (1985a), p. 48.

³²⁴ Smeja (1992).

³²⁵ Data for 1989-1991 from Smeja (1992), p. 24. Data for 1997-1999 from Schnarch (2001), p. 101. The rates are a recalculation of rates from the *Laboratoire de santé publique du Québec* using a corrected population figure.

³²⁶ Larson, C., Brooke, J., and Charters, J.. (1982). The prevalence and status of multiple handicapped children in a northern Quebec Cree community, c.f. Pelchat and Larson (1985).

³²⁷ Pelchat and Larson (1985).

³²⁸ *ibid.*.

³²⁹ Pless, B. and W. Millar, *Unintentional Injuries in Childhood: Results from Canadian Health Surveys*. c.f. Canada (2000). Data are for children 0-14.

³³⁰ Robinson (1985a).

³³¹ Pickering (1993).

³³² Table constructed from a series of different charts and tables included in Pickering (1993).

³³³ Véronneau et al. (2002).

³³⁴ Reproduced from Véronneau et al. (2002), p. 31.

³³⁵ *ibid.*, p. 24.

³³⁶ *ibid.*, p. 29.

³³⁷ *ibid.*, p. 32.

³³⁸ Teta (2002).

³³⁹ Tremblay and Willms, c.f. Teta (2002).

³⁴⁰ Bernard and Lavallée (1993).

³⁴¹ Teta (2002).

³⁴² *ibid.* “Overweight” was defined as between the 85th and 95th percentiles of the NCHS Weight for Height figures in 2000; “obese” was defined as over the 95th percentile.

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- ³⁴³ Based on figures for childhood asthma drawn from Statistics Canada's website, and on a report by Health Canada's Centre for Chronic Disease Prevention and Control, at www.hc-sc.gc.ca/pph-dgs/crd-mrc.
- ³⁴⁴ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004. Coastal communities = Whapmagoostui, Chisasibi, Wemindji, Eastmain, and Waskaganish. Inland communities = Nemaska, Mistissini, Waswanipi, and Ouje-Bougoumou. Data for Registered Indians in Canada from Canada (1999). The numbers refer to Registered Indians living on-reserve in all the provinces, and to the Inuit of Labrador.
- ³⁴⁵ Fortin and Gray-Donald (1984).
- ³⁴⁶ Pickering (1993).
- ³⁴⁷ Bernard and Lavallée (1993). The study included 144 children in grades 4-5 and secondary 2-3. The two communities were chosen on the reasoning that they represented the extremes in term of availability of commercial food (Eastmain having at that time only an ice road for two months of the year).
- ³⁴⁸ *ibid.*
- ³⁴⁹ 2001 APS, custom tabulations *op. cit.*
- ³⁵⁰ 1991 APS; Canada (1999).
- ³⁵¹ Canada (1999)
- ³⁵² Foggin and Lauzon (1986), p. 106. Original total for the Cree Region has been re-weighted using the population as of May 1983 from the Beneficiaries List.
- ³⁵³ Pickering (1988).
- ³⁵⁴ *ibid.*
- ³⁵⁵ Daveluy et al. (1994).
- ³⁵⁶ *ibid.*, p. 49. Quebec data from Québec (1995).
- ³⁵⁷ Data for Cree communities in 1991 from Daveluy et al. (1994), p. 49. Data for pregnant teenagers in 2001 from Willows and Johnson (2003a). Data for Registered Indians and Inuit in Canada from Canada (1999). Data for Quebec from Québec (1995). Data for Canada as a whole from Gilmore (2002).
- ³⁵⁸ Robinson (1985a).
- ³⁵⁹ *ibid.*, p. 78.
- ³⁶⁰ Daveluy et al. (1994), p. 56.

Chapter 12 Analysis Of Traditional Health Status Indicators

12.1. Mortality and Morbidity

12.1.1. Mortality and Morbidity - Introduction

From 1970 to 2003 the overall trend of health status in the Cree Region was one of improved mortality rates, declining rates of enteric and vaccine-preventable diseases and injuries, but also of increasing chronic diseases and escalating social pathologies. Women's mortality rates are today higher than men's for most causes in the Cree Region. This pattern was first noted in the statistics for the 1982-86 period. We see long term declines in mortality rates along with rapid declines in infectious diseases. Also falling are infant mortality and many types of injury (e.g., drowning). Yet as these problems receded in importance, others more closely associated with a "western" lifestyle (e.g., cardiovascular disease, cancers, and motor vehicle crashes) occupied a larger part of the picture.

Our discussion on mortality and morbidity is largely based on reports published over the years. Original data in electronic form are available only for the recent period. Unfortunately the source reports were structured differently and they differed in the statistical procedures followed. It is therefore challenging to put together a consistent picture. What follows is an attempt to draw out the major findings based on the available evidence and on the conclusions drawn by the original authors. To enhance the readability of the sections dealing with mortality and hospitalisation, the detailed tables drawn from the historical reports have been placed in Appendix D rather than interspersed with the text. Only summary tables and graphs have been included with the text itself.

12.1.2. Mortality Trends

The following period-by-period description documents declines in mortality rates over time. Bear in mind that in the earlier documents (1960s, 1970s and 1980s) it was not always standard practice to present age-standardised rates.

Before 1950

Robinson³⁶¹ states that over the 1900-1950 period, traditional food sources (beaver and caribou herds) were declining in the Cree Region. Infectious diseases were common and often fatal. The *Annual Reports* of Indian Affairs, and the more frequent reports of its Indian agents and trader-representatives, suggest a health situation no different from that of other northern Aboriginals. Cyclical diseases periodically ravaged the population and kept population growth in check. Medical attendance, when available, was rudimentary especially before 1945.

1960s

The *Annual Reports* of Medical Services Branch of DNH³⁶² for Registered Indians throughout Quebec stated that acute upper respiratory infections "continued" to be the main cause of death, while injuries ranked seventh. It is not clear if the same trends applied in the Cree communities. The only time the Cree communities were singled out for individual comment in these reports was in 1969, when there was mention of an outbreak of meningococcal meningitis at Mistissini.

1975-77

According to Bernèche, in 1975-77, Cree death rates were similar to those of other Registered Indians in Canada.³⁶³ The leading causes of death were injuries and diseases of the circulatory system. This was also the case for other Registered Indians in Canada.⁴⁴ Injury rates were more than double the Canadian average.³⁶⁴ This may have been high even as compared to other Registered Indians elsewhere: a report by MSB noted that the Cree Region had more accidents than its other Indian health administrative regions in Quebec, despite its smaller population.

1975-82

Life expectancy during this period was calculated at about 1 year below the Quebec average. Life expectancy was higher in the coastal communities.³⁶⁵ The leading causes of death were diseases of the circulatory system, injuries, lung disease, and tumours. Death rates from heart disease and tumours remained below the Canadian average - a pattern that was also observed for Registered Indians throughout Canada until very recently.³⁶⁶ Death rates from injuries and respiratory conditions were above average.³⁶⁷

1982-86

This period witnessed major changes in disease rates. These were concurrent with improvements in housing and hygiene and the introduction of new health services. By 1986 the overall mortality rates had dropped substantially. They continued to decrease (although more gradually) in the ensuing years. Courteau found that infant mortality had fallen by half. Rates of perinatal and neonatal mortality were now at or below national averages. He also concluded that age-standardised mortality rates for the Cree population were now close to the national average.³⁶⁸ One interesting finding was that there was a substantial gender gap in mortality. Women were at a disadvantage compared to men. The reverse tends to be the case in the rest of Quebec and across Canada.

Despite the improvements, Cree death rates remained higher than the Quebec average for infectious diseases (2 -5 times higher),³⁶⁹ genito-urinary problems, ill-defined conditions (including SIDS), injuries, and respiratory disease. They continued to be significantly lower for diseases of the circulatory system.

1987-1992

Cree mortality rates during this period were still slightly above the Quebec average. This was primarily due to higher death rates in Cree women (1.5 times the average). The rates for Cree men were close to the Quebec average. The higher rates for women were observed in most disease categories. They were not attributable to any specific condition.

Although still higher than elsewhere in Quebec, Cree mortality rates during this period were slightly lower than those seen in 1982-86. The crude death rate went from 5.3 per 1000 in 1975, to 4.6 in 1982-86, and 4.2 in 1987-1992. While mortality from most conditions had declined gradually a few areas showed rapid decreases. Death rates from infectious diseases and from ill-defined conditions (small categories) had fallen dramatically since 1982-86. Drowning deaths had also gone fallen significantly. Conversely, deaths from motor vehicle accidents had increased.³⁷⁰ The rising rates of fatal motor vehicle crashes coincided with increases in road access, in vehicle ownership (as a corollary of access to wage income), and in alcohol use. Reports at the time also described a “doubling” of suicide rates. However,

⁴⁴ Appendix G has the actual figures.

this turned out to be mainly due to the variability associated with rates based on small absolute numbers. Time has demonstrated that the increase in suicide was anomalous. It was associated with four people committing suicide in 1987. Previous and subsequent years averaged one suicide or less.

Cree death rates continued to be higher than Quebec's for respiratory conditions (largely due to high rates of pneumonia death in older women) and for injuries. Mortality from diseases of the circulatory system and tumours remained unchanged. However, because the rates in Quebec fell over the period, the Cree rates for these conditions were now "average," or close to average, rather than lower. Cree mortality rates were now appreciably lower for most causes when compared to other Registered Indians in Canada. This was particularly true for injuries such as motor vehicle crashes and suicides, although Cree drowning rates remained higher than in other regions.

1993-99

By 1993-97, age-adjusted comparisons showed that Cree mortality rates from all causes combined were only slightly higher than the Quebec average. Mortality rates continued to be lower than average for cancer and some types of heart disease. Respiratory conditions – especially pneumonia – were still over-represented. Injury death rates were fairly similar to Quebec's, but there were differences in which types of injuries were most common: Cree people were far more likely than other Quebecers to die from a motor vehicle crash, and less likely to die from a fall or from suicide.⁴⁵ The leading causes of hospitalisation over 1993-97 (aside from pregnancy and childbirth) were digestive conditions, respiratory conditions, and injuries.

It is tempting to look at trends in mortality in individual communities because the communities face different environmental conditions and social circumstances. However, the small absolute numbers involved make mortality rates for individual communities extremely variable. An analysis for the years 1995-1999 found that observed differences in community mortality rates reached statistical significance only for the two largest communities (Mistissini and Chisasibi). It is, however, possible to look at rates for groupings of communities, such as the group of four communities considered by Hydro-Quebec most affected by the Eastmain-1-A-Rupert project.

Crude Death Rates in the Cree Communities, 1975-2002 ³⁷¹ Rates per 1,000	
1975	5.3
1982-86	4.6
1987-92	4.2
1993-1997	4.3
1998-2002	3.8

⁴⁵ All these conclusions must be interpreted in light of the fact that the figures for the Cree Region, being based on small numbers, vary considerably from year to year. The rates also vary because different sources use slightly different numbers, and sometimes very different population figures. This is demonstrated in two of the historical tables in the appendix (both drawn from reports by Quebec government agencies). These have different figures for the various diseases categories despite the fact that they refer to roughly the same time period (1993-97 and 1994-98). Injury mortality figures vary somewhat with Bobet (2003a). This is possibly due to differences in the original data, and also to differences in definition. The INSPQ figures are for unintentional injuries only whereas Bobet's cover both intentional and unintentional injuries.

Infant Mortality Rate by Period ³⁷² Cree Region, 1976-1998	
Period (source)	Rate per 1,000 live births
1976 (Robinson)	49.7
1978 (Robinson)	36.5
1975-81 (Courteau)	37.0
1980 (Robinson)	31.2
1982 (Robinson)	22.2
1981-83 (QMHSS)	20.1
1982-86 (Courteau)	17.2
1984-86 (QMHSS)	14.5
1984-88 (Choinière)	10.7
1987-92 (St-Pierre)	11.0
1988-92 (QMHSS)	8.9
1989-93 (Choinière)	12.1
1993-97 (GMHSS)	11.0
1994-98 (Choinière/ISQ)	14.9

12.1.3. Life Expectancy

The life expectancy figures for the Cree Region are based on small numbers. They have suffered from various forms of undercounting and from other methodological difficulties.

Life Expectancy at Birth, Various Periods ³⁷³						
Life expectancy (years)	Cree			Quebec		
	Males	Females	T	M	F	T
1975-81 (Robinson) ³⁷⁴	69.8	73.2	71.8			73.9
1982-86 (Courteau) ³⁷⁵	71.6	75.1	73.3 ³⁷⁶	72.3 (in 1984) ³⁷⁷	81.5	76.9
1987-92 (St-Pierre) ³⁷⁸	71.5	77.2	74.4			
1988-92 (QMHSS) ³⁷⁹	73.1	80.6				
1989-93 (Choiniere) ³⁸⁰	73.6	75.6				
1993-97 (QMHSS) ³⁸¹	74.8	75.5		74.5	81.1	
1994-98 (INSPQ) ³⁸²	73.0	73.1		74.6	81.1	

A look at life expectancy figures since 1975 suggests primarily that the numbers reflect these difficulties. Few clear trends can be discerned except that Cree figures tend to be slightly lower than the Quebec average. This difference appears to be somewhat larger for females than for males.

12.1.4.Hospitalisation Trends

1975-77

The leading causes of hospitalisation at this time were pregnancy and respiratory conditions followed by digestive problems. Cree hospitalisation rates were generally above Quebec averages. This was particularly true of hospitalisations for respiratory and digestive conditions.⁴⁶ The gap was also very wide for some conditions considered preventable – alcoholism, neuroses, chronic bronchitis and diabetes. Hospitalisation rates for diabetes were double the average. The gap was even wider for the other “preventable” conditions. This led one researcher to conclude that the top priority was to prevent chronic bronchitis by improving sanitary conditions and nutrition.³⁸³

1975-82

Comparisons of Cree hospitalisation rates to Quebec averages show a picture similar to the mortality one. They indicate that Cree rates were higher than average for pregnancy, respiratory conditions, digestive problems, injury, diabetes, and alcohol-related problems. As was the case with the mortality figures, Cree hospitalisation rates were lower than average for tumours and for diseases of the circulatory system.³⁸⁴

Infectious diseases continued to be a factor in the region. This is evidenced by an outbreak of gastroenteritis in 1980 responsible for about four deaths and many hospitalisations. The outbreak affected young children in Chisasibi, Waskaganish, Nemaska, and Mistissini. Although investigation did isolate a specific strain of E. Coli, the main risk factors were identified as poor water supply and storage, inadequate sewage and garbage disposal, poor hygiene during food preparation, little breastfeeding (with the result that infant formula was prepared with the contaminated water), and frequent contact between the communities.³⁸⁵

1982-86

Hospitalisation rates for infectious diseases remained higher than average but infectious diseases in the region were said to be declining. The conditions for this were less present than they had been: overcrowding of houses, absence of proper sewage systems, running water, and refrigeration, and inadequate immunisation.³⁸⁶ However, since up to half the population still spent substantial amounts of time in hunting and fishing camps, occasional outbreaks of gastroenteritis still took place.

1988-92

The leading cause of hospitalisation during 1988-1992 was diseases of the digestive system. These were responsible for even more hospital separations than pregnancy and childbirth (normally by far the largest cause of hospitalisation in Indian reserve communities, because of their high birth rate). The largest components of the “digestive system” category are tooth problems (e.g., caries and abrasion) and gallbladder conditions. After diseases of the digestive system, the next most common reason for hospitalisation was pregnancy/childbirth, followed by respiratory conditions.

1998-2001

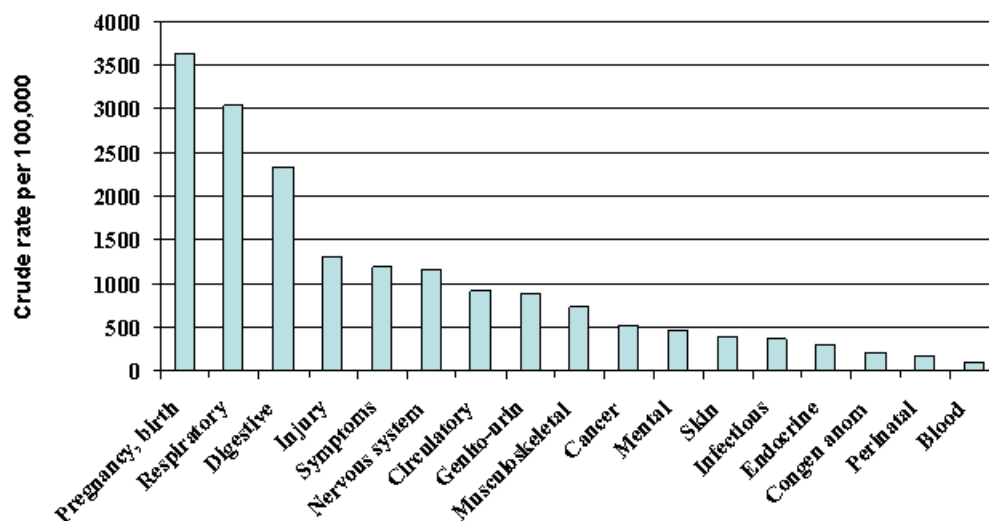
Currently, respiratory conditions are the leading cause of hospitalisation in the Cree Region (besides childbirth). These are followed by diseases of the digestive system and by injuries.

⁴⁶ This comparison is based on crude rates, because the source report did not age-standardise the figures.

Hospital Separations Over Time in the Cree Region
Crude Rates and Top Five Causes, for Five-Year Periods ³⁸⁷

ICD chapter	Crude rate per 100,000			Rank		
	1987-88 to 1991-92	1992-93 to 1996-97	1997-98 to 2001-02	1987-88 to 1991-92	1992-93 to 1996-97	1997-98 to 2001-02
1 Infectious and parasitic	452	368	362			
2 Cancer	568	574	518			
3 Endocrine & immune	310	380	298			
4 Blood & blood-forming	128	84	91			
5 Mental	454	429	461			
6 Nervous system	1,335	1,173	1,162			
7 Circulatory system	856	748	915			
8 Respiratory system	2,667	2,815	3,044	3	3	2
9 Digestive system	4,193	3,305	2,340	1	2	3
10 Genito-urinary	1,476	1,280	885	4	5	
11 Pregnancy and childbirth	3,993	4,129	3,636	2	1	1
12 Skin & subcutaneous	739	532	394			
13 Musculo-skeletal	679	742	733			
14 Congenital anomalies	216	246	210			
15 Perinatal conditions	97	132	171			
16 Symptoms & ill-defined	1,054	975	1,182			5
17 Injury and poisoning	1,427	1,398	1,304	5	4	4
All illnesses and injuries	20,643	19,307	17,706			

Hospital Separations in the Cree Region, 1997/98 to 2000/01, ³⁸⁸ By ICD-9 Main Chapter.



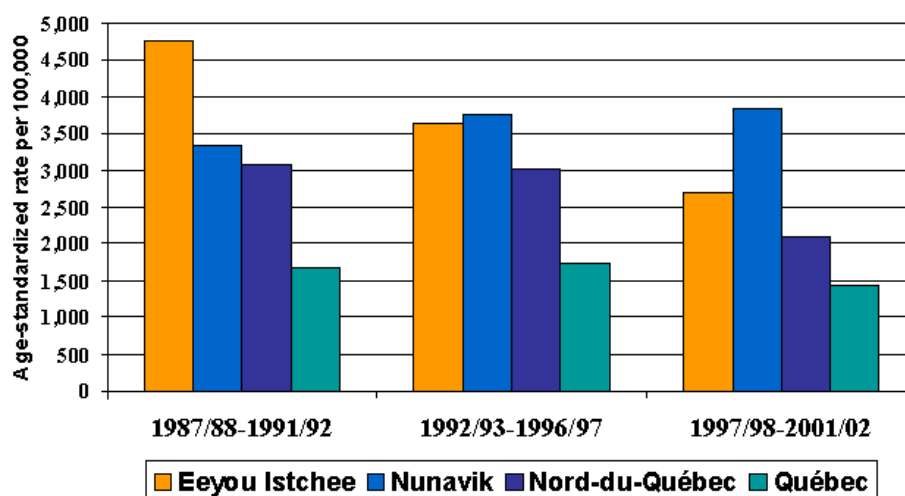
12.1.5.Principal Reasons for Hospitalisation

12.1.5.a.Hospitalisation for Diseases of the Digestive System

Diseases of the digestive system have gone from being the leading cause of hospitalisation in 1988-1992 to the third-ranked cause in the most recent period. This puts them behind pregnancy/childbirth and respiratory conditions. The number of hospitalisations has fallen from an average of 373 each year to 279. Hospitalisation rates are now just over half what they were in 1988-1992. Despite this drop, hospitalisation rates for digestive conditions remain higher in the Cree Region than in Quebec as a whole, although they are similar to those seen in other northern areas of Quebec (Nunavik and, to a lesser extent, the Nord-du-Québec).⁴⁷

What produced the drop in hospitalisations from digestive diseases? The largest components of this category are tooth problems and cholelithiasis (gallbladder stones). The number of hospitalisations for gallbladder disease actually increased over time. However, the number of hospitalisations for tooth problems has dropped substantially, from an average of 158 admissions each year in 1988-1992 to an average of just 56 per year. The most rapid drop in numbers occurred during 1996-1999. The recent drop in dental rate may be linked with improvements in dental services available in the region – particularly free coverage for children under 15, who comprise fully 98% of the hospital admissions for dental problems. The region's dental staff hold this view. They point to: more frequent use of oral and intravenous sedation (therapies that, unlike general anaesthetic, do not require hospitalisation); efforts to sensitise clients to the range of treatment options open to them; and efficient performance of the dental team. They also note that as more treatment is provided within the region, waiting lists for dental services have gone from 2 weeks (in 1994) to over 12 months (in 2001).³⁸⁹

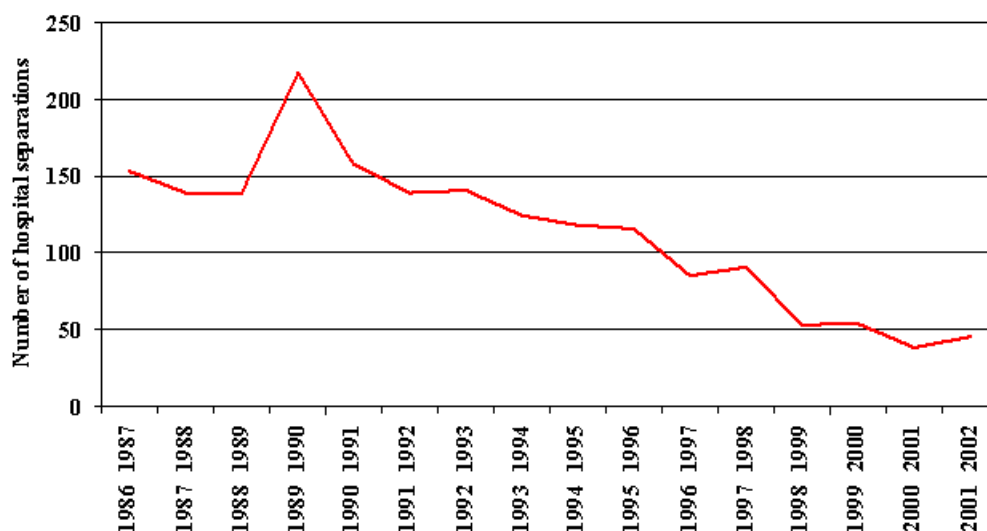
Age-Standardised Hospital Separation Rates for Digestive Diseases, 1987/88 to 2001/02³⁹⁰ Cree Region and Other Regions Compared.



Differences from Quebec average are statistically significant for all figures shown.
Data from Med-Echo files, Ministère de la santé et des services sociaux du Québec.

⁴⁷ Age-standardised *mortality* rates from digestive conditions also remain somewhat above the Quebec average.

Number of Hospital Separations for Tooth Problems 1986/87 to 2001/2002.³⁹¹



12.1.5.b. Hospitalisation for Diseases of the Respiratory System

As long ago as 1982-86, Robinson³⁹² observed that pneumonia and bronchitis seemed to be more common among the Crees. She suggested that this might be due to smoking, climate, and (historically) exposure to wood smoke. Diseases of the respiratory system are currently the leading cause of hospitalisation (aside from the hospitalisations associated with pregnancy and childbirth).⁴⁸ The “respiratory diseases” category includes acute respiratory infections (sinusitis, tonsillitis), pneumonia, influenza, and chronic obstructive pulmonary diseases such as asthma or emphysema. Pneumonia and influenza account for almost half of the hospitalisations from respiratory disease.

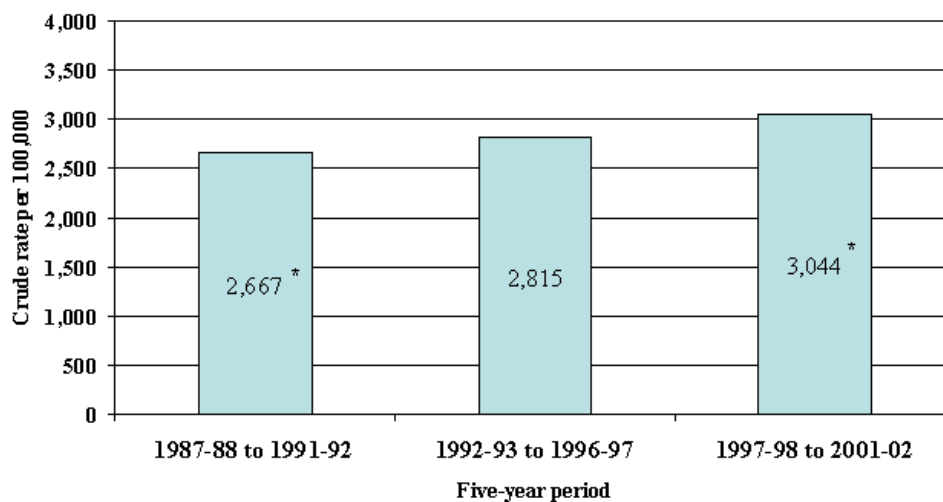
Hospital separations for respiratory conditions in the Cree Region seem to have increased slightly since 1987, although small numbers mean that trends have to be interpreted with caution. The increase seems to be due primarily to a greater number of hospitalisations for pneumonia and influenza in recent years. Hospitalisations for other forms of respiratory disease have not increased. These cases of pneumonia and influenza are concentrated in preschool age children and the elderly. Although rates of asthma in children have increased in the Cree Region (as throughout Canada), *hospitalisation* rates for asthma have been stable since 1987, presumably reflecting the emphasis on forms of treatment outside hospital.

Hospitalisation rates for respiratory conditions in the Cree Region are lower than in Nunavik. They are slightly higher than in Nord-du-Québec and appreciably higher than in Quebec as a whole. The age-standardised rates in the Cree Region, for most forms of respiratory disease, are about triple the Quebec average. The gap for pneumonia/influenza is even greater with Cree rates being five times the Quebec average. Hospitalisation rates for asthma, on the other hand, are not significantly different from the Quebec average.⁴⁹

⁴⁸ The continued prominence of respiratory problems is also shown in the fact that over 1994-98 age-standardised mortality rates from respiratory conditions were almost triple the Quebec average.

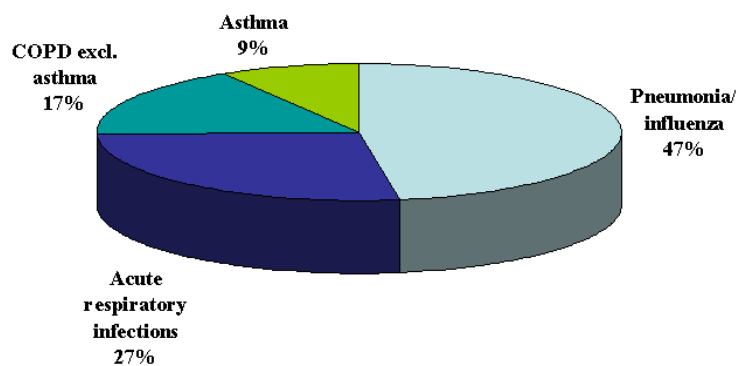
⁴⁹ These comparisons for pneumonia/influenza and for asthma are based on age-standardised rates.

Hospital Separations for Respiratory Conditions in the Cree Region, Crude Rates Over Time. ³⁹³



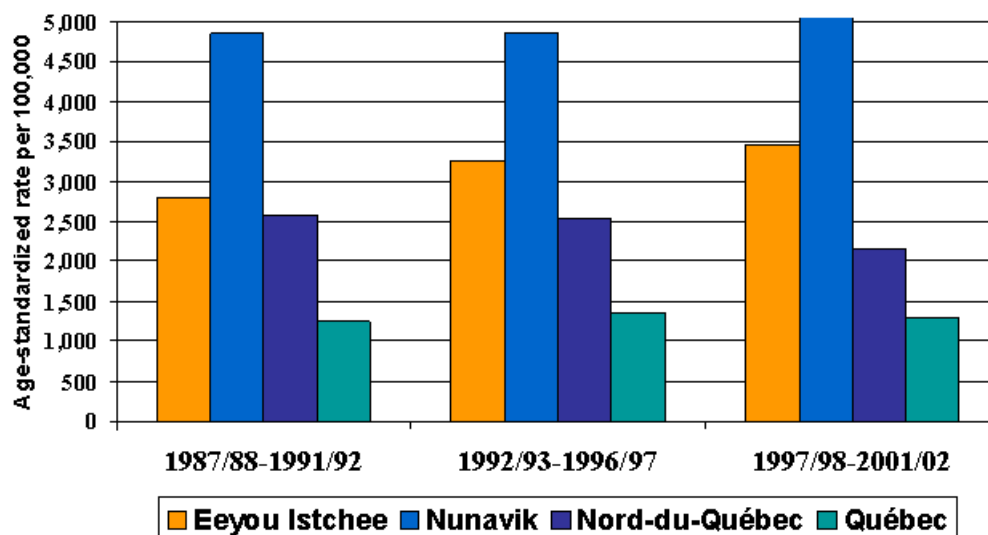
* The difference between the rates in 1988-1992 and in 1998-2002 is statistically significant. The difference between these years and the middle period (1993-97) is not statistically significant.

Hospitalisations for Respiratory Conditions, Cree Region 1997/98 to 2001/02.



Source: Quebec Ministry of Health and Social Services, data from the MedEcho system.
Based on the average number of admissions per year over the five-year period.

Age-Standardised Hospital Separation Rates for Respiratory Conditions 1987/88 to 2001/02, Cree Region and Other Regions Compared.³⁹⁴



Differences from Quebec average are statistically significant for all figures shown in this graph.
Data from Med-Echo files, Ministère de la santé et des services sociaux du Québec.

12.1.6. Self-Rated Health

Percent of Adults Rating Their Health as “Very Good” or “Excellent,” 1991 ³⁹⁵ Communities in the Cree Region, Aboriginal People in Quebec/Canada, and Canadian Total Population	
Chisasibi	72%
Eastmain	31%
Mistissini	48%
Nemaska	45%
Waskaganish	51%
Waswanipi	34%
Wemindji	45%
Whapmagoostui	47%
Cree Region	52%
Aboriginal people living in Quebec	61%
Aboriginal people living in Canada	58%
Canada total, 1994/95	63%

Health surveys in Canada frequently ask respondents to provide an overall assessment of their own health “as compared to other people your age.” Answers to this question have been shown to correlate with more objective measures of health status. In the Cree Region, about half of all adults describe their health as “very good” or “excellent.” This proportion seems to be similar to or slightly below that reported by

other Aboriginal groups in Canada,⁵⁰ and definitely below the 61% reported for the Canadian and Quebec populations.

Self-Rated Health Cree Region and Other Groups, 2001 ³⁹⁶			
	Excellent / Very good	Good	Fair / Poor
Coastal	55 (50-60)	37 (32-42)	X
Inland	47 (40-54)	37 (30-43)	16 (12-22) &
Cree Region	51 (47-56)	37 (33-41)	12 (9-15) &
On-reserve FN Canada (1997)	53	See note	47
Off-reserve Ab'l in Quebec	61	28	11
Off-reserve Ab'l in Canada	M	59	25
	F	54	28
Quebec total (age 12+)	61	28	11
Canada total (age 12+)	61	27	12
Figures in brackets represent the confidence interval. X = figure suppressed due to high sampling variability. & caution: high sampling variability for this figure. Note: The "good" category was not offered in the 1997 survey.			

12.1.7. Relatively Minor Health Conditions

The evidence on more everyday health problems as indicated by surveys is not clear-cut. On the one hand, as seen in the preceding section, Crees are less likely than other Quebecers to declare their health to be very good or excellent. On the other hand, in a 1991 survey, they were also less likely than other Quebec residents to report a range of common ailments.

Percent of the Population Reporting Certain Health Problems, 1991 ³⁹⁷ The Cree Region Compared to Nunavik and Quebec Total			
Reported problem	Nunavik 1992	Cree 1991	Quebec 1987
Hay fever	0.1%	1.1%	6.0%
Mental disorders	3.2%	1.9%	7.4%
Injuries	0.9%	2.5%	5.0%
Skin diseases and allergies	4.7%	4.1%	7.9%
High blood pressure	5.2%	4.5%	6.3%
Backaches	4.3%	5.0%	7.7%
Arthritis or Rheumatism	4.0%	6.3%	10.0%
Allergies (excluding hay fever and skin allergies)	5.3%	6.5%	6.5%
Headaches	7.7%	6.6%	8.4%

⁵⁰ The tables suggest clear differences between the proportions seen in the Cree Region and those seen in other Aboriginal groups. Because all of the figures for Aboriginals are based on small samples, wide confidence intervals are involved, and so the results are best interpreted cautiously.

Endnotes – 12.1. Mortality and Morbidity

- ³⁶¹ Robinson (1985a).
- ³⁶² *Annual Reports* of Medical Services Branch, 1960-1974.
- ³⁶³ Bernèche (1980).
- ³⁶⁴ *ibid.*
- ³⁶⁵ Foggin and Lauzon (1986), c.f. Robinson.
- ³⁶⁶ Lemchuk-Favel (1996).
- ³⁶⁷ Robinson (1985a).
- ³⁶⁸ Courteau (1989), p. 90.
- ³⁶⁹ *ibid.*; Saint-Pierre (1995). The two sources give different figures. Courteau states that Cree rates of infectious disease were 5 times the Quebec average (a comparison based on rates that may not have been age-standardised). St-Pierre recalculated Courteau's figures to resolve some problems with the denominator, and used Standardised Mortality Ratios for her comparisons. She estimates the Cree mortality rates from infectious diseases at 2.2 times the Quebec one.
- ³⁷⁰ Saint-Pierre (1995).
- ³⁷¹ Figures for 1975, 1982-86 and 1987-92 from Saint-Pierre (1995). More recent figures are estimates obtained by dividing the total number of deaths reported to the Cree Death Data File by the (unadjusted) population on the Beneficiaries List.
- ³⁷² Schnarch (2001), p. 111.
- ³⁷³ Drawn primarily from Schnarch (2001), p. 107. Original sources of the data are identified in separate notes in the table itself.
- ³⁷⁴ Robinson (1985).
- ³⁷⁵ Courteau (1989).
- ³⁷⁶ St-Pierre's recalculation of Courteau's figures.
- ³⁷⁷ Robinson (1985a); Pageau et al. (2003).
- ³⁷⁸ Saint-Pierre (1995), p. 25.
- ³⁷⁹ Québec (2001), p. 248.
- ³⁸⁰ Pageau et al. (2003).
- ³⁸¹ *ibid.*
- ³⁸² *ibid.*
- ³⁸³ Bernèche (1980).
- ³⁸⁴ Foggin and Lauzon (1986).
- ³⁸⁵ Pেকেles (1981a).
- ³⁸⁶ Courteau (1989), p.71.
- ³⁸⁷ Figures drawn MED-ECHO files.
- ³⁸⁸ MED-ECHO hospitalisation files, compiled by the CBHSSJB. The denominator for the rates is the Beneficiaries List.
- ³⁸⁹ Sirhan, Hilal and Eduardo Kalayjian, Dental Programme, CBHSSJB. Personal communications, February 2004.
- ³⁹⁰ MED-ECHO files, compiled by Pierre Lejeune of the CBHSSJB. The original denominator for the Cree rates (before age-standardisation) is the Beneficiaries List of the JBNQA.
- ³⁹¹ *ibid.*
- ³⁹² Robinson (1985a).
- ³⁹³ MED-ECHO files, op. cit.
- ³⁹⁴ *ibid.*
- ³⁹⁵ 1991 APS, Community Profiles. Data for Canada are from the National Population Health Survey, at www.statcan.ca
- ³⁹⁶ Data for the Cree Region from 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004. Adults 15+. Data for off-reserve Aboriginals in Quebec, and for Quebec and Canada as a whole, are from Statistics Canada's *Canadian Community Health Survey, 2000-2001*. Population 12+. Data for Registered Indians on-reserve from the 1997 *First Nations and Inuit Regional Health Surveys*. Population 17+ living on-reserve in the provinces, plus the Inuit of Labrador. Coastal communities = Whapmagoostui, Chisasibi, Wemindji, Eastmain, and Waskaganish. Inland communities = Nemaska, Mistissini, Waswanipi, and Ouje-Bougoumou.
- ³⁹⁷ Santé Québec health survey, reproduced from Schnarch (2001), p. 103.

12.2.Chronic Conditions

12.2.1.Chronic Conditions - Overview

A substantial proportion of adults in the Cree Region (39%) report have been diagnosed with one or more chronic conditions. The most frequently diagnosed conditions are diseases of the circulatory system (e.g., hypertension), heart disease, and the effects of stroke. Diabetes is the next most commonly reported condition followed by chronic respiratory problems. Data from a 2001 survey show higher rates of diagnosed diabetes in the inland communities than in the coastal communities.

Comparisons with other populations are impeded by differences in age groupings and in different definitions between surveys (e.g., whether “diabetes” includes gestational diabetes, or whether hypertension is counted separately from other forms of circulatory disease).⁵¹ However, the data suggest that diabetes rates in the Cree Region are at least as high as those seen among other Registered Indians living on reserves⁵² and far higher than elsewhere in Quebec. Conversely, the proportion of the population in the Cree Region reporting a diagnosis of arthritis or rheumatism is somewhat lower than elsewhere in the Province, and considerably lower than among other Registered Indians in Canada. The overall proportion of the Cree Region’s population suffering from one or more chronic conditions is roughly similar to other Registered Indians in Canada (39% vs. 46%).

Percent of Cree Region Adults with Chronic Conditions by Community, 1991 ³⁹⁸					
	Diabetes	Hypertension	Heart problems	Emphysema	Asthma
Chisasibi	x	13%	5%	7%	7%
Eastmain	14	16	11	7	7
Mistissini	8	12	8	8	8
Nemaska	6	12	X	6	6
Waskaganish	10	8	7	6	6
Waswanipi	X	X	X	12	12
Wemindji	6	9	5	7	7
Whapmagoostui	X	18	9	10	10
Que Aboriginal	6	10	7	3	3
Cdn Aboriginal	6	12	7	6	6
“x” indicates that Statistics Canada suppressed the number as being based on too small a sample to be reliable. Note that the numbers for diabetes from this survey may differ slightly from those derived from the Cree Diabetes Information System.					

⁵¹ Ideally, comparisons would also be based on age-standardised rates, particularly for conditions that are strongly age-related (e.g., heart disease and cancer). This is not always possible with survey data.

⁵² This conclusion is partly based on the reasoning that the rate for Registered Indians in Canada would be lower if gestational diabetes were not included.

Percent of Adults (15+) with Chronic Conditions, 2001 ³⁹⁹ By Geographic Area			
	Coastal	Inland	Cree Region
Diabetes*	9%	15%	12%
Cancer	x	x	x
Respiratory problems	11	9	10
Hypertension, heart problems, effects of stroke	21	17	19
Arthritis, rheumatism	6	10	8
Communicable diseases (hepatitis, TB, HIV/AIDS)	x	x	x
One or more chronic conditions**	42	40	39
<p>* Type 1 or 2 diabetes only – excludes cases of gestational diabetes. Note that the figures for diabetes may differ slightly from those derived from the Cree Diabetes Information System (e.g., according to the Information System, the prevalence of diabetes in adults was 13% in 2003).</p> <p>** Note that this includes not just the conditions shown above, but also less-common ones such as tuberculosis, hepatitis, or ulcers.</p> <p>“x” indicates that Statistics Canada suppressed the numbers as being based on too small a sample to be reliable. See endnote for a list of coastal and inland communities.</p>			

Comparison Figures: Chronic Conditions in the Quebec Total Population and in the Canadian Registered Indian Population ⁴⁰⁰		
	Quebec total, 2000-2001 Age 12+	On-reserve Registered Indians in Canada, 1997 Age 18+
Diabetes*	4.1%	11%
Cancer	0.4%	2%
Respiratory problems	n/a	12%
Hypertension	12.6%	20%
Arthritis, rheumatism	11.5%	18%
One or more chronic conditions		46%
* Includes gestational diabetes		

12.2.2.Chronic Conditions - Diabetes

The presence of diabetes among the Crees is a relatively new phenomenon that has emerged only within the past several decades. No cases of diabetes seem to have been documented in the region before 1975. Since then there has been a rapid progression in the incidence and prevalence of the disease. In 1983 Thouez et al.⁴⁰¹ reported a diabetes prevalence of 1.9% among Crees 15 years and older. In 1989 Brassard et al.⁴⁰² documented a prevalence of 4.1%. By 1993 the rate had risen again by almost 2%.⁴⁰³ By 2003, a full 13% of the population over the age of 15 had been diagnosed with diabetes (according to information from the Cree Diabetes Information System). Thus, the total number of adults diagnosed with diabetes increased almost seven-fold between 1983 and 2003. The crude prevalence rose from 1.9% to 13%. The age-sex adjusted prevalence rate in 2003 was 17.7% or three to four times the Provincial and national averages. Forty three percent of Cree Region diabetes cases are less than 40 years of age at time

of diagnosis. Over half of all diabetics in the region experience complications. Kidney damage is the most frequent, followed by damage to blood vessels, eyes, and nerves in that order.

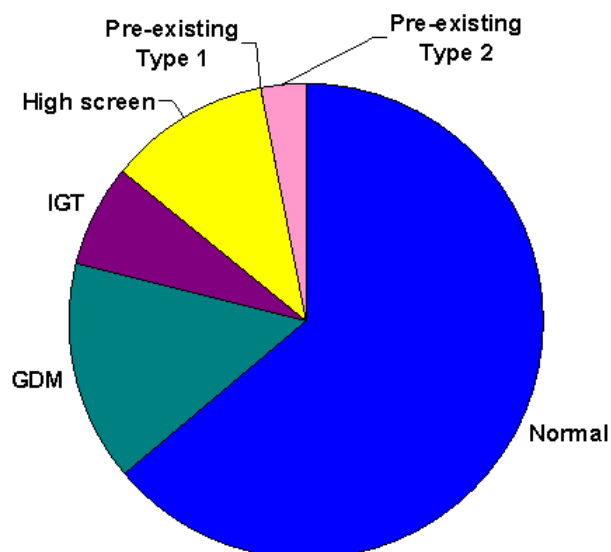
Cases of Diagnosed Diabetes in the Cree Region, 1983-2003 ⁴⁰⁴		
Year	Cases of diabetes (age 15+)	Crude Prevalence Rate (%)
1983		1.9%
1989	230	4.1%
1993	410	6.2%
1997	607	8.2%
1998	720	9.4%
1999	817	10.4%
2000	886	11.0%
2001	975	11.8%
2002	1065	12.5%
2003	1135	13%

Crude Prevalence of Diagnosed Diabetes, Population Age 20 and Over* Cree Region Compared to Other Groups, ca. 2000 ⁴⁰⁵		
Group	Year	Prevalence (%)
Cree territory	2000	12.8
Nunavut	1999/2000	1.0
Quebec	1999/2000	5.1
Canada	1999/2000	5.1
American Indians & Alaska Natives	2002	12.7
U.S. general population	2002	7.3
Refers to diabetes rates as established from review of medical records, not from self-report. Note: Rates have not been age-standardised. * Note that the other tables for the Cree population included in this section are for age 15+ rather than 20+. (Rates for 20+ were calculated here to maximise comparability with the other available figures).		

Self-Reported Diabetes, Population Age 15 and Over Cree Compared to Other Aboriginal Groups ⁴⁰⁶		
Group	Age group measured	Prevalence
1991		
Cree territory	15+	6.1%
Registered Indians on-reserve in Canada	15+	8.5%
Registered Indians off-reserve in Canada	15+	5.3%
Inuit in Canada	15+	1.9%
Métis in Canada	15+	5.5%
1997		
Cree territory	15+	8.1%
On-reserve Registered Indians & Labrador Inuit	17-18+	11%

Prevalence of Diabetes in the Cree Region by Community, 2003 ⁴⁰⁷			
Community	People with diabetes age 15+	Population age 15+	Prevalence %
Chisasibi	220	2348	9.4
Eastmain	63	393	16.0
Mistissini	302	1905	15.9
Nemaska	46	396	11.6
Oujé-Bougoumou	68	370	18.4
Waskaganish	159	1181	13.5
Waswanipi	169	857	19.7
Wemindji	75	816	9.2
Whapmagoostui	33	468	7.1
4-community group*	570	3875	14.7 (13.6 - 15.8)
Remaining 5 communities	565	4868	11.6 (10.7 - 12.5)
Cree territory as a whole	1135	8743	13.0 (12.3 - 13.7)
* Eastmain, Mistissini, Nemaska, Waskaganish. As shown by the confidence intervals (figures in brackets), the difference between these four communities and the territorial average is not statistically significant at the 0.05 level, but the difference between them and the remaining five communities <i>is</i> statistically significant.			

Glucose Levels of Pregnant Cree Women, 1994-2000. ⁴⁰⁸



Gestational diabetes (GDM) is also a major concern in the Cree Region. For the years 1994 to 2000 the prevalence of gestational diabetes was 15% - one of the highest reported among Aboriginal peoples. In addition, 6% of pregnant women had impaired glucose tolerance (IGT), meaning that their glucose levels

were elevated but below the threshold for diagnosis of GDM. Another 11% had high glucose levels on initial screening but had no follow-up test to establish a definitive diagnosis.

Type 2 diabetes and gestational diabetes both have being overweight as the main risk factor. Santé Quebec reported in 1991 that among the Crees, 57% of women and 38% of men were obese (Body Mass Index ≥ 30). These obesity prevalence rates were among the highest reported anywhere in the world at a population level. Figures from a survey in 2001 were similar or higher, with 87% of Cree adults overweight or obese.⁵³ Although changes in patterns of physical activity must be responsible in part for the level of obesity in the Cree communities, the increasing reliance on market foods has been linked to obesity among children and adults.

Very recent research indicates that the diabetes-related chronic caseload is growing and worsening faster than expected. Diabetes prevalence has been increasing at a rate of 0.8% per year over the past 8 consecutive years. Linking the Cree Diabetes Information System into Québec administrative data files for 1995/96 to 2000/01 shows a sharp increase in the percentage of diabetes-related hospitalisations classified as “high/extreme” risk versus “low/moderate risk.” Low/moderate cases are declining in number while high/extreme cases are rising at the same quick rate, from only 8% to 28% high/extreme in six years.⁵⁴

12.2.3. Chronic Conditions - Diseases of the Circulatory System

Diseases of the circulatory system (heart disease and stroke) are the leading cause of death in the Cree Region, as elsewhere in the country. Like other Registered Indian groups in Canada, Cree death rates from diseases of the circulatory system have historically been lower than average. However, data for 1994-98 suggest that Cree rates now resemble those seen in the rest of Quebec. There are some variations according to the specific type of circulatory disease being considered. For example, mortality from ischemic heart disease still appears to be somewhat less common than average in the Cree Region, but death rates from some other types of cardiovascular disease are higher.

Age-Standardised Mortality Rates from Diseases of the Circulatory System Cree Region and Quebec, 1994-1998 ⁴⁰⁹ Rates per 100,000		
	Cree Region	Quebec
Ischemic heart disease	119	149
Cerebrovascular	77	45
Disorders of arteries	3	14
Cardiac insufficiency	25	15
Hypertensive disorders	0	4
All types of circulatory disease	264	258
Caution: high sampling variability for the Cree figures. Differences are not statistically significant at the 0.05 level.		

Consistent with the mortality findings, hospitalisation statistics do not suggest a lower risk of cardiovascular disease in the Cree Region: rates of hospitalisation for circulatory diseases are similar to,

⁵³ See the preceding section *Body Weight*.

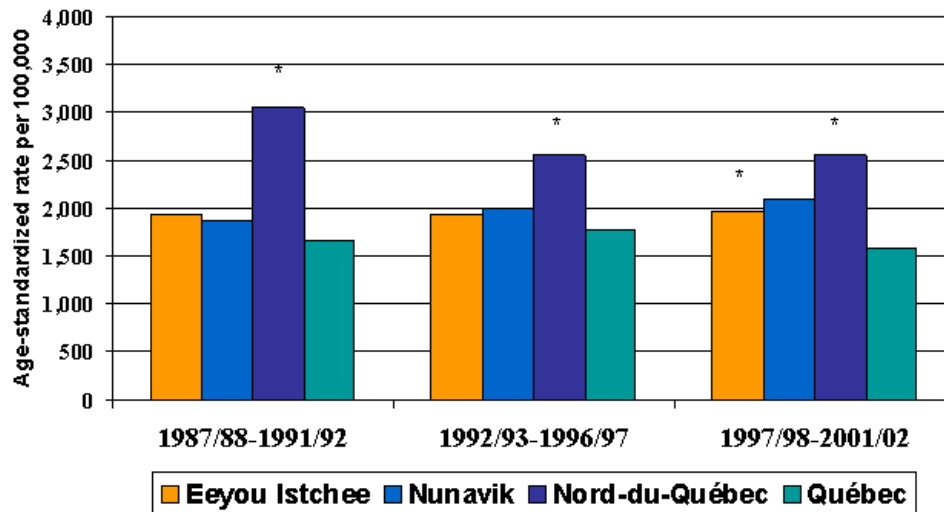
⁵⁴ Further discussion and sources see *Analysis of Service Adequacy*, Chapter 5, Part 7.

or slightly above, Quebec averages. They have been so since at least 1987. Cree hospitalisation rates are similar to those of Nunavik and consistently lower than in Nord-du-Québec.⁵⁵ Cree Region hospitalisation rates for circulatory disorders have been stable since 1987. Many of these hospitalisations are for non-specific diagnoses (heart failure, ill-defined diseases of the circulatory system). Ischemic heart disease (IHD) and stroke account for most of the remainder.

Hospital Separations for Diseases of the Circulatory System Cree Region and Other Regions Compared ⁴¹⁰									
	1987-1988 to 1991-1992			1992-1993 to 1996-1997			1997-1898 to 2001-2002		
	Avg no. per yr	Crude rate	Age- std rate	Avg no. per yr	Crud e rate	Age- std rate	Avg no. per yr	Crud e rate	Age- std rate
Inland	34	971	2,252	31	722	1,646	46	962	2,167
Coastal	42	782	1,750	48	765	1,599	63	883	1,792
4-comm. group *	28	684	1,643	28	606	1,388	46	874	2,049
Other 5 comms	48	1,007	2,188	50	861	1,787	63	949	1,913
Cree Region	76	856	1,933	78	748	1,933	109	915	1,971
Nunavik	58	825	1,860	75	887	1,998	72	755	2,093
Nord- du- Québec	283	1,329	3,041	275	1,422	2,553	264	1,488	2,554
Québec	103,592	1,492	1,654	124,099	1,723	1,772	122,742	1,670	1,573
Bold type indicates that the figure is significantly different from the Quebec average, at the 0.05 level of significance. * Four-community group = Eastmain, Mistissini, Nemaska and Waskaganish. Note that because the Tullavik Health Centre did not provide data in 1996/97, Nunavik's figures for the 1992/93-1996/97 period are based on only four years.									

⁵⁵ Interpretation of hospitalisation data for rural areas is complicated by the fact that patients may be transferred from outlying to specialised centres, leading to two hospitalisations for one episode of illness.

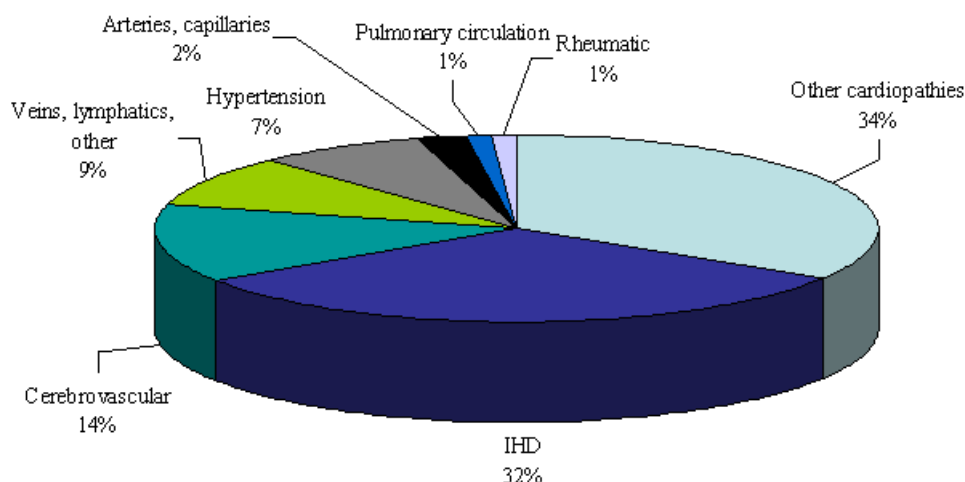
Hospital Separations for Circulatory Disease
1987/8 to 2001/02
Eeyou Istchee and Other Regions Compared



Source: data from Med-Echo files, Ministère de la santé et des services sociaux du Québec.
* Signifies that the figure is significantly different from the Quebec average in that period.

Hospital Separations for Diseases of the Circulatory System Number and Crude Rate for Five-year Periods ⁴¹¹						
	Average number of separations per year			Crude separation rate per 100,000		
	1987-88 1991-92	1992-93 1996-97	1997-98 2001-02	1987-88 1991-92	1992-93 1996-97	1997-98 2001-02
Coastal	34	31	46	971	722	962
Inland	42	48	63	782	765	883
4-community group*	28	28	46	684	606	874
Remaining 5 comms	48	50	63	1007	861	949
Cree Region	76	78	109	856	748	915
* Eastmain, Mistissini, Nemaska and Waskaganish. In 1997/98-2001/02, their rates did not differ significantly from the remaining five communities (at the 0.05 level of significance).						

Hospitalizations for Diseases of the Circulatory System Eeyou Istchee 1997/98 to 2001/02



Source: Quebec Ministry of Health and Social Services, data from the MedEcho system.
Based on the average number of admissions per year over the five-year period.

12.2.4. Chronic Conditions - Health Conditions Associated with Heart Disease

Cree Region data on specific health conditions associated with heart disease (e.g., cholesterol and hypertension) is more limited and much of it dates back to the 1991 Santé-Québec survey. The results at the time suggested that cholesterol levels were better in the Cree Region than elsewhere in the Province. The average blood cholesterol in the Cree Region was 4.8 mmol/L. This was lower than the 5.2 mmol/L observed in other Quebecers. While 31% of Cree adults had cholesterol levels high enough to increase their risk of IHD (≥ 5.2 mmol/L), 48% of other Quebecers could report the same.⁴¹² A more recent (2002) study in two communities suggests that this pattern has persisted: 25% of adults in Oujé-Bougoumou and 27% in Nemaska had cholesterol levels of 5.2 mmol/L or more.⁴¹³

Given the prevalence of risk factors such as diabetes, obesity, and smoking, one would predict higher rates of circulatory disease among the Crees. One mitigating factor may be the amount of fish and wild game consumed. A 2002 study concluded that the Crees had higher levels of n-3 fatty acids in their blood than the general Quebec or American populations. These particular acids in blood are directly associated with eating fish and wild game. Their presence has been shown to protect against heart disease.⁴¹⁴

Cholesterol Levels in Cree Adults (Age 18-74), 1991 ⁴¹⁵			
	M	F	T
< 5.2 mmol/L	62%	77%	69%
≥5.2_to 6.1 mmol/L (moderate increase in risk)	31%	18%	25%
≥6.2 mmol/L	7%	5%	6%
Total	100%	100%	100%

Robinson⁴¹⁶ reported in 1985 that, while heart disease was less frequent in the Cree Region than elsewhere, hypertension seemed to be at least as common as in the south.⁵⁶ Support for this view comes from community consultations in Mistissini and Wemindji in 1984. In these, key informants placed hypertension among their top four priorities.⁴¹⁷ Physical measures on a sample of adults in 1983-84 found that 15% of women and 22% of men had hypertension. Rates in 1991 were roughly similar: 15% of Cree adults told the Santé Québec survey that they had been diagnosed with hypertension.⁵⁷ This proportion in women was well above the Quebec average when age-standardised.⁴¹⁸ A 2002 study found hypertension rates of 23% in Ujé-Bougoumou and 20% in Nemaska.⁴¹⁹

Blood Pressure Levels by Community, 1983-84. ⁴²⁰										
		Chis	East	Mist	Nem	Was k	Was w	Wem	Wha p	E.I.
Normal (%)	M	36	60	57	66	59	76	63	83	57
	F	53	54	70	57	72	57	68	89	64
High (%)	M	30	15	12	7	24	9	16	8	22
	F	19	20	14	10	11	19	19	2	15
Borderline (%)	M	33	25	31	27	17	16	21	10	25
	F	28	25	16	33	17	24	13	9	21
Total N in sample	M	66	60	81	68	59	45	68	52	499
	F	64	59	70	61	47	37	69	46	453

Note: totals for the Cree Region are based on a re-weighting of the original figures.

Self-Reported* Hypertension in Adults Cree Compared to Other Populations, circa 1991 ⁴²¹				
Cree 18-74 years 1991	Quebec 18-74 years 1987	1998	Canada 12+ years 1994/95	2000/01
15%	6.3%	8.5%	9%	12.6%

* Number of people who have ever been told by a health professional that they have high blood pressure. Note that using physical measures, the proportions for the Crees in 1991 were: men, 13%, women 13%.

⁵⁶ In this, the Cree may resemble other Registered Indian groups in Canada. The 1997 First Nations and Inuit Regional Health Survey found rates of hypertension among Registered Indians living on-reserve to be 20%, well above the Canadian average of 9% at that time.

⁵⁷ The proportion found to have hypertension using physical measures was slightly different (13%).

12.2.5.Chronic Conditions - Cancer

Deaths from cancer have historically been less common in the Cree Region than elsewhere in the country. The most recent figures suggest that this pattern still holds true although the gap is now quite small. Deaths from some types of cancer - pancreas, stomach, and colorectal - continue to be rare or unknown. For other types - lung, breast, and prostate – the Cree death rates now seem to be close to, or even above, Quebec averages.

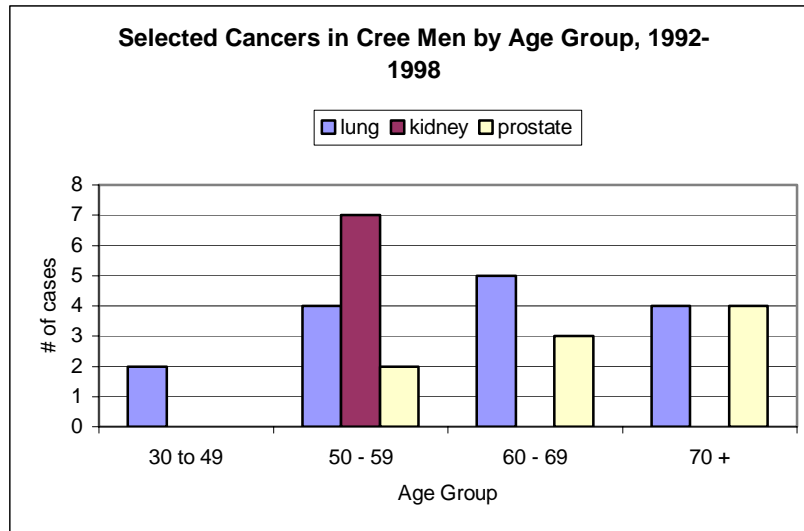
The earliest reliable information on types of cancer in the Cree Region dates from period 1975-82. At that time, cancers of the digestive system followed by lung cancer accounted for the greatest numbers of deaths. More recent information on the number of cancer *cases* (not deaths) shows that the three most frequent types in the Cree Region are cancers of: the bladder, kidney, and urethra; of the breast; and the colorectal region. The most common cancer in women is breast cancer while for men prostate cancer leads the list. Cancers of the bladder and kidney are common in both sexes. Most cancers occur among older Crees. Some forms of cancer in men showed a strong age pattern between 1992 and 1998. Lung cancer occurred at all ages over 30 and all the cases of prostate cancer occurred after age 50. Kidney cancers occurred only in men aged 50-59.⁴²²

A recent Health Canada study reported that the risk of breast, colon, lung and prostate cancer is lower than average in Aboriginal peoples. Conversely, there is said to be a higher risk of kidney cancer in Aboriginal men, and gallbladder and cervical cancer in women.⁴²³ The number of cancers of the bladder/kidney in the Cree Region seems consistent with the description. It is harder to say whether women in the Cree Region are at increased risk of cervical cancer. However, the 1991 Santé Québec survey found that Cree women were somewhat less likely than others women Quebec to have had a pap smear. This was particularly so of older Cree women. Over the period 1992–1998 two cases of cervical cancer were reported in the region. Neither was fatal.

Age-Standardised Cancer Mortality Rates 1994-1998 ⁴²⁴ Cree Region and Quebec Rates per 100,000		
	Cree Region	Quebec
Lung	69	65
Colorectal	10	27
Breast (female)	59	32
Prostate	53	30
Pancreas	0	11
Stomach	0	9
All types of cancer	204	220
Caution: high sampling variability in the figures for the Cree Region.		

Causes of Cancer Deaths Among the Crees, 1975-1982. ⁴²⁵	
Digestive system (bowel, gallbladder....)	11
Lung	9
Breast	3
Prostate	2
Others	9
All types of cancer	34

Cases of Cancer Recorded in Quebec's Tumour Registry Residents of Cree Region, Total 1992-1996 ⁴²⁶			
Type	Women	Men	Total
Bladder, kidney and urethra	7	6	13
Breast	10	-	10
Colorectal	5	5	10
Lung	3	6	9
In situ cervix*	9	-	9
Prostate	-	7	7
Leukaemia and lymphoma	1	5	6
Other-intestinal	2	4	6
Ovary	4	-	4
Uterus	3	-	3
Bone and connective tissue	2	1	3
Other-respiratory	0	2	2
Other	5	8	13
Total	51	44	95
* Cancer <i>in situ</i> of the cervix is a localised form of cancer that is not malignant at time of diagnosis and may never become so. Although the number is provided here, it is recognised that many cancer registries do not count this form.			



Source: Torrie J (2002).

12.2.6.Chronic Conditions - Asthma

Hospitalisation statistics suggest that asthma is concentrated in children.⁵⁸ Throughout Canada asthma rates in children increased rapidly from 2.5% in 1978/79 to 12% in 1998/99.⁴²⁷ In the Cree Region 15% of children under 15 were reported to have asthma in 2001.⁴²⁸ Asthma was said to limit their participation in activities normal for the age in an estimated 14% of these cases.⁴²⁹ Asthma *incidence rates* may have increased but asthma *hospitalisation rates* have not changed appreciably since 1987. This suggests that methods of treatment and control are successfully averting some hospitalisations. There is some suggestion of a seasonal pattern in the hospitalisation statistics, with admissions being most common during late winter and spring.

Hospital Separations for Asthma in the Cree Region, by Age Group and Season Total Numbers Over the Sixteen Years 1986/87 to 2001/02 ⁴³⁰					
Age group	Separations Number	Average number of separations per season			
		FMA	MJJ	ASO	NDJ
Under 1	97	2.1	2.1	0.7	1.3
1 to 4 yrs	143	2.7	2.6	1.2	2.3
5 to 14 yrs	33	0.7	0.6	0.4	0.4
15 to 24 yrs	22	0.3	0.3	0.4	0.5
25 to 34 yrs	18	0.2	0.3	0.4	0.2
35 to 44 yrs	18	0.2	0.4	0.3	0.2
45 to 54 yrs	25	0.4	0.2	0.6	0.4
55 to 64 yrs	9	0.2	0.1	0.1	0.2
65 to 74 yrs	14	0.1	0.1	0.3	0.3
75+ yrs	4	0.1	-	0.1	0.1
All ages	383	7.0	6.7	4.5	5.8

Endnotes – 12.2. Chronic Conditions

³⁹⁸ 1991 APS, Community Profiles.

³⁹⁹ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004. The original question asked respondents “Have you ever been told by a health professional that you have...?” This wording is comparable to that used on other national surveys. Coastal communities: Whapmagoostui, Chisasibi, Wemindji, Eastmain and Waskaganish. Inland: Nemaska, Mistissini, Waswanipi and Ouje-Bougoumou. Note that the 2001 survey did not provide data on individual communities.

⁴⁰⁰ Data for Quebec are mainly drawn from Statistics Canada, Canadian Community Health Survey, found in CANSIM tables on Statistics Canada’s website. They are age-standardised. The figure shown for cancer is the age-standardised incidence rate for Quebec in 2000, as reported by Health Canada’s Surveillance and Risk Assessment Division in *Cancer Surveillance Online* (note that some of the difference from the Registered Indians figure may be explained by the fact that the Registered Indians number is a *prevalence* rate rather than an incidence rate). Figures for Registered Indians in Canada are crude rates from the 1997 First Nations and Inuit Regional Health Surveys. The numbers include Registered Indians living on-reserve in all the provinces, plus the Inuit of Labrador. The

⁵⁸ At least, the vast majority of those *hospitalised* for asthma are children.

category “respiratory conditions” was called “breathing problems” in the original, and does not include asthma. The numbers shown have been deduced from a chart given on page 60 of Canada (1999).

⁴⁰¹ Thouez et al. (1990).

⁴⁰² Brassard et al. (1993).

⁴⁰³ Daveluy et al. (1994); Veronneau and Robinson (1991).

⁴⁰⁴ 1983 data from Thouez et al. (1990). 1989 data from Brassard et al. (1993). 1993 data from Veronneau and Robinson (1993). Remaining data from the Cree Diabetes Information System.

⁴⁰⁵ Cree data from the Cree Diabetes Information System. American data from the US Centres for Disease Control, *Weekly*, Aug 1, 2003. Remaining data from Health Canada’s National Diabetes Surveillance System.

⁴⁰⁶ Cree data for both 1991 and 1997 from the Cree Diabetes Information System. Remaining data for 1991 from National Diabetes Surveillance System and Canada (2002b). These numbers were originally drawn from the 1991 APS. Data for 1997 deduced from a chart on page 60 of Canada (1999). The report is based on a series of regional surveys that used slightly different age ranges—hence the stated age range of “17-18 years”.

⁴⁰⁷ Data from Cree Diabetes Information system, 2003. Figures prepared by Dr. David Dannenbaum, CBHSSJB.

⁴⁰⁸ Data from Willows and Johnson (2003c).

⁴⁰⁹ Pageau et al. (2003), p. 153.

⁴¹⁰ Data from MED-ECHO (hospitalisation) files.

⁴¹¹ *ibid.*

⁴¹² Daveluy et al. (1994), p. 105.

⁴¹³ Dewailly and Nieboer (2003).

⁴¹⁴ Dewailly et al. (2002).

⁴¹⁵ Daveluy et al. (1994), p. 106.

⁴¹⁶ Robinson (1985a).

⁴¹⁷ Renaud (1984a). The study relied on a series of forced-choices (psychometric – Connop method) among pairs of nine topics. There were 40 key informants each in Mistissini and Wemindji.

⁴¹⁸ Daveluy et al. (1994).

⁴¹⁹ Dewailly and Nieboer (2003).

⁴²⁰ Foggin and Lauzon (1986). The survey included about 35 households per community, and the response rate for the physical-measures component was 81%. Totals for the Cree Region have been re-weighted using the total population as of May 1983 according to the Beneficiaries List.

⁴²¹ Cree data from Daveluy et al. (1994). Quebec data from Pageau et al. (2003). Canada data from Statistic Canada. 1994/95 figure from *Health Indicators*, 82-221 XIE; 2000 figure drawn from the Canadian Community Health Survey, as indicated on Statistics Canada’s website.

⁴²² Torrie (2002).

⁴²³ Canada (2003).

⁴²⁴ Pageau et al.

⁴²⁵ Robinson (1985a), p. 67.

⁴²⁶ Schnarch (2001), p. 106. Original data are from MSSSQ. Eight cases assumed to be duplicates were removed.

⁴²⁷ Based on figures for childhood asthma drawn from Statistics Canada’s website, and on a report by Health Canada’s Centre for Chronic Disease Prevention and Control, at www.hc-sc.gc.ca/pph-dgs/crd-mrc.

⁴²⁸ 2001 APS, custom tabulations *op. cit.*

⁴²⁹ *ibid.* The percentage is deduced, based on the fact that 86% of parents reported that the child was NOT limited in normal activities. Given the small numbers involved and the consequent high sampling variability, the figure is best treated as an estimate.

⁴³⁰ MED-ECHO (hospitalisation) files.

12.3. Enteric and Vaccine-Preventable Diseases⁵⁹

12.3.1. Tuberculosis

Little information exists on TB in the Cree Region during the 1970s. The few figures in published reports and internal documentation from Medical Services Branch are of unknown accuracy. Moreover, rates do not seem to have been calculated, even for internal use. It is nonetheless clear that the numbers of new and reactivated cases of TB dropped between the early 1970s and the 1980s. There is partial information on Cree *deaths* from tuberculosis: Medical Services Branch reported 1 death in 1973/74 and none in 1974/75. Renaud notes two deaths over the period 1980-1983.

Tuberculosis rates vary widely between groups. The Cree rates have consistently been higher than those of the non-Aboriginal population, but variable as compared to other Aboriginal groups. From 1980 to 1984 there were 45 new and reactivated cases of tuberculosis among the Crees. This yielded a rate ten times the Canadian average⁴³¹ and similar to that of other Registered Indians in Canada.⁴³² The Cree TB rate was higher than among other Registered Indians in Quebec but lower than among Quebec Inuit.⁴³³ Unlike other Quebecers, 40% of new active Cree cases were children under 14.⁴³⁴ This pattern continued into the 1990s.⁴³⁵

After the early 1980s tuberculosis rates fell dramatically from 148 per 100,000 (1980-84) to 11 per 100,000 (2000-2002). The recent figure is lower - 8 per 100,000 - if only pulmonary TB is considered. Some Cree communities have had no cases over the past ten years. Cree tuberculosis rates are now lower than among other Aboriginals but they remain higher than the Quebec and Canadian populations.⁴³⁶ The proportion of Crees with latent TB infection is elevated. This carrier population makes sporadic outbreaks possible. One such outbreak happened in 1990/91.⁴³⁷

Tuberculosis control programmes, and consequently TB data, have changed over the years. The first systemic effort to eradicate TB began in the late 1940s and early 1950s, with the rapid spread of federal clinics and associated public health interventions. The first Cree-run TB programme applicable to all communities was introduced in 1982. This programme was more focused and attuned to the Cree reality than the earlier, blanket-type federal measures and it achieved rapid and sustained results.

The number of reported cases increased suddenly in 1982 when screening was sharply intensified. Everyone under the age of 35 was skin-tested and all known reactors were X-rayed. Screening was gradually scaled back as the incidence rates dropped and mass X-rays were realised to be cost-ineffective. In 1987 children were screened at one year of age, at the start of elementary school, and at the start of high school. Since 1993 children are merely screened in Grade 6, although all infants continue to receive BCG vaccination at birth. Results from the Grade 6 tests show a continued downward trend over 1993-1998 with no new active cases of TB detected. The incidence of positive skin tests declined. The annual incidence of positive tests was 1.4% over this period. It was believed to be an over-estimate because many of the children involved had received previous skin tests and more than one BCG vaccination. This raised their likelihood of a false-positive reaction.⁴³⁸ In recent years (1999-2002) the annual risk of infection has fallen even further to 0.12%.⁴³⁹

⁵⁹ Sexually transmissible infections are discussed in a separate section.

Although regional TB rates have fallen steadily, some researchers predict more reactivations in future because rates of diabetes and associated renal failure are very high. There is also concern about the possible effect of HIV infection on TB rates, if and when HIV gains a foothold in the Cree population.⁴⁴⁰

Tuberculosis Rates per 100,000 (New and Reactivated Cases), 1984-1998. ⁴⁴¹											
	1980 -1984	1984	1985	1986	1987	1988	1989	1990	1991	1994 - 1998	1999 - 2001
Cree Region	148.4	82.8	11.8	0	11.6	45.9	0	32.3	51.3	23	14
Quebec	10.3	9.2	8.7	7.6	6.5	6.4	6.3	6.1	5.8		4.3
Includes all forms of TB – pulmonary and other.											

Cree Region Declared Cases of Tuberculosis, by Age Total 1992-1999 ⁴⁴²	
Age	Number
0-4	1
5 to 9	2
10-14	0
15-19	0
20-24	0
25-29	1
30-34	1
35-39	0
40-59	5
60+	7
All ages	17
Includes pulmonary and other forms of TB.	

Cree Region Incidence of Tuberculosis, 1980-2001 ⁴⁴³		
	Number of cases	Annual incidence (per 100,000)
1980-1983	38	149
1984-1986	8	36
1987-1989	5	19
1990-1992	9	31
1993-1995	7	22
1996-1998	8	23
1999-2001	5	14
2000-2002*	4	11
Includes pulmonary and other forms of TB.		
* Note that the years in this range overlap with the preceding period.		

New and Reactivated Cases of Tuberculosis* by Cree Community, 1973-1991 ⁴⁴⁴									
	Chis	East	Mist	Nem	Wask	Wasw	Wem	Whap	Total
**1973/74	4		4	n/ap φ	1	4	1	5	19
**1974/75			4	n/ap	1	1	0	3	9
**1975			5	n/ap			3	8	16
**1976	n/av	n/av	n/av	n/ap				10	n/av
1980			6			3			9
1981			1	1	1	2			5
***1982	2	1	3		1	9		2	18
1983	2	1				3			6
1984	3		2			1	1		7
1985	1								1
1986									0
1987			1						1
1988			2					2	4
1989									0
1990			3						3
1991	1		4						5
1992-2000	4	0	6	0	3	4	1	1	19
2001									3
2002									0
2003									1
<p>* Historical sources do not always indicate whether they counted all forms of TB, or only the pulmonary type. In this table, it is not clear which forms are included in the data for 1973 to 1983. For all years after 1983, both pulmonary and other forms of TB were counted.</p> <p>** The figures shown for Whapmagoostui in 1973 to 1976 are actually for “Great Whale” in the original source. It is not clear whether this referred to the Inuit community (now called Kuujuarapik), to the Cree community (now Whapmagoostui), or to both the Cree and Inuit parts of this village.</p> <p>*** A screening programme was introduced in 1982.</p> <p>Φ Nemaska did not exist as a distinct community until 1981, nor Ouje-Bougoumou until 1994.</p>									

Prevalence and Annual Risk of Tuberculosis Infection Among 12-Year-Old Crees, 1993-1998 ⁴⁴⁵			
Year	Students screened	Positive TST n (%)	Annual Risk of Infection (%)
1993	252	49 (19.4)	1.8
1994	197	50 (25.4)	2.4
1995	200	29 (14.5)	1.3
1996	201	31 (15.4)	1.4
1997	222	22 (9.9)	0.9
1998	202	15 (7.4)	0.6
1999	161	6 (3.7)	0.3
2000	196	2 (1.0)	0.09
2001	197	2 (1.0)	0.08
2002	272	2 (0.7)	0.06
1993-1998	1274	196 (15.3%)	1.4
1999-2002	826	12 (1.5)	0.12
Participation rates in screening were 94% for 1993-1998, and 82% for 1999-2002.			

12.3.2. Other Infectious and Parasitic Diseases⁶⁰

Between 1900 and 1950, infectious diseases were common in the Cree Region and often fatal.⁴⁴⁶ There is little information for the 1960s and 1970s. Reports by MSB do mention an outbreak of meningococcal meningitis at Mistissini in 1969.⁴⁴⁷ As well, figures for 1976 show that infectious and parasitic diseases accounted for 4% of all deaths in the Cree Region. This was compared to 0.7% of deaths in Canada as a whole.⁴⁴⁸

Infectious diseases continued to be significant concerns into the early 1980s, as evidenced by the 1980 gastroenteritis outbreak in Chisasibi, Mistissini, Nemaska and Waskaganish. This occurred during a period of administrative confusion surrounding the implementation of the JBNQA. During this time (1976-1981) there were jurisdictional disputes between different levels of government and a serious, documented deterioration of socio-sanitary infrastructure.⁶¹ A thorough investigation in all eight communities followed the 1980 outbreak.⁴⁴⁹ The results showed that 29% of the population had parasites, and 6.5% carried *E. coli* bacteria although all of these people were asymptomatic. Children had the highest rates. Most of the parasites detected were non-pathogenic. This suggested that the person was exposed to faecal contamination via food or water. Two more serious conditions - giardia lamblia and *Entamoeba histolytica* – were found in 5.8% and 1.6% of the sample, respectively.

Presence of Parasites or Infectious Bacteria in Stool Samples, Eight Existing Cree Communities, 1983. ⁴⁵⁰		
	Any parasite	E. Coli
Chisasibi	19.1%	8.5%
Eastmain	18.0	6.0
Mistissini	30.8	1.9
Nemaska	52.0	6.0
Waswanipi	24.4	7.3
Waskaganish	31.2	8.3
Wemindji	24.5	2.0
Whapmagoostui	31.1	13.3
Cree Region	29.4	6.5

Infectious diseases declined between 1982 and 1986 as improvements in infrastructure and services reduced the enabling conditions: overcrowding in houses; inadequate water and sewer systems; lack of refrigeration; and low immunisation rates. Sporadic outbreaks continued, in part because up to half the population spent substantial time in hunting camps.⁴⁵¹ Rates of infectious and parasitic disease continued to fall in the ensuing years, to the point that figures for 1992 suggest that the Standardised Mortality Ratio as compared to Quebec actually fell to 0.60⁴⁵² (possibly a statistical anomaly due to small numbers).

⁶⁰ Excluding sexually transmissible infections, discussed in a separate section.

⁶¹ The administrative problems of this period are described in detail in Chapter 5.

Mortality from Infectious and Parasitic Diseases Cree Communities of James Bay, 1982-1986 and 1987-1992 Rate and Standardised Mortality Ratio ⁴⁵³		
	1982-1986	1987-1992
Rate per 10,000	1.26	0.35
Standardised Mortality Ratio	2.21	0.60
The point of comparison for the SMR is the Quebec rate as of 1990. The differences shown are not statistically significant.		

12.3.4. Enteric Diseases

Some problems with persisted with enteric diseases. Smeja in 1991 noted that

*A Chisasibi, le système de fosse septique est nettement insuffisant pour servir la communauté, vu le nombre de personnes desservies et la qualité du sol. A Waskaganish, le lagon déborde régulièrement dans la rivière, près du tuyau d'approvisionnement d'eau pour le village.*⁴⁵⁴

Nonetheless, only one case of giardia was reported between 1984 and 1991. Salmonella was instead the most frequently reported enteric condition. This may be associated with food handling practices because the numbers took on a characteristic “spike” during warmer weather in summer and early autumn.⁴⁵⁵ In recent years salmonella has continued to be reported occasionally. Other enteric diseases such as giardia, shigella, hepatitis A and E. Coli are infrequent. The rates of these diseases in the Cree Region are considerably lower than for other Registered Indians in Canada – particularly for shigella.

Rates of Enteric Diseases (per 100,000) Cree Region, Other Registered Indians and Canada Compared ⁴⁵⁶				
Disease	Cree Region (1998-2003)		Registered Indians in Canada (1999)	Canada total (1999)
	Number	Rate	Rate	Rate
Giardiasis	3	4.0	26.8	17.2
Hepatitis A	0	0	15.4	2.9
Shigellosis	0	0	69.6	3.6
E. Coli	0	0	0	4.9
Caution: Rates for the Cree Region are based on very small numbers.				

Cases of Reportable Enteric Disease, Cree Region, 1984-2003 ⁴⁵⁷							
	Campylo- bacter	Giardia	Epidemic diarrhea	Sal- monella	Shigella	Hepatitis A	E. Coli
1984	0	1	0	0	0	NA	NA
1985	0	0	0	1	1	NA	NA
1986	0	0	0	28	0	NA	NA
1987	0	0	41*	18	0	NA	NA
1988	0	0	51**	2	0	NA	NA
1989	1	0	0	4	0	NA	NA
1990	0	0	0	6	1	NA	NA
1991	0	0	0	8	0	NA	NA
1992	1	1	0	3	0	0	0
1993	1	1	0	3	0	1	0
1994	1	0	0	3	0	0	1
1995	0	1	0	11	0	0	0
1996	2	0	0	5	0	2	0
1997	0	0	0	9	0	0	0
1998	1	1	0	10	0	0	0
1999	3	1	0	7	0	0	0
2000	2	0	0	3	0	0	0
2001	3	0	0	3	0	0	0
2002	1	0	0	9	0	0	0
2003	0	1	0	4	0	0	0
1984- 2003	16	6	92	137	2	NA	NA
* All cases were from Waskaganish in July 1989, related to one demonstrated case of salmonella. ** Epidemiological study of an outbreak in Waswanipi in 1987.							

12.3.5. Vaccine-Preventable Diseases

The rates of vaccine-preventable diseases in the region have been low since the period 1984-1991, when vaccine coverage was considered excellent and the Cree Region avoided outbreaks that occurred in neighbouring regions. In recent years data have been collected for specific immunisation campaigns such as those conducted for influenza and Hepatitis B. These campaigns have achieved good coverage. There are no recent quantitative data for routine immunisations such as diphtheria or mumps, but reports from clinicians delivering the well-baby programme indicate that immunisation levels are satisfactory. Rates of vaccine-preventable disease have remained low in recent years: in 2003, the only vaccine-preventable disease reported in the Cree Region was one case of invasive *S. pneumoniae*.⁴⁵⁸

Streptococcal pneumoniae is a special case, in that routine vaccination for this disease was introduced only in 2002. This bacterium is responsible for a variety of infections such as otitis and respiratory tract infections. It may present as bacteraemia, sepsis, or meningitis. There were from 2 to 4 documented cases of invasive streptococcal disease annually the period 1998-2001. These were usually in children under the age of five. This produced an incidence rate in the Cree Region triple the Canadian average, but similar to rates seen in other Registered Indian and northern populations.⁴⁵⁹

Cases of Selected Vaccine-Preventable Diseases, Cree Region 1984-2003 ⁴⁶⁰							
	Pertussis	H. influen- zae	Meningo- coccal	Measles	Rubella	Mumps	Inv. S. Pneu- monia
1984	0	0	0	0	1	NA	NA
1985	0	0	1	0	0	NA	NA
1986	0	1	0	0	1	NA	NA
1987	0	0	0	1	0	NA	NA
1988	0	1	0	0	1	NA	NA
1989	0	2	0	0	0	NA	NA
1990	1	1	0	0	0	NA	NA
1991	0	1	0	0	0	NA	NA
1992	0	0	0	0	0	0	0
1993	41	0	1	0	0	0	0
1994	2	0	0	1	0	0	0
1995	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0
1997	1	0	0	0	0	0	1
1998	25	0	0	0	0	0	1
1999	0	0	1	0	0	1	4
2000	0	0	4	0	0	0	2
2001	1	0	2	0	0	0	3
2002	2	0	0	0	0	0	1
2003	0	0	0	0	0	0	1

Endnotes – 12.3. Enteric and Vaccine-Preventable Diseases

⁴³¹ Robinson (1985a).

⁴³² *ibid.*

⁴³³ Renaud (1984b).

⁴³⁴ *ibid.*

⁴³⁵ Smeja (1992).

⁴³⁶ Carlin (2003).

⁴³⁷ Smeja and Brassard (2000).

⁴³⁸ *ibid.*

⁴³⁹ Carlin (2003).

⁴⁴⁰ Smeja and Brassard (2000).

⁴⁴¹ Data for 1984-1991 from Smeja (1992), p. 35. Original source is the *Rapport annuel 1991* of the *direction de la sante publique*, MSSSQ. Data for 1994-98 from Smeja and Brassard (2000), Annex 1, p. 6. Data for 1999-2001 from Carlin (2002), p. 3 (Note that the comparable rate shown for Quebec as a whole is for the year 2000).

⁴⁴² *Laboratoire de santé publique du Québec*, c.f. Schnarch (2001), p. 100.

⁴⁴³ Carlin (2002), p. 3. Data for 2000-2002 from Carlin (2003).

⁴⁴⁴ Data for 1973-1976 from *Annual Reports* of Medical Services Branch, Quebec Region. Data for 1980-83 from Renaud (1984b). Data for 1984-1991 are counts for “Region 10B” from the *Ministère des affaires sociales*, c.f. Smeja (1992), p. 33. Data for 1992-2000 were provided by Dr R. Carlin, CBHSSJB. Data for 2001-2003 are from the *Bureau de surveillance et de vigie sanitaire*, tables produced 18 December 2003.

⁴⁴⁵ Smeja and Brassard (2000), p. 927. Data for 1999-2002 from Carlin (2003).

⁴⁴⁶ Robinson (1985a).

⁴⁴⁷ Medical Services Branch, Quebec Region *Annual Report, 1969*.

⁴⁴⁸ Bernèche (1980).

⁴⁴⁹ no author, *Résumé de l'étude du DSC concernant la prévalence des parasites et des bactéries chez les Indiens Cris de la Baie James*. n.d. A summary of Paul Brassard (may 1983) *Etude de la prévalence des bactéries entéropathogènes et des parasites intestinaux chez les Cris de la Baie James*. Montreal: DSC-HGM.

⁴⁵⁰ *ibid.*

⁴⁵¹ Courteau (1989), p. 71.

⁴⁵² Saint-Pierre (1995).

⁴⁵³ *ibid.*, p. 42. Note that she re-calculated Courteau's original rates for the 1982-86 period to resolve some problems with the denominator that Courteau had used.

⁴⁵⁴ Smeja (1992), p. 10.

⁴⁵⁵ *ibid.*

⁴⁵⁶ The rate of giardia shown for the Cree Region is an estimate, based on the number of reported cases over the period (3), divided by the population for the same period according to the Beneficiaries List. Figures from the INSPQ may differ slightly if they use a different population figure as the denominator for the rate. Data for Registered Indians in Canada, and for Canada as a whole, are drawn from Canada (2003). They refer to the First Nations population living on reserves, but data are missing for 47 of the 144 communities in Ontario, and 29 of the 41 communities in Quebec.

⁴⁵⁷ Data 1984-1991 from Smeja (1992), Table 11, p. 31. Data for 1992-1999 from Schnarch (2001), based on reports from the MADO system. Data for 2000-2003 from the *Bureau de surveillance et de vigie sanitaire*, tables produced 18 December 2003.

⁴⁵⁸ Carlin (2002).

⁴⁵⁹ *ibid.*

⁴⁶⁰ Data for 1984-1991 from Smeja (1992), Ttable 16, p.36. Data for 1992-1999 from Schnarch (2001). Data for 2000-2003 from *Bureau de surveillance et de vigie sanitaire*, Tables produced 18 December 2003.

12.4. Sexually Transmissible and Blood-Borne Diseases

12.4.1. Sexually-Transmissible and Blood-Borne Diseases – General

Reports of sexually transmissible diseases (STIs) are affected by many factors. These include the availability and quality of lab tests, the rigour of the screening procedures in place, and changes over time in which disease is “reportable” on a mandatory basis; e.g., chlamydia only became reportable in 1988.⁴⁶¹ These factors make it challenging to establish patterns of STIs over the long term. However, some observations about STIs in the Cree Region can be made on the basis of data from the past two decades.

12.4.2. Gonorrhoea

A 1985 report stated that gonorrhoea was the most common STI among the Crees in 1984. Its incidence seems increased over the preceding decade: “Ten years ago, doctors working with the Crees rarely saw gonorrhoea.”⁴⁶² Smeja (1992) reported that gonorrhoea rates during 1984-1991 were three times the Quebec average. The rates appear to have fallen steadily over the subsequent years but the gap with the rest of Quebec widened. Cree Gonorrhoea rates between 1996 and 1999 were seven times higher than elsewhere in Quebec. The cases are most common among people aged 15-24. This pattern has persisted since at least 1984. In recent years the cases are commoner among women. This is thought due to the introduction of more regular screening practices for women, rather than due to actual differences in the prevalence of gonorrhoea among men and women.

Why would gonorrhoea rates increase so substantially after the mid-1970s? Saganash attributed the rise to changes in social norms. Saganash’s community informants noted that the Crees formerly lived on the land in small groups and subsequently often in the same single-room dwelling. Gender-specific responsibilities kept the interaction of boys and girls to a minimum. Alcohol consumption was low. Females did not drink alcohol. Saganash’s informants stated that this historical pattern began to change in the 1970s. Teenagers began to take more control of their own lives, and to experiment with alcohol and illicit substances. Trauma from residential schooling contributed towards a cycle of family violence, coupled with alcohol and drug consumption. New technologies and modern appliances caused youth to be less supervised and to have more free time. The multiple rooms in modern housing permitted privacy never before possible. The informants cited concerns about greater access to alcohol, drugs, and tobacco than before, and remarked that youth experiment with them all at younger ages now. Youth were also perceived to commence sexual activity sooner with result of more pregnancies.⁴⁶³ These community views are consistent with some studies of the impacts of development projects. These have associated developments with increased transmission of STIs, and with social effects such as increases in alcohol use, family breakdown, and family violence.⁴⁶⁴

Declared Cases of Genital Gonorrhoea, 1984-2003 ⁴⁶⁵	
Year	Number
1984	30
1985	22
1986	28
1987	17
1988	13
1989	29
1990	7
1991	4
1992	4
1993	0
1994	10
1995	9
1996	5
1997	6
1998	10
1999	1
2000	2
2001	2
2002	1
2003	2
2003 figures are based on reports to the MADO system to 18 December 2003.	

Rates of Gonorrhoea, Cree Region and Quebec, 1984-2000 ⁴⁶⁶ Rates per 100,000 population			
Year	Cree rate	Quebec rate	Ratio of Cree <i>age-standardised</i> rate to Quebec rate
1984	379	105	3.3
1985	260	103	2.4
1986	329	88	3.5
1987	198	67	2.8
1988	149	42	3.2
1989	328	25	14.5
1990	75 ⁶²	29	n/av
1991	41	31	n/av
1992	48	14	
1993	0	11	
1994	117	10	
1995	106	8	
1996	60	6.5	
1997	72	7.5	
1998	121	6.5	
1999	12	8	
2000	24	9	
Rates are based on small numbers – especially since 1990 – and are extremely variable.			

⁶² The CBHSSJB introduced programmes for the prevention of AIDS other STIs ca. 1989.

Rate of Declared Gonorrhoea Cases Cree Region and Quebec Compared 1996-99 ⁴⁶⁷	
	Rate per 100,000
Cree Region 1996-99	38.7
Quebec 1997	7.5

Declared Cases of Gonorrhoea by Age : 1984 Compared to 1995-99 Combined ⁴⁶⁸						
Age	1984			1995-1999 combined		
	Male	Female	Total	Male	Female	Total
10 to 14	n/a	n/a	n/a	0	1	1
15-19	7	4	11	1	5	6
20-24	2	6	8	1	10	11
25-29	6	2	8	0	1	2
30-34				1	0	0
35-39				0	0	1
40-59	2	0	2	0	0	0
60+				1	0	0
Unknown	0	1	1		5	6
All ages	17	13	30	5	22	27
Note: 1984 figures are believed underestimated because not all communities had the lab facilities necessary to identify gonorrhoea. The lower number of cases among males over 1995-1999 is thought to reflect the relative lack of testing and screening protocols for men. Figures apply only to genito-urinary cases.						

12.4.3.Chlamydia

Chlamydia reporting was introduced in 1988.⁴⁶⁹ Since 1991 chlamydia has been by far the most frequently reported STI with rates ten times the Quebec average.^{63 470} These rates are comparable to those among other Registered Indians in Canada. Since 1991 the number of Cree Region cases reported annually has varied substantially. Ergo, there is no discernable trend. Yet a strong age pattern exists in the chlamydia numbers. The disease is most common in 15-19-year-olds.⁴⁷¹ Women outnumber men by a large margin, but this is thought to reflect differences in screening rates, rather than a true difference in underlying rates.⁴⁷²

⁶³ Some of this difference may be due to the fact that the population in the Cree Region has a far larger proportion of people in the age groups at highest risk. However, although age-standardised comparisons reduce the difference, they do not remove it.

Reported Genital Chlamydia Infections, 1988-2003 ⁴⁷³	
Year	Number of cases
1988	77
1989	147
1990	121
1991	108
1992	94
1993	87
1994	102
1995	111
1996	91
1997	77
1998	135
1999	84
2000	64
2001	86
2002	102
2003	137
Figures for 2003 are preliminary, based on reports to the MADO system as of 18 December 2003.	

Rates of Declared Chlamydia, 1992-2000 Cree Region and Quebec ⁴⁷⁴ Rates per 100,000		
	Cree Region	Quebec
1992	1164	170
1993	1044	145
1994	1195	109
1995	1309	96
1996	1070	90
1997	922	87
1998	1642	97
1999	1022	106
2000	782	115

Rates of Genital Chlamydia Cree Region Compared to Other Registered Indians in Canada 1999 and to Quebec ⁴⁷⁵	
	Rate per 100,000
Cree Region	1022
Registered Indians in Canada (on-reserve)	947
Quebec (1995-1999)	96.7

Chlamydia Rates by Cree Community ⁴⁷⁶ Five-year Averages for 1998-2002			
	Total cases 1998-2002	Pop'n 2000	Rate per 100,000
Chisasibi	102	3199	637.7
Eastmain	16	572	559.4
Mistissini	73	2616	558.1
Nemaska	25	555	900.9
Oujé-Bougoumou	20	581	688.5
Waskaganish	73	1686	866.0
Waswanipi	41	1193	687.3
Wemindji	42	1077	779.9
Whapmagoostui	66	726	1818.2
Unknown	19	0	-
4-community group*	187	5429	688.9
Remaining 5 comms.	271	6776	799.9
Total	477	12205	781.6
Genital chlamydia only. Rates are not age-standardised. Cree rates based on population figures from the Register maintained by the MSSSQ. * The four communities considered by Hydro-Quebec most affected by the EM-1-A project: Eastmain, Mistissini, Nemaska, and Waskaganish. This group's rate not differ significantly from the other five communities or from the regional average.			

Reported Cases of Genital Chlamydia, by Cree Community, 1992-2002 ⁴⁷⁷											
	199 2	199 3	199 4	199 5	199 6	199 7	199 8	199 9	200 0	200 1	200 2
Chisasibi	21	19	24	24	20	16	31	11	14	22	24
Eastmain	3	7	1	3	4	0	5	1	7	1	2
Mistissini	33	27	39	25	8	21	27	8	1	13	24
Nemaska	0	0	4	9	9	4	3	3	5	6	8
Ouje-B	n/a	0	0	2	1	7	5	7	2	2	4
Waskag	7	9	12	15	12	6	14	14	16	13	16
Waswanipi	18	6	7	14	17	12	17	6	3	7	8
Wemindji	2	8	8	6	9	3	10	12	8	6	6
Whapmag	8	7	4	8	9	4	12	20	8	19	7
Unknown	5	4	3	5	2	4	11	2	0	3	3
Total	97	87	102	111	91	77	135	84	64	92	102

Declared Chlamydia Cases by Age and Sex, 1997-1999 Combined ⁴⁷⁸			
Age group	Male	Number Female	Total
0-14	0	3	3
15-19	7	94	101
20-24	10	90	100
25-29	9	52	61
30-34	1	16	17
35-39	3	3	6
40-59	0	6	6
60+	0	0	0
Unknown	0	2	2
All ages	30	266	296

12.4.4. Hepatitis B and C

Systematic screening for hepatitis B began in 1983/84. This identified many chronic carriers in Waskaganish.⁴⁷⁹ Since then hepatitis B vaccination has been given at birth to children from Waskaganish parents.⁴⁸⁰ Elsewhere in the region it is given to school age children. Occasional reports of hepatitis B have been made since 1992. Most of these represent chronic carriers rather than instances of acute hepatitis.⁴⁸¹ Some cases of hepatitis C have also been reported. As with hepatitis B these primarily represent chronic carriers.⁴⁸²

Number of Declared Cases of Hepatitis B and C, Cree Region, 1992-2003 ⁴⁸³		
Year	Hepatitis B	Hepatitis C
1992	0	0
1993	0	0
1994	1	0
1995	2	0
1996	0	1
1997	0	0
1998	2	4
1999	1	3
2000	0	1
2001	0	2
2002	2	2
2003	2	1

12.4.5.HIV and AIDS

No cases of AIDS were reported between 1984 and 2002.⁴⁸⁴ It is difficult to draw conclusions about HIV infection because HIV only became reportable in Quebec in 2002.⁴⁸⁵ A study of the years 1989-1993 estimated a zero HIV seroprevalence among childbearing age women in the coastal communities.⁴⁸⁶ Data are not available for subsequent years. Because rates of other STIs such as chlamydia are high in the Cree Region, HIV/AIDS is thought a serious danger to the region's comparatively closed population, if and when the virus is introduced.

Prevention of STIs began in a systematic way in 1989. The programme co-ordinator visited schools and encouraged local delivery of a sexual health component within the course "Personal and Social Development." Unfortunately there was resistance in some communities. This stemmed from religious beliefs. A high turnover rate among the teaching staff complicated things further.⁴⁸⁷ In 2004 the same factors make STI prevention in Cree schools less frequent, and less thorough, than Public Health officials might like.

Endnotes – 12.4. Sexually Transmissible and Blood-Borne Diseases

⁴⁶¹ Smeja (1992).

⁴⁶² Robinson (1985a)..

⁴⁶³ Saganash (2003).

⁴⁶⁴ Kischuk's 2003 report to the CBHSSJB *Social Impacts of Large Development Projects on Small Remote Communities: Literature Review* comprises the *Literature Review* section of the present report..

⁴⁶⁵ Numbers for 1984-1991 from Smeja (1992), pp. 25-26. Data for 1992-1999 from Schnarch (2001), p. 99. Data for 1992-2001 from Carlin (2002), p. 2. (In cases of contradiction between the figures provided by Carlin and by Schnarch, the Carlin version has prevailed, as these are the most recent figures). Data for 2002 and 2003 drawn from tables produced by the *Bureau de surveillance et de vigie sanitaire*, 12 December 2003. In all cases, the original source is the Notifiable Diseases (MADO) database maintained by the *Laboratoire de Santé publique du Québec*.

⁴⁶⁶ Numbers for 1984-1991 from Smeja (1992), pp 25- 26. Numbers for subsequent years from Carlin (2002), p. 3.

⁴⁶⁷ Source: *Laboratoire de santé publique du Québec* database, reproduced from Schnarch (2001), p.103. Figures apply only to genito-urinary cases. Rates are per 100,000 persons per year (not age-adjusted. Reported LSPQ rates were recalculated using corrected population figures from the Institut National de la Statistique du Québec.

⁴⁶⁸ 1984 data From Robinson (1985a), p. 63. Original source Boily, R. of DSC-HGM. More recent data from the *Laboratoire de santé publique du Québec* database, reproduced from Schnarch (2001).

⁴⁶⁹ Smeja (1992).

⁴⁷⁰ Carlin (2002).

⁴⁷¹ Smeja (1992).

⁴⁷² Schnarch (2001).

⁴⁷³ Data for years before 1992 from Smeja (1992), p. 22, Table 2. Figures for 1992-99 from Schnarch (2001), p. 99, and for 1992-2001 from Carlin (2002) [in cases of difference, the Carlin figures have prevailed]. Original source is the Notifiable Disease (MADO) report from the *Laboratoire de santé publique du Québec* database. These data are for genito-urinary chlamydia only; in previous years, it is not clear if only genito-urinary cases are counted. Data for 2002 and 2003 drawn from tables produced by the *Bureau de surveillance et de vigie sanitaire*, 18 December 2003.

⁴⁷⁴ Carlin (2002), p. 3. Original source of the data is *Analyse des cas d'infection génitale 1996-2000*, published by the MSSSQ.

⁴⁷⁵ Data for the Cree Region are from Carlin (2002), p. 3. Data for Registered Indians in Canada are based on data from all regions except Alberta. They were not available for 47 of the 144 communities in Ontario, or for 29 of the 41 communities in Quebec. Published in Canada (2003). Data for Quebec from Pageau et al. (2003).

⁴⁷⁶ Data from the MSSSQ's *Maladies à déclaration obligatoire* (MADO) system.

⁴⁷⁷ *ibid.*

⁴⁷⁸ Reproduced from Schnarch (2001), p. 100. Original source is the *Laboratoire de santé publique du Québec*.

⁴⁷⁹ Smeja (1992), p. 7.

⁴⁸⁰ *ibid.*

⁴⁸¹ Carlin (2002), p. 2.

⁴⁸² *ibid.*

⁴⁸³ Data for 1992-2001 from Carlin (2002), p. 2. Data for 2002-2003 from tables provided by the *Bureau de surveillance et de vigie sanitaire*, 18 December 2003. Note that the 2003 figure is preliminary.

⁴⁸⁴ Smeja (1992); Schnarch, B. (2001); *Bureau de surveillance et de vigie sanitaire*, 18 December 2003. Note that definitive figures for 2003 are not yet available.

⁴⁸⁵ Carlin, R. (2002). *Notifiable Disease Report for 2001 for the Cree Region (Region 18)*. Chisasibi: Cree Board of Health and Social Services of James Bay.

⁴⁸⁶ Smeja and Brassard (2000); c.f. Schnarch (2001). The study covered 90% of the newborns, and found no cases of HIV.

⁴⁸⁷ Schaefer and Robinson (1992).

12.5.Mental Health

12.5.1.Mental Illnesses

Reports from the 1970s suggest that, at the time, few mental health problems were coming to the attention of health authorities. This paucity of reports is despite the fact that hospitalisation figures for these years seem to show elevated admissions rates for “neuroses” among the Cree population. Robinson in 1985 noted that psychiatrists estimated the frequency of psychoses (schizophrenia, manic depression) to be no higher than in the South. She also observed that despite rapid changes between 1969 and 1979 (e.g., road and air access, availability of television and radio, installation of telephones, and the James Bay hydro project):

*...a psychologist (Berry J) who studied Crees in Fort George [Chisasibi], Wemindji and Mistassini, both in the late 60s and then again in the late 70s, concluded that Crees were less stressed at the time of the second study than the first time.*⁴⁸⁸

Similarly, Laverdure in 1989 stated that:

*Avant 1978, tous les services de santé étaient dispensés par des médecins et des infirmières. En 1978, une demande fut acheminée au Dr Dongier, psychiatre, pour évaluer les besoins en santé mentale de la population. Cette démarche a révélé que le taux de troubles mentaux était négligeable et par conséquent il ne s'avérait pas nécessaire de recourir à de services plus structurés.*⁴⁸⁹

Hospitalisation Rates for Alcoholism and Neuroses, Cree Region 1975-77 ⁴⁹⁰ Rates per 10,000 Population				
	Cree M	F	Quebec M	F
Alcoholism	94	8	20	3
Neuroses	40	54	9	20
Note: rates are not age-adjusted.				

Hospitalisations at Fort George Hospital for Mental Illness, 1972-77 ⁴⁹¹ Numbers						
Diagnosis	1972	1973	1974	1975	1976	1977
Mental retardation	1	1	2	8	3	4
Psychosis: schizophrenia	1	0	5	1	2	9
Other	1	1	1	1	1	3
Neurosis	6	4	10	9	12	4
Alcohol or drugs	2	1	3	0	2	3
Misc	3	4	5	1	6	1
Total	14	11	26	20	26	24

The region's unspectacular mental health picture may have begun to change by the late 1970s when documentary reports of social problems became frequent.⁶⁴ Certainly by the early 1980s there was increasing concern among health officials about psychosocial problems. Clare Brant (MD) in 1981 assessed mental health services in the region, and recommended that their restructuring to meet two identified needs, namely:

- A lack of personnel qualified to deal with certain individuals with serious pathologies; and
- Newly manifested psychosocial illnesses caused by acculturation.⁴⁹²

Dumont in 1983 reported that more and more women were subjected to violence. He considered alcohol abuse, substance abuse, and unemployment contributors to family tensions, child neglect, and injuries. He stated that schizophrenia and manic depressive disorder were becoming less frequent but psychosocial problems linked to family violence and alcohol were increasing.⁴⁹³ Police and Youth Protection reports from the period also attest to rising social problems during the early 1980s.

The 1984 "Plasanouq" survey asked about depression. It found considerable variation in responses between communities, although some of this may simply reflect small sample size:

Percent of People who "Frequently" Felt Depressed, by Community, 1983-1984 ⁴⁹⁴	
Chisasibi	8%
Eastmain	7%
Mistissini	20%
Nemaska	26%
Waskaganish	15%
Waswanipi	30%
Wemindji	15%
Whapmagoostui	57%
Caution: responses were obtained by proxy, i.e., by interviewing just one household member about the health of all residents.	

Between April 1986 and March 1988 Laverdure carried out a study of the clientele who contacted health services for mental health problems.⁶⁵ This study included 242 patients and suggested a prevalence rate for mental health problems of 28 per 1,000. It found that women were slightly over-represented as clients of mental health services (57%). Younger adults were greatly over-represented (53% of patients between 16 and 30, and another 25% aged 31-45). Only 12% of the clientele were on the ISP whereas, at the time, 35% of the population were participating in this programme. This led Laverdure to speculate about whether traditional occupations helped to protect people against mental illness. Rates in Whapmagoostui were considerably higher than in other communities, but it was not clear if this represented more mental health problems or else greater use or availability of services.⁴⁹⁵

⁶⁴ Chapter 5 discusses these reports in some detail.

⁶⁵ Note that this did not include people who might have contacted *social* services, who were the subject of a separate study. Since schools tended to refer children with mental health problems directly to social services, children were under-represented in this study.

Contact with Health Services for Mental Health Problems (of Any Type) By Community, 1986/87-1987/1988. ⁴⁹⁶		
	Number	Rate per 1,000
Chisasibi	44	19
Eastmain	15	41
Mistissini	73	35
Nemaska	10	27
Waskaganish	27	22
Waswanipi	19	20
Wemindji	18	23
Whapmagoostui	36	81

Laverdure found the most frequent problems to be depression (also a problem in other northern and Registered Indian populations) and alcoholism. Each accounted for about 16% of contacts with health services. Anxiety, schizophrenia, and family problems accounted for about 13% each. Suicide attempts and psychoses accounted for about 9% each. Neuroses (depression and anxiety) were more commonly diagnosed in women but men represented 82% of alcoholism cases. More than half those diagnosed with alcohol problems were aged 16-30.

Prevalence of Mental Health Problems by Diagnostic Category, Cree Region, 1986/87-1987/88 ⁴⁹⁷			
	N	%	Rate per 1,000
Psychotic problems	58	24	6.7
Depression/anxiety	72	30	8.4
Alcoholism	40	17	4.7
Family problems	31	13	3.6
Learning or behaviour problems	10	4	1.2
Attempted suicide	21	9	2.4
Other	10	4.1	1.2

12.5.2.Social Support and Spirituality

Social support plays a role in mental health. It may be particularly important in cases of depression and suicidal feelings. Results from a 2001 survey suggest that three quarters of Cree adults have access to emotional support (i.e., someone they can confide in or from whom they can seek advice). This seems particularly the case for middle age adults. Youth and elders are slightly less likely to have this type of support. Social support may also be available from community programmes. For instance, in 1991 the Nemaska band reacted to a suicide by creating a "Wellness Programme". Waskaganish followed suit in 1995 after two residents attempted suicide.⁴⁹⁸ The other communities have various types of health promotion programmes in place, with varying financing and general effectiveness.

Spirituality and religion also play a role in mental health. Some studies have found that active churchgoers are less likely than others to attempt suicide. In a study based on 1991 data, Boothroyd⁴⁹⁹ found that 25% of the Cree population attended church at least once a week. Fully 94% declared some type of religious affiliation. The most frequent was Anglican (70%) followed by Pentecostal (21%).

Cree Adults with Access to Emotional Support, by Age Group, 2001 ⁵⁰⁰		
Age	Number	Percent
15-24	1,530	71%
25-44	2,930	80%
45-64	1,090	77%
65+ *	270	63%
All ages	5830	76%
<p>“Emotional support” refers to adults who always or usually have someone they can count on to listen, and/or someone who can provide advice, and/or someone they can confide in. The measure has not been statistically validated, although the individual items that comprise it come from a validated scale.</p> <p>* Caution: high sampling variability for the 65+ age group. The confidence interval indicates that the true figure could be anywhere between 45% and 78%.</p>		

Religious Affiliation in the Cree Region, 1991 and 2001 ⁵⁰¹			
	Cree residents of Cree Region, 1991	All residents of Cree Region, 2001	All residents of Québec, 2001
Anglican	70%	63%	1%
Pentecostal	21%	20%	0.3%
Roman Catholic	2%	5%	83%
Aboriginal spirituality	n/av	1%	0%
Other	1%	4%	9%
No religion / don't know	6%	8%	6%
Attends church at least once a week	25%	n/av	n/av
Note that the 1991 data include only Crees while the 2001 data include all residents. This may explain some of the differences seen between the two periods.			

12.5.3.Suicide and Attempted Suicide

12.5.3.a.Suicide

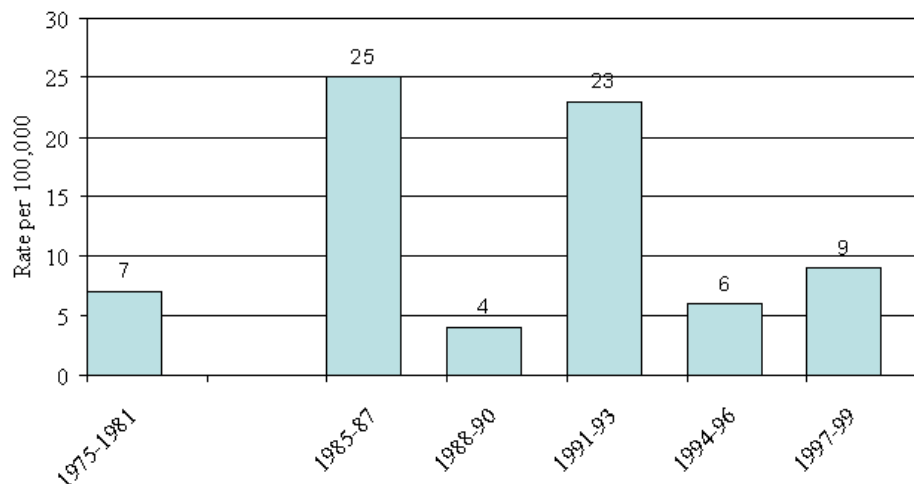
Suicide rates in the Cree Region have been below Canadian averages since at least 1975. Over the decade 1975-1985 there were five completed suicides. This gave a rate of 6.9 per 100,000 – considerably below the 30 per 100,000 reported for other Aboriginal groups at that time, and below the Canadian average of 12.1 per 100,000.⁵⁰² Over the years 1985-2001 the Cree rates were still slightly below the Canadian average, and far lower than in for Registered Indians generally.

Suicide Rates Cree Communities, Other Registered Indians, Quebec and Canada Compared ⁵⁰³					
	Num ber Cree	Rate per 100,000 population			
		Cree	FN in Canada	Quebec total	Canada total
1975-1985	5	6.9	30 (in 1976)		12.1 (1974)
1985-2001	19	11	27.9 (in 1999)	18.7 (1997)	13.2 (1996)
Caution: rates for Cree communities extremely variable due to the small numbers involved.					

Small absolute numbers make suicide rates in the Cree Region highly variable. The rates “spike” periodically, but these spikes are typically due to increases of only one or two deaths.

We do know that males are far more likely than females to commit suicide. During 1985-2001, 16 of the 19 completed suicide cases were male and all used a firearm. Younger adults in the region are at greater suicide risk. Damestoy considered the factors involved in suicides over the 1982-1991. Eighty six percent of cases involved alcohol, 86% involved personal problems, and 29% involved depression. ⁵⁰⁴ Barss (1999) made a detailed study of suicides during 1982-1992. Barss found that, of suicides for which information was available, all had serious personal or family problems at the time of death. Seven out of eight drank alcohol before committing suicide. ⁵⁰⁵

Suicide Rates in the Cree Region, 1975-1999⁵⁰⁶, Multi-Year Averages.



Number of Completed Suicides Cree Region, 1975-2001 ⁵⁰⁷		
Year	Number	
1975-1981	5	
1985	1	
1986	1	
1987	4	
1988	0	
1989	0	
1990	1	
1991	1	
1992	3	
1993	3	
1994	0	
1995	0	
1996	2	
1997	1	
1998	1	
1999	1	
2000	0	
2001	0	
Total 1985-2001	19	
Rate per 100,000 over the 1985-2001 period	M	18
	F	3
	T	11
Caution: rates extremely variable due to the small numbers involved.		

Cree Region Suicides by Age Group Total over 1985-2001 ⁵⁰⁸	
Age	Number
00-14	3
15-24	10
25-44	5
45-64	1
65+	0
Total	19

Percent of Adults Reporting that Suicide was a Problem in their Community, 1991 ⁵⁰⁹										
Chis	East	Mist	Nem	Wask	Wasw	Wem	Whap	E.I.	Que FN	Cdn FN
35%	41%	40%	20%	31%	28%	13%	51%	33%	28%	25%

12.5.3.b. Attempted Suicide

Over 1985-2001 there were 65 hospital admissions for attempted suicide or “parasuicide” (a rate of 112 per 100,000). Unlike the situation with completed suicides, female parasuicides outnumbered male parasuicides by a ratio of 5:1. These attempts were overwhelmingly concentrated in the 15-29 age group. The majority of these attempts (56 of 65) involved poisonings with drugs or other substances. The rest involved cutting or piercing instruments. Most resulted in short hospital stays with an average of only two days.^{66 510}

In 1991 the reported prevalence of suicidal thoughts among Crees was 5%. This figure was no higher than in Quebec generally. It was far lower than among Inuit of Nunavik. Suicide attempts in the Cree Region seem to have become more frequent since the early 1980s. Barss⁵¹¹ concluded that parasuicide had increased between the five-year periods 1982-86 and 1987-1992, going from 27 instances to 47. Barss also observed that hospitalisation statistics for the five years 1996-2000 show 65 parasuicides, but not a clear trend from year to year within the five-year period itself.⁶⁷

Some evidence suggests that people in the younger cohorts are more likely to attempt suicide than their elders were when they were the same age. This is consistent with the view that suicide attempts are increasing. An analysis of the 1991 Santé Québec data⁵¹² found that all adults who had attempted suicide were under the age of 45⁶⁸ and no one older reported ever attempting it.⁶⁹ The study found that suicide attempts were more likely among people who were heavy drinkers or had drinking problems;⁷⁰ among people who had lost a parent before they were 12 years old; and among people who had experienced many stressful life events such as losing a job or dealing with the death or serious illness of a close relative. Conversely, those who regularly attended a church were less likely than others to attempt suicide.⁵¹³

Hospital Admissions for Attempted Suicide, 1996/97 - 2000/01 By Age and Sex (numbers) ⁵¹⁴			
Age	F	M	Total
10-14	4	0	4
15-19	16	2	18
20-24	15	3	18
25-29	13	4	17
30-34	3	2	5
35-39	2	0	2
40-44	1	0	1
All ages	54	11	65

⁶⁶ This applies to those who were hospitalised. The number who may have attempted suicide without being hospitalised is unknown.

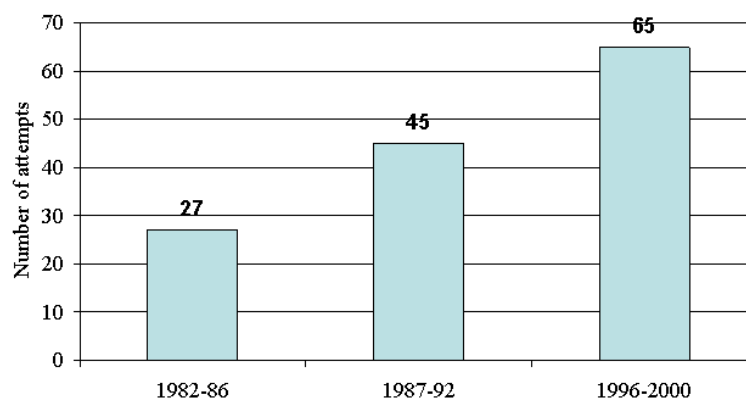
⁶⁷ Part of the increase between successive five-year periods may be due to population growth and increasing numbers of people in the age groups most at risk.

⁶⁸ This refers to a total of 44 adults who reported that they had attempted suicide at any time in their lives (a total of 4 % of the sample).

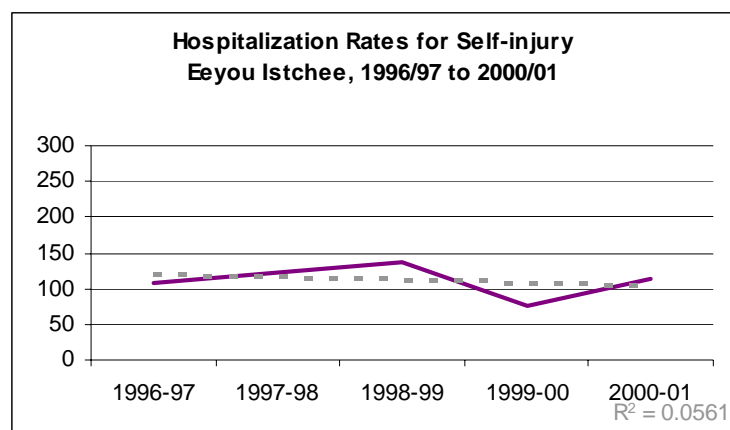
⁶⁹ An alternate interpretation, of course, is that older adults are simply less likely to *admit* to having attempted suicide.

⁷⁰ 10+ drinks at a time, or a drinking-related problem as defined by the Santé Québec survey.

Number of Suicide Attempts Over Time in Eeyou Istchee



Note: part of the increase may be due to population growth over the period.



Hospitalisations for Attempted Suicide/Self-Injury in the Cree Region ⁵¹⁵						
Number of hospitalisations					Rate per 100,000	
1996-97	1997-98	1998-99	1999-00	2000-01	All 5 years	All 5 years
12	14	16	9	14	65	112

Prevalence of Suicidal Ideas During the Preceding Year, 1991 ⁵¹⁶ Adults 15+		
Nunavik 1992	Cree Region 1991	Quebec 1992-93
8.3%	3.3%	3.9%

Endnotes – 12.5. Mental Health

⁴⁸⁸ Robinson (1985a), pp. 72-73.

⁴⁸⁹ Laverdure and Lavallée (1989), p. 27.

⁴⁹⁰ Berneche c.f. Robinson (1985a), p. 37. Percentages rounded.

⁴⁹¹ Robinson (1985a), p. 73

⁴⁹² Laverdure and Lavallée (1989).

⁴⁹³ Dumont summarised in Laverdure and Lavallée (1989).

⁴⁹⁴ Foggin and Lauzon (1986).

⁴⁹⁵ Laverdure and Lavallée (1989).

⁴⁹⁶ *ibid.*, p. 37.

⁴⁹⁷ *ibid.*, p. 41.

⁴⁹⁸ Moir, Dianne, Wellness Co-ordinator, Cree Nation of Nemaska. Personal communication 11 February 2004.

⁴⁹⁹ Boothroyd (1998). Boothroyd's notes that the mental health literature has found church attendance to be protective against suicide attempts. Her study in Eeyou Istchee found that this also held true for the Crees.

⁵⁰⁰ 2001 APS, custom tabulations prepared for the CBHSSJB, February 2004. Numbers are for people age 15+ living in the territory who self- identify as "Aboriginal."

⁵⁰¹ Data for 1991 from Boothroyd (1998). Data for 2001 from 2001 Census. Note that the Santé Québec data includes only Crees, while the Census data would include everyone in the region (Crees and non-Crees). This may explain some of the differences in the figures.

⁵⁰² Robinson (1985a).

⁵⁰³ Cree data from Robinson (1985a); Bobet (2003a). Canada data from Robinson (1985a) and from Statistics Canada Health Division (www.statcan.ca). Data for Registered Indians elsewhere in Canada are from Robinson (1985a) and from Canada (2003).

⁵⁰⁴ Damestoy (1994).

⁵⁰⁵ Barss (ca.1999).

⁵⁰⁶ Data for 1975-81 from Robinson (1985a). Data for other years from Bobet E. (2003a).

⁵⁰⁷ Data for 1975-81 from Robinson (1985a). Other data from the Death Registry maintained by the Cree Health Board, as of late 2002. Rates from Bobet (2003a).

⁵⁰⁸ Bobet (2003a).

⁵⁰⁹ 1991 APS, Community Profiles.

⁵¹⁰ Bobet (2003a).

⁵¹¹ Barss (ca.1999).

⁵¹² Boothroyd (1998)..

⁵¹³ *ibid.* The results described are based on a multivariate analysis in which the researchers controlled for factors such as age.

⁵¹⁴ Bobet (2003a).

⁵¹⁵ *ibid.*

⁵¹⁶ Santé Québec Health Survey, c.f. Schnarch (2001), p. 70.

12.6.Injury

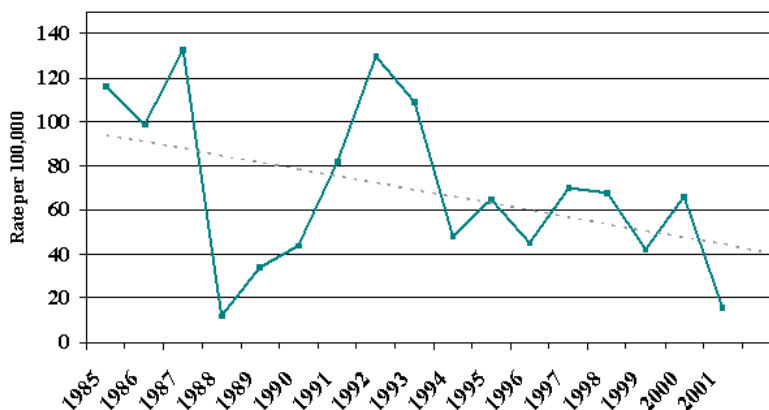
12.6.1.Trends in Injury

12.6.1.a.Trends in Injury Mortality

There is little information about injuries in the Cree Region before 1975. A federal report for 1970/71 noted that accidents were still second place as a cause of death for Registered Indians in the Province. It is not clear if this held equally true for the Cree Region. We do know that in 1975 the Cree Region had more accidents than MSB's other Indian health administrative regions in Quebec. Health and Welfare personnel considered this disturbing given the smaller population involved.

The first reliable data for the Cree Region began in 1975. These showed that injuries accounted for 20% of all deaths during the periods 1975-1982 and 1982-1986.⁵¹⁷ Injuries were thus the leading cause of death during both periods.⁵¹⁸ Thereafter injuries receded in importance. Between 1985 and 2001, injury deaths ranked far behind diseases of the circulatory system, and at, or slightly below, the proportion of deaths caused by cancer.⁵¹⁹ There has been a substantial drop in injury deaths. Rates in recent years are roughly half what they were in the early 1980s (although the small numbers involved make the rates quite variable from year to year). Certain causes of injury death have decreased faster than others. Drowning deaths have fallen substantially while motor vehicle fatalities actually seem to have increased. Suicide rates have remained comparatively constant.

Injury Death Rates in Eeyou Istchee
1985-2001



Source: Bobet E. (2003)

Injury Deaths in the Cree Region, 1985-2001 ⁵²⁰						
Year	Number			Rate per 100,000		
	Males	Females	Total	Males	Females	Total
1975-84 (est)			70			98
1985	9		9	232	0	116
1986	6	2	8	147	50	99
1987	8	3	11	194	73	133
1988	1		1	23	0	12
1989	2	1	3	45	23	34
1990	3	1	4	66	22	44
1991	6	2	8	123	41	82
1992	9	4	13	180	80	130
1993	7	4	11	138	79	109
1994	4	1	5	76	19	48
1995	3	4	7	55	74	65
1996	5		5	90	0	45
1997	7	1	8	122	18	70
1998	7	1	8	119	17	68
1999	3	2	5	50	34	42
2000	6	2	8	98	33	66
2001	2		2	32	0	16
Total 1985-2001	88	28	116	102	33	67

Injury Death Rates Over Time in the Cree Region: Selected Injuries and All Injuries Crude Rates per 100,000 ⁵²¹				
	Motor vehicle	Drowning	Suicide	All injuries (N)
1975-84 (estimated)	11	43	7	≥ 98 (n=70)
1982-1991	28*	20	12	88 (n=72)
1985-2001	27	14	11	67 (n=116)
* Includes 6 snowmobile drownings that were counted as motor vehicle accidents.				

12.6.1.b.Trends in Injury Hospitalisation

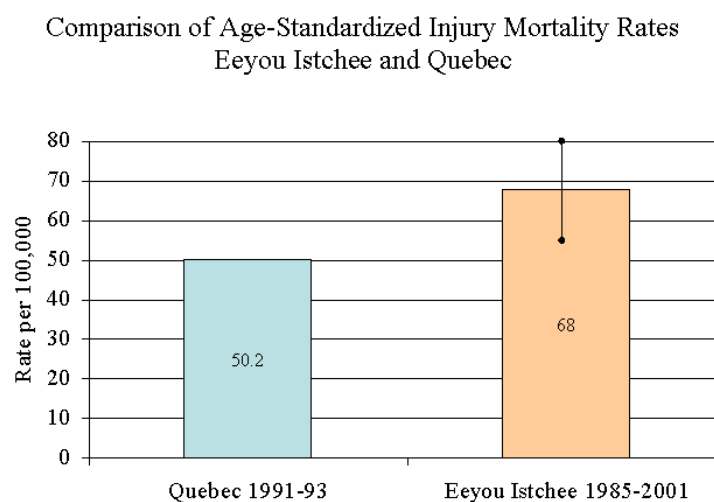
Injury *hospitalisation* rates have not fallen at the same pace as mortality rates, but they were closer to provincial averages to begin with. In recent years they have tended to be close to the provincial average. In fact, over the period 1997/98 to 2001/02 the difference in hospitalisation rates between Cree Region and the Province as a whole was not statistically significant. This conclusion held true both for the region and for the four communities thought by Hydro-Quebec most affected by the Eastmain-1-A-Rupert project.

Injury Hospitalisations* Over Time, by Five-Year Period Crude and Age-Standardised Rates per 100,000 Population Cree Region and Quebec Total						
	Crude rates			Age-standardised rates		
	1987-88 to 1991-92	1992-93 to 1996-97	1997-98 to 2001-02	1987-88 to 1991-92	1992-93 to 1996-97	1997-98 to 2001-02
4-community group**	1,589	1,704	1,408	1,580	1,737	1,259
Remaining communities	1,449	1,444	1,311	1,340	1,484	1,290
Cree Region	1,514	1,560	1,355	1,458	1,592	1,274
Quebec total	1,059	1,109	1,075	1,080	1,118	1,055
* Includes all E-codes (even medical mishaps).						
** Eastmain, Mistissini, Nemaska, Waskaganish.						
Bold type = a rate significantly different from the Quebec average, at 0.05 significance.						

12.6.2. Injury - Cree Region vs. Other Regions

12.6.2.a. Comparison: Injury Mortality

Injury death rates in the Cree Region were once far above provincial averages. In recent years the gap has shrunk considerably. Between 1975 and 1982, regional injury death rates were double the Quebec average.⁵²² During 1987-1992 they continued to be higher than Quebec rates, but noticeably lower than rates for Registered Indians in Canada. In particular, rates of motor vehicle crashes and suicide were distinctly lower among the Crees than in other Registered Indian groups, although drowning rates were higher.⁵²³ By 1985-2001 the gap between Cree Region and the rest of Quebec was much narrower. The regional age-standardised mortality rate was 68 per 100,000 versus 50 per 100,000 for Quebec.⁵²⁴



⌋ indicates the confidence interval around the figure for Eeyou Istchee.

Standardised Mortality Ratios from Injury 1982-1991 ⁵²⁵	
Cree Region compared to...	Ratio
Canadian average	2
Rural Québec (Abitibi-Temiscamingue & Cote Nord)	1.4
Registered Indians in Canada	0.5
Northwest Territories	0.7

12.6.2.b.Comparison: Injury Hospitalisation

In recent years the Cree Region's injury hospitalisation rates have been fairly close to the provincial average, notwithstanding some variation depending on the source and time period considered.⁷¹ Injury hospitalisation rates in the Cree Region are somewhat lower than in the adjacent regions of Nunavik and Nord-du-Québec.

Hospital Separations for Injury, 1997/98 – 2001/02 Cree Region Compared to Other Regions ⁵²⁶			
	Average number per year	Crude rate per 100,000	Age-standardised rate per 100,000
4-community group**	75	1,408	1,259
Remaining Cree communities	87	1,311	1,290
Cree territory as a whole	162	1,355	1,274
Nunavik	237	2,493	2,849
Nord-du-Québec	283	1,598	1,716
Québec	79,011	1,075	1,055
<p>** Eastmain, Mistissini, Nemaska, Waskaganish. Note that the crude rate in these four communities does not differ significantly from the remaining five communities, at 0.05 significance.</p> <p>Bold type = rate significantly different from the Quebec average, at 0.05 significance.</p> <p>Note: unlike most of the other tables in this section, these figures include all hospitalisations classified to ICD chapter 17 (Injury), including various types of medical mishaps in hospital (such as adverse drug reactions).</p>			

12.6.3.Types of Injury

The most common *type* of injury changes over time. Over 1975-1984 drowning deaths led the list by a wide margin. There were comparatively few motor vehicle crashes; in fact, aeroplane crashes accounted for almost as many deaths as motor vehicles.⁵²⁷ The Cree drowning rate was twelve times the Canadian average.⁵²⁸ The reasons for this pattern are clear when one considers that few communities had all-

⁷¹ For instance, Hamel found that during 1997-99, age-standardised rates for the Cree territory were 1,025 compared to 725 for Quebec as a whole. Figures for the five years 1997/98 to 2001/02 show age-standardised rates of 1,274 vs. 1,055 (a difference that is not statistically significant).

weather, all-season road access. Moreover, the proportion of households owning a car or truck was low compared to owning only a boat

During the period 1982-1986 the Standardised Mortality Rate for drownings was still 9.5 times the Canadian average. This was despite the fact that Cree rates of motor vehicle crashes and suicide were not significantly different from Canadian averages.⁵²⁹ Drowning rates for Crees have fallen appreciably, and in the most recent period (1985-2001), motor vehicle accidents have clearly become the leading cause of injury death.

The injury pattern in the Cree Region differs noticeably from the rest of Quebec, and also from the pattern observed for Registered Indian communities elsewhere in Canada. In particular, motor vehicle accidents and drownings in the Cree Region account for much larger proportions of the injury deaths, while suicides and falls account for smaller proportions. Preventing and dealing with injuries from falls is a priority issue for Quebec's health system. However, in the Cree Region there were only two fatal falls during 1985-2001. This fact is probably attributable to the low proportion of elderly people in the Cree Region's population.⁵³⁰ Another factor might be that the Cree Region has few, if any, structures over two stories high, and housing for the elderly is nowadays all constructed with only one level.

One reason for high rates of motor vehicle crashes may simply be the greater distances that northern residents travel in the course of their daily activities. It is worth noting that over the period 1986-1999, Cree motor vehicle fatality rates were similar to those seen in the rest of Region 10 (the surrounding area).⁷² In the Cree Region rising rates of fatal motor vehicle crashes have coincided with increases in road access, rising vehicle ownership (as a corollary of access to wage income), and greater alcohol use. All but one of Cree community now has year-round road access, although for some this occurred as late as 2000. A recent report⁵³¹ showed that alcohol was involved in 43% of the 35 fatal crashes during the period 1986-1999. The corresponding figure for non-Cree residents of the surrounding region was 24%.

Relative Importance of Different Causes of Injury Deaths in the Cree Region 1975-1984 Compared to 1985-2001 ⁵³²		
	Number of deaths	
	1975-84	1985-2001
Drowning	31	24
Fire/burns	10	6
Motor vehicle crashes	8	47
Airplane crash	6	0
Firearm accidents	5	2
Exposure	2	-
All other causes	3	37
"Exposure" was not retained as a separate category in 1985-2001.		

⁷² At the time, the Cree Socio-Sanitary Region (10b) was considered a sub-region of Region 10, although it had its own board and functioned completely independent of Region 10.

Percent of Households in Cree Communities Owning Vehicles, 1983-84 ⁵³³								
“Do you (or someone in this household) own a...?”								
	Chis	East	Mist	Nem	Wask	Wasw	Wem	Whap
Ski-doo	95	93	86	87	91	47	90	11
Car/truck	38	38	34	20	21	42	50	3
Motorcycle/3-wheeler	18	12	2	0	6	3	15	20
Boat/canoe	86	60	67	69	74	74	90	86

12.6.4.Groups at Risk and Contributing Factors

Males continue to be far more likely than females to die of injury. Between 1982 and 1991, injury deaths were 13 times more common among adult males than adult females.⁵³⁴ Between 1985 and 2001, three quarters of injury deaths were male.⁵³⁵

What are the reasons behind these types of injuries? For the early years (1982-91) Damestoy⁵³⁶ compiled a detailed description of risk factors based on interviews with the family, coroner’s reports, and other sources. For 1985-2001 we have information about the demographic characteristics of those involved. Taken together, these two sources suggest a particularly high risk of injury among younger males. Also suggested is infrequent use of various types of safety equipment as well as a high degree of alcohol involvement in some types of injury.

Motor Vehicle Accidents: Men age 15-44 are at greatest risk. In the Cree Region 23% of fatal crashes involve All-Terrain Vehicles (ATVs) and snowmobiles rather than cars – most frequently collisions between snowmobiles and cars or trucks. Damestoy found that 73% of the victims of motor vehicle crashes had consumed alcohol in the 12 hours before the accident, and 27% (3 of 11) were reported to have been intoxicated. This applied to an even greater extent to road accidents as opposed to snowmobile and ATV accidents. Half of the drivers had under a year of driving experience.

Drowning: Drowning is overwhelmingly among men aged 15 to 29. Most drownings seem to be boating or hunting accidents. Since 1985 only one has been the result of a snowmobile (which fell through ice). Damestoy’s results for 1981-1992 showed that no drowning victims wore a personal floatation device. Alcohol was frequently involved in the “boating” drownings. All of these victims were with other people in the boat. Alcohol was rarely involved in cases of wilderness travel, hunting, or fishing.

Suicide: Between 1985 and 2001, sixteen of 19 suicides in the Region were male. All involved a firearm. People aged 15-24 were at higher risk. Eighty six percent of suicides involved acute alcohol ingestion, 86% of victims had personal problems, and 29% were reported depressed.⁷³

⁷³ See the Section *Suicide and Attempted Suicide*.

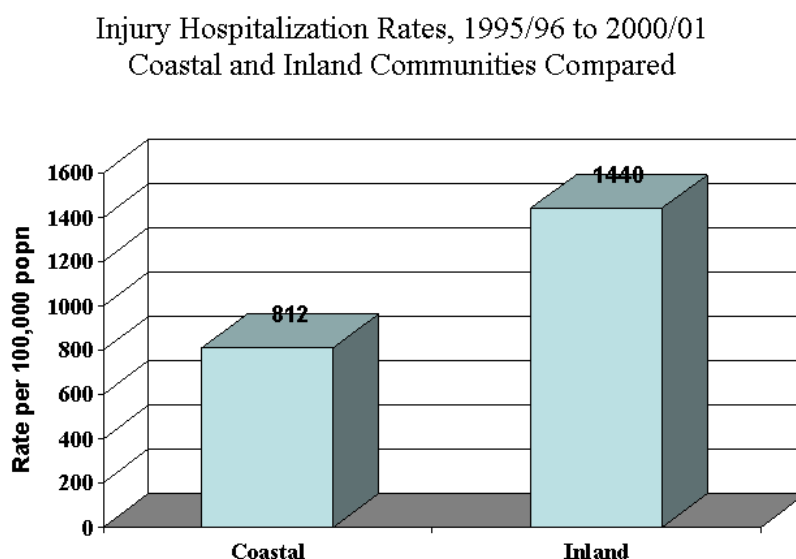
Cree Region Injury Deaths by Type and Sex During 1985-2001						
Injury type	Number			Rate per 100,000		
	Males	Females	Total	Males	Females	Total
Motor vehicle	33	14	47	38	16	27
Drowning	23	1	24	27	1	14
Suicide	16	3	19	18	3	11
Other	5	3	8	6	3	5
Assault	4	2	6	5	2	3
Burns	2	4	6	2	5	3
Falls	2		2	2	0	1
Unknown	3	1	4	3	1	2
All injuries	88	28	116	102	33	67

Number of Injury Deaths in Each Age Group, by Type of Injury, Cree Region, 1985-2001									
Age	Motor veh	Drown ing	Suicide	Other	Assault	Burns	Falls	Un known	Total
00-14	5	4	3	5		2		2	21
15-24	16	11	10	1	1	3			42
25-44	18	6	5	1	4	1		2	37
45-64	6	2	1		1				10
65+	2	1		1			2		6
Total	47	24	19	8	6	6	2	4	116

Use of Safety Equipment in the Cree Region, 1991 ⁵³⁷											
	Chi s	East	Mis ti	Ne m	Was k	Was	We m	Wh ap	EI	Que FN	Cdn FN
Adults											
% seatbelts	82 %	70 %	96 %	76 %	68 %	82 %	67 %	15 %	75 %	77 %	84 %
% helmets	38 %	73 %	68 %	47 %	81 %	43 %	34 %	16 %	51 %	31 %	23 %
% lifejackets	24 %	14 %	40 %	24 %	24 %	22 %	5%	6%	23 %	35 %	41 %
Children											
% seatbelts	66 %	53 %	81 %	68 %	46 %	70 %	45 %	9%	60 %	66 %	81 %
% helmets	32 %	53 %	40 %	39 %	78 %	45 %	16 %	6%	41 %	22 %	15 %
% lifejackets	25 %	13 %	48 %	32 %	49 %	42 %	13 %	15 %	33 %	35 %	38 %
Figures refer to people who “regularly” wear seatbelts in cars or trucks, use helmets when riding a snowmobile or all-terrain vehicle, or wear lifejackets when in an open boat.											

12.6.5. Injury - Geographic Patterns Within the Cree Region

Injury rates in the coastal and inland communities have differed for many years. The differences were first mentioned by Robinson regarding the period 1975-1984. They were repeatedly noted over the ensuing years.⁵³⁸ The gap is apparent in both the mortality and hospitalisation statistics. Over the years 1985-2001, injury death rates in the inland communities were 78 per 100,000 compared to 52 per 100,000 in the coastal communities.⁵³⁹ Much of the difference at present is accounted for by different rates of motor vehicle crashes.

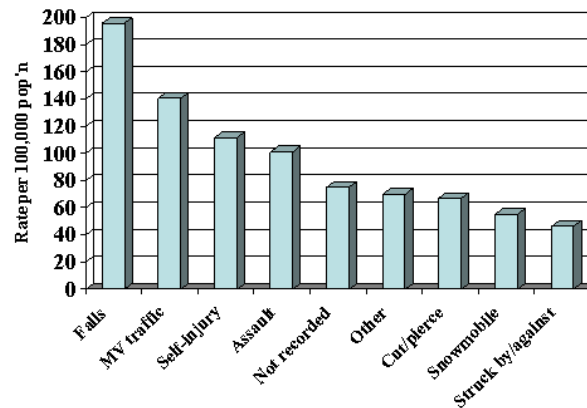


Coastal communities = Chisasibi, Eastmain, Waskaganish, Wemindji and Whapmagoostui.
Inland communities = Mistissini, Nemaska, Ouje-Bougoumou and Waswanipi.

12.6.5.a. Injury Hospitalisation vs. Injury Death

Much of the available information on injury patterns is drawn from records of injury *deaths*. However, some common types of injury may be unlikely to cause death, and may only show up in hospital and clinic utilisation statistics. Hospitalisation figures for the Cree Region agree with the mortality figures insofar as that motor vehicle crashes and suicide/para-suicide are among the most frequent injuries. The hospitalisation statistics also show a large number of falls. Furthermore, while most *completed* suicides happen among males the hospitalisation data demonstrate that women outnumber men 5 to 1 in *para-suicide*.

Injury Hospitalization Rates by Type of Injury Eeyou Istchee, 1996/97 to 2000/01



Caution: rates based on small numbers.

Note that if traffic, snowmobile, and ATV crashes were combined, motor vehicle crashes would be the leading category.

Source: Bobet E. (2003)

Cree Region Injury Hospitalisations by Type of Injury Total for 1996/97 to 2000/01 ⁵⁴⁰			
Type of Injury	Number	% of all injuries	Rate per 100,000
Falls	114	18%	196
Motor veh traffic	82	13%	141
Suicide/self-injury	65	10%	112
Homicide/assault	59	10%	101
Not recorded	44	7%	75
Other injury	41	7%	70
Cut/pierce	39	6%	67
Snowmobile	32	5%	55
Struck by/against *	27	4%	46
Unknown intent	20	3%	34
Acc Poisoning	17	3%	29
Overexertion	17	3%	29
Bicycle	15	2%	26
Fire/burns	13	2%	22
ATV	10	2%	17
Pedestrian	7	1%	12
Machinery	6	1%	10
Firearms	6	1%	10
Environmental	4	1%	7
Drowning/submersion	3	0%	5
Total	621	100%	1065

* Note: The label “struck by/against” does not imply assault. Rather, most seem to be injuries incurred during sports or play.

Endnotes – 12.6. Injury

⁵¹⁷ Damestoy (1994). Damestoy used a combination of coroner's reports, vital stats, clinic records, Beneficiaries List records, and informant recall to get complete data on injury death over the 1982-91 period; she also used interviews with family or friends of victims in community, along with the coroner's reports, to get details about the circumstances.

⁵¹⁸ Robinson (1985a); Damestoy (1994).

⁵¹⁹ Bobet (2003a).

⁵²⁰ Figures for 1975-84 are an estimate based on data provided in Robinson (1985a), p. 61, which show 65 deaths from unintentional injuries, plus 5 suicides (no information on homicide) = at least 70 injury deaths over the ten-year period. Using the 1981 Census population of 7,158 as the denominator, this gives a rate of 98 per 100,000 (more if there were any homicides). The remaining figures are from Bobet (2003a).

⁵²¹ *ibid.* The same calculation as above was carried out for the 31 deaths by drowning, 8 vehicle accidents, and 5 suicides. Data for 1982-91 from Damestoy (1994). Data for 1985-2001 from Bobet (2003a).

⁵²² Robinson (1985a); Damestoy (1994), p. 61.

⁵²³ Saint-Pierre (1995).

⁵²⁴ Bobet (2003a).

⁵²⁵ Damestoy (1994).

⁵²⁶ MED-ECHO (hospitalisation) files.

⁵²⁷ Robinson (1985a), p. 61.

⁵²⁸ Robinson (1985b) c.f. Damestoy (1994).

⁵²⁹ Courteau (1989).

⁵³⁰ Bobet (2003a).

⁵³¹ Kischuk (2003).

⁵³² Robinson (1985a). Data for 1985-2001 from Bobet (2003a).

⁵³³ Foggin and Lauzon (1986), p. 66.

⁵³⁴ Damestoy (1994).

⁵³⁵ Bobet (2003a).

⁵³⁶ Damestoy (1994).

⁵³⁷ 1991 APS, Community Profiles.

⁵³⁸ Courteau (1989); Saint-Pierre, M-H (1995).

⁵³⁹ Bobet (2003a).

⁵⁴⁰ *ibid.*

Chapter 13 – Evolution of Health Services

13.1. Introduction

This Chapter is the primary text for all the sections dealing with health services. This includes Chapter 7 which is a summary of this Chapter; Chapter 9 which assesses current services against ten benchmarks; as well as Appendices B and C.

The details about the development of Indian policy and Canadian health and social policy found in this chapter is taken largely from Webster (1993). Hopefully future work will continue to add to the history of the actual impact or not these central policies had on daily life in northern Quebec.

The material is organised in three ways. First, chronologically; second, according to jurisdiction in the earlier materials, and according to administrative area for the more recent; and, third, at the end, the present-day services are assessed against ten benchmarks identified as themes for discussing the adequacy of current services in Canada.

Andrew Webster, who drafted this Chapter, has asked that it be dedicated to all current and future Cree youth in hopes that they will use it as a tool for understanding their own unique, Cree civics.

13.1.1. Methodology

This Chapter examines the relationship between the Cree Region's health services and the health of its population within the context of the tremendous economic changes in the Region since the 1970s. The approach taken here is consistent with the approach of the overall study: it is grounded in the *population health* or *health determinants* framework; it is longitudinal, and it is evidence-based.

The *health determinants* approach framework recognises that health services – which include social services – play a role in determining a population's health status. As mentioned earlier, in the Cree context, these services were introduced comparatively recently, at a time when major developments were catapulting the Crees into the heart of the modern economic sphere. The impacts of these services were highly visible. Modern health services – along with improvements in socio-economic conditions – were instrumental in raising the population's health from a disproportionately low level to one that - while still behind the mainstream population in important respects - compares favourable with that of other Registered Indians generally, and, for some indicators, with that of Québec.

The *longitudinal* characteristic of the Chapter comes from its more or less chronological portrait of the significant events and trends in the development of health services across as long an historical period as possible. Modern regional health services have happened primarily over the last three decades, contemporaneously with the advent of major economic activity particularly the La Grande (or James Bay) hydro project.

This is supported by two tabular appendices which have been included in both Volumes. Appendix B is a chronology of the critical events in the development of regional and local services prepared as a quick reference to aid in conceptualising the main events in the long and complex longitudinal discussion. Appendix C sets out the history of facilities between 1930-200.

The third and final characteristic of the approach is that it is *evidence-based*. This includes an examination of the strongest available empirical findings. Statistical indicators alone do not, however, tell enough about the evolution of services. Therefore this chapter critically examines, and triangulates, diverse data from a wide range of sources especially administrative reports and other documentary sources to show how the chain of events influences the health and social programmes and services that exist in the Cree region today.

There is an iterative relationship between the existence of health and social services and the caseload statistics supporting them. Services are usually introduced in response to a need. But at the same time the introduction of services tends to generate demand. It also results in the keeping of statistics that substantiate calls for further services. For example, there were almost no social services – and no social-service statistics – in the Cree Region until the early 1980s. A veritable explosion of youth protection cases occurred as youth protection services spread rapidly throughout the region. While to some extent the new statistics captured a need that was already there, the new services also helped to generate some of this need. Sexually transmitted disease rates are another example of statistics that may not be entirely comparable to rates reported in urban areas of Québec because of the different organisation of health services in the North. As health services in the Cree communities are only available in the clinics, all cases of STIs are reported. In urban centres with a complex array of points of service, this may not be the case. The complexities and effect of this feedback relationship cannot be quantified, but its existence needs to be recognised.

The existence of a service is not an indication of how well the service meets the needs of the population. A service can exist largely on paper and so accomplish little good. A service can also be disorganised, inappropriate, or administratively inefficient. For these reasons this chapter integrates into the narrative a functional assessment of the services which have been available over time and at present. The *Conclusions* section pays particular attention to the adequacy of regional services today, and it considers future implications, using the ten research themes, drawn by the Canadian Health Services Research Foundation from their Canada-wide consultations in early 2004.⁵⁴¹

13.1.2. Documentary Sources and References

This chapter's endnotes and bibliography identify the sources used. These sources may be classified thus:

- Published and unpublished reports and working papers prepared for the CBHSSJB since its inception;
- Programme and administrative files from the CBHSSJB over time;
- Minutes of the Board of Directors of the CBHSSJB;
- Programme evaluations and service utilisation studies;
- Periodic reports, including *Annual Reports* of the CBHSSJB and of government departments;
- Archival files, particularly at federal level;
- Orders-in-council and other high-level instructions;
- Records of the courts;
- Agreements pertaining to the CBHSSJB and its predecessors, including the JBNQA and service delivery contracts;
- Legislative and regulatory records;
- Published health reports from government sources such as the Medical Services Branch of Health Canada, the *Institut national de santé publique du Québec* (INSPQ), and the *Ministère de la santé et des services sociaux du Québec* (MSSSQ);

- Academic studies of the Cree territory such as articles published in scientific journals, theses, and studies of specific topics or diseases;
- Data from MSSSQ databanks (e.g., mortality data);
- Service consumption data (e.g., MED-ECHO hospitalisation files);
- Notifiable disease data, and data such as in the tumour registry and the Cree Diabetes Information System;
- Data collected by the CBHSSJB for purposes of programme management and for mandatory reporting to other agencies; and
- Survey data particularly from the report of the Santé-Québec survey, from Statistics Canada's 1991 and 2001 Aboriginal Peoples Surveys.

Public information sources have been cited to the maximum extent possible, however much of the documentary evidence has come from restricted sources, especially from the records of the CBHSSJB and the Cree Regional Authority. Even though some of the primary source documentation relating to Cree health services in federal and provincial archives is locked against non-government review on account of the litigation environment⁵⁴², it has nonetheless proven possible to construct a reasonably detailed historical chronology from unrestricted government files and from complementary sources.

13.1.3. Definitions

13.1.3.a. Definition: Programmes and Services

In the pre-contact era, the Crees had their own practices of traditional medicines and extended family-based caring systems based on Cree concepts of health and illness. With the arrival of Europeans settling on James Bay and at established posts, the local system came in contact with English and French practices of the period. Later, the Oblates and Gray Nuns established the first hospital and canoe 'ambulance' at Fort George. Today the Cree receive health and social services through the same complex bureaucracies found throughout Québec:

Within the sector of health and social services, a programme is a grouping of services and activities. There exist two types of programme: service programmes and administration programmes.

A services programme is designated as an ensemble of services and organised activities responsive to the needs of the population or, additionally, to the needs of a group of persons with a common problem (viz., a categorical programme).

An administration programme is designated as an ensemble of activities of administrative nature and technique directly related to services programmes.⁵⁴³

The population health approach to health services (that is 'health and social services') which is used in this report now provides a conceptual opening towards integrating Cree practices within the institutional services.

13.1.3.b. Definition: The Term "Indian Department"

This chapter makes frequent reference to the Crown agency responsible for Indian Affairs. Until the latter half of the 20th century this unit had the federal oversight role in respect of the well-being of the

people who would become known as the James Bay Crees. Over time this agency underwent changes of name and scope of responsibility. Its location within the federal government system also changed. It actually began in the 1700s as a unit of the British army. At Confederation, the federal Department of the Secretary of State undertook the management of the Canadian government's role with respect to Indians; by 1873 this role had shifted to the Department of the Interior.

In 1880, a separate Department of Indian Affairs was created. This gave full departmental status to Indian Affairs. This arrangement lasted for 56 years, after which Indian Affairs reverted to branch status within a succession of departments:

- Mines and Resources (1936 to 1949)
- Citizenship and Immigration (1949 to 1965)
- Northern Affairs and National Resources (1965 to 1966)
- Indian Affairs and Northern Development (ADIAND@ a.k.a. "INAC" - 1966 to the present)

For simplicity, the terms "Indian Department" and "Indian Affairs" will be used interchangeably in this chapter.

Responsibility for Indian Health was transferred in 1945 to the newly created Department of National Health and Welfare (DNHW). Along with Indian Affairs, who continued to administer social programmes, this department was responsible for most health programmes provided to the Crees until 1975. Indian Affairs administered most other government services and still has primary fiscal responsibility for municipal services, housing, education, and socio-sanitary infrastructure.

13.1.3.c.Definition: Legal Status of Cree Communities

Systemic government attempts to change the nomadic nature of the Cree population, were not made until well into the 20th century. Even then the Crees were not, as was common elsewhere, settled on reserves under the supervision of the Indian Affairs or a delegated agent such as a Hudson's Bay Company factor.⁵⁴⁴

Eight of the nine present Cree communities became federal land - but not reserves in the accepted meaning of the word - pursuant to the James Bay and Northern Quebec Agreement (JBNQA) of 1975. A special income tax exemption was granted even though the Cree communities are not reserves in the usual sense, and the *Indian Act* has been replaced by the *Cree-Naskapi Act*.

One community - Ouje-Bougoumou - has origins in the JBNQA but was built in the early 1990s on provincial land. Nonetheless the CBHSSJB provides health and social services there.

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⁵⁴¹ Canadian Health Services Research Foundation (2004).

⁵⁴² The access restrictions include federal file records groups respecting: Indian Affairs (RG 10, RG22), Northern Administration (RG85), and National Health and Welfare (RG 29). There are also restrictions on analogous provincial records.

⁵⁴³ Transl. From Quebec (2003), p. 2.

⁵⁴⁴ Authority to settle Quebec Indians on reserves was set forth in 14 & 15 Vic., Cap. 106 of 1851. However, the James Bay Crees were not in Quebec until the boundary extension of 1912. After that there was simply no compelling reason to create reserves.

13.2. - Health and Healing Before Modern Health Care

13.2.1. Traditional Healing and Modern Health Services

Before and after Europeans began to sporadically arrive and later stay in what is known today as the 'Cree Region',⁵⁴⁵ midwives, leaders, healers and knowledgeable people in the family and community assumed responsibility for prevention of illness and child-birth, as well as care of the injured, sick and infirm. Medicines were made from plants, animals and minerals. The Eeyou notion of health and well-being articulated through the concept of *miyupimaatisiun*⁵⁴⁶ expressed health as a function of all aspects of individual and social well-being, not at odds with a modern health determinants framework.

Cree values and traditions in relation to the development of health and social service delivery systems were first formally recognised in Section 14, Chapter S-5 of the *James Bay and Northern Quebec Agreement* (1975) but a goal to have them implemented has only been recognised since the CBHSSJB Strategic Regional Plan of 2004.⁵⁴⁷

During the past two decades, Quebec has been at the forefront of international developments in community-based approaches to health and well being based on preventive and health promotion. Within local areas, this system has been very responsive to special populations, including those defined by language and culture. A few years ago, the Clair Commission recommended the need for autonomy at the level of the regional boards in order to put into practice the orientations from the MSSSQ. At the same time, the Commission suggested the need for developmental research on those approaches that would best address the social determinants of health, and thus have an impact on improving the health status of the regionally-defined populations of Quebec. More recently, the new *Public Health Act* (2001) has legislated a process for planning and implementing such approaches within the regional health and social service agencies, in collaboration with their local community partners.

Although since 1975 the CBHSSJB has had unique legislated recognition as a special population within Quebec's health and social services, these provisions for a community-responsive type of system have never been fully implemented within the organisation. Part of the reason for this lies in timing. As the first transfer of aboriginal health services in Canada, the Crees took control of their services in the closing years of the residential school system, and before the movement of aboriginal self-determination in Canada had led to the creation of institutional structures. This transfer to a Cree-Quebec partnership happened around the time that visionaries were beginning to develop planning based on community-based, preventive approaches, but before the Quebec health care system itself had internalised this kind of organisational cultural change. Since that time, the CBHSSJB, which is now Region 18 of the Québec system, has never had the resources to internalise this kind of cultural change within its own organisation.

It is significant that the Cree Public Health Department and the Cree Diabetes Initiative - the two areas of the CBHSSJB that have already received specific resources to implement this kind of change - are the service areas that are most advanced in planning and developing programming in the Cree language and incorporating a Cree cultural approach to programming⁵⁴⁸.

Culture, including language, traditions and values, are critical in designing services that produce the results desired. The way the world is perceived and the different cultural approaches to problem solving must be understood and legitimized. To underscore this, the Harvard University Project on American Indian Economic Development recently released results of findings gained over 15 years⁵⁴⁹ One of the findings is that the most successful communities were those where there was a high degree of cultural

match with local institutions. The majority of successful communities reflects the cultural traditions of the tribe or lose legitimacy. Perhaps the most important finding was that tribal conceptions of the appropriate way of doing things must be reflected in service structures.⁵⁵⁰

The SRP calls for the integration of traditional approaches into the health and wellness service delivery system. This is partly in response to Section 14.0.3 of the *James Bay and Northern Quebec Agreement* (1975) and Section 3(d) of Quebec Bill 108, *An Act Respecting Health and Social Services for Cree Native Persons* (2002), which refer to developing appropriate services and the need to take linguistic and socio-cultural characteristics into account.⁵⁵¹

Although, this is not at all the case today, eventually it will happen in part through the allocation of resources within a broad discussion about traditional values and healing concerns, including a holistic approach to treatment and prevention, a focus on families and values, pursuit of balance and moderation and a strong community role in supporting individuals. Underpinning these are the core values commonly known as the seven gifts: respect, love, wisdom, humility, bravery, truth and honesty. Integration includes the presence of these values in everyday work, the restructuring of work to integrate the activities of the separate health and social service components and both curative and preventive approaches to care.

The notions of culture, values and healing are linked. While traditional healing and healers may be identified as a service component in an integrated system of health and social services, they are, in many respects, key to the transformation of the whole system. It is well understood in the larger health and social services world, that, in order to successfully transform an organization, there is a need to shift the culture and to teach new values. Organizations across the country, whether in the public or private sectors, have spent a lot of time training leaders whose role is to teach and guide. Further, anyone who has tried to operationalise the ideas around integration knows that workers need support and tools from trusted and respected sources. So it is that traditional healing and value systems provide these resources to the aboriginal community.

While the Crees will draw upon their own values and specific resources in the area of traditionally-based healing, this overall approach to developing services that are responsive to the community is integral to way that service delivery has been envisioned for all citizens of Quebec through the regional health agencies and CLSCs (local community-based health and social service centres that cover all geographic areas of Quebec).

13.2.2.Impacts of European Presence on Cree Well-Being (Pre-1900)

The Crees became involved with the St-Lawrence fur trade from the early 1600s⁵⁵² Captain Henry Hudson's voyage of 1610 marks the first recorded contact with the people of this region. In 1632, Captain Thomas James, after which James Bay is named, while seeking the fabled Northwest Passage to the orient was forced to winter on Charlton Island. French Merchants reached inland to Lake Mistassini⁵⁵³ in 1663 and the explorers Radisson and Desgrosseillers reached what became Fort Rupert in 1668.

From 1670 when the Hudson's Bay Company received its charter to all lands draining into the Bays, the firm constructed a series of sometimes short-lived posts along the coasts. York Factory and Fort Albany were the main posts on the western coast of James Bay and the fort opened at Churchill in 1717. A principal fort appeared at Eastmain about 1719, which began keeping continuous daily records in 1737. Before that, and for a long while afterwards, there was a series of temporary and permanent

establishments of a smaller nature along the east coast of the Bay. The traders also travelled to to trade at pre-agreed locations.

In 1783, the Northwest Company re-organised to give the HBC stronger competition. The HBC countered with posts in the inland starting with Neoskweskau (1793) and Nemascau (1794). In 1812 the HBC and its competitor both erected posts at Mistassini Lake. Then the HBC built one at Rush Lake, just west of Chibougamau, and demolished its Mistassini post. In 1813 it opened Nichicun Lake and permanent posts at Mistassini Lake (1818) and Waswanipi Lake (1819). In 1821 the HBC absorbed the Northwest Company and, as a result, Neoskweskau, Rush Lake, and Nichicun were closed. There were other sporadic openings and closures, whose main impact upon the Crees was the need to periodically relocate substantial distances to obtain supplies and to trade furs. The early post closings signalled the start of numerous European-induced migrations of Cree local populations. Thus, the migration of the early 1980s, when a quarter of the Cree population moved, and which was induced by hydro construction development had historical counterparts for the Crees.

13.2.2.a. Involvement of the Traders & Missionaries in Cree Well-Being (Pre 1900)

The Crown expected the HBC to manage, and when necessary take care of, the Indians within its zone of influence and for two centuries the HBC had total responsibility to act independently on the Crown's behalf in respect to Indian welfare⁵⁵⁴, according to, first, Colonial Office practices⁵⁵⁵, and subsequently, to Indian Department procedures⁵⁵⁶, with little interest or *interference by the Crown*. In 1870 an Imperial order-in-council withdrew the North-Western Territory and Rupert's Land from the HBC and admitted these lands into the new Dominion, including the lands inhabited by the James Bay Crees.⁵⁵⁷

Even though HBC's rule officially ended in 1870, the Company's grip on the aboriginal economy and on relief administration - remained strong in remote areas including the 'Cree Region' until after World War Two. The cession of 1870 necessitated the establishment of some form of federal territorial organisation in the ceded lands, even though the prime representative of the federal government often continued to be the HBC factor. Legislation in 1869 established a temporary governance regime to take effect upon the impending cession. In 1875 a *Northwest Territories Act*⁵⁵⁸ established an appointed council with delegated authority over property, civil rights, administration of justice, police, roads, highways, and matters of municipal nature. Subsequent amendments developed this into a territorial 'government' consisting of civil servants who met at the Department of Mines' offices in Ottawa. This NWT government focused its energies on the colonisation of the northern parts of what became the western provinces and the area today known as the Northwest Territories. Since the boundaries of Quebec did not yet extend to the 'Cree Region', this Council was officially the first government appointed over the Cree lands. Its interest in the eastern James Bay region of the north was minimal owing to the paucity of European and Euro-Canadian occupation and the fact that the small groupings of Indians did not draw federal attention.

At its height, the HBC ran at least eleven posts in the 'Cree Region', spreading inland to encompass most of the present Cree settlement localities.⁵⁵⁹ These diminished after the the HBC bought out the Northwest Company in 1821 and of the Company's seven inland posts in 1857 only three remained in 1894. (Two of these - Waswanipi and Mistassini – were in what has become today's 'Cree Region'.) Few missionaries and government officials were present in the region before the 1900s. Whether the relationship between traders and Indians presaged the dependency of the modern welfare society (e.g. Ray 1984) or whether it permitted Crees to engage as independent trading partners (e.g. Morantz 2002), continues to be debated.

As the Crees were too isolated to constitute a significant health threat to any Euro-Canadian community, they did not raise attention with Government.⁵⁶⁰

13.2.2.b. Involvement of the Federal Government in Cree Well-Being (Pre-1900)

In 1755, shortly after the Eastmain post was founded, the Indian Department was created as an arm of the British Army. It was briefly a civilian establishment following the War of 1812, but difficulties in pacifying Indians sent it back to the Army. In 1830 it reverted to civilian control and stayed there. This military heritage reflects the government's attitude towards Indians during the 1700s and early 1800s: Indians were to be left alone if possible, and always monitored in case they became a threat.⁵⁶¹ Remote Indians such as those living in the 'Cree Region', with whom no treaty was signed and who could be managed by the traders, were seldom thought important enough to be mentioned in government reports on Indian affairs until the latter 1800s.

The *Report of the Bagot Commission into Indian Conditions* (1847) reaffirmed the standing policy that the Crown, not the pre-provincial colonies as they existed then, should have jurisdiction over Indians and their welfare.⁵⁶² Legislative responsibility for Indians was transferred from the Imperial Government to the Province of Canada in 1860.⁵⁶³ The Crown Lands Department assumed responsibility and the Commissioner was designated Chief Superintendent over Indians. This was to be the nucleus of the new Dominion's Indian bureaucracy. The *British North America Act* (1867) scarcely mentioned Indians but it implied that existing colonial Indian legislation should remain as a matter of federal policy. Section 91(24) of the *British North America Act* gave the new federal government authority to legislate on matters relating to "Indians and Lands Reserved for Indians." This was a discretionary capacity that has been conditional upon the federal government choosing to legislate in a given area. The need for a federal legislative framework to fill some of this gap led to the first *Indian Act* a decade later, in 1876.⁵⁶⁴

The early *Indian Act* was essentially a compilation of existing colonial Indian legislation.⁵⁶⁵ The new Act did not initially contain any provisions for the destitute or medical relief of Indians as its focus was on controlling Indians rather than providing for their welfare. This control included total departmental authority over their finances which would soon be crucial to the relief-from-trust policy which involved the provision of relief to Indians using the Indians' own moneys, and only applying public funds if the Indians could not pay. Indians (or rather, the agents in charge of them) generated money through the sale or leasing of reserve lands, through on-reserve agriculture and resource extraction that was supervised by appointed farming instructors and Indian agents, and by wage labour. With no treaty and no reserves with resources that could be sold, the people living in what would become the 'Cree Region' had little opportunity to earn wages. Consequently, they had no revenue worth confiscating for applying to relief.

In an era before income taxation and when few public services existed at any level of government, the affordability of Indian relief was foremost in the minds of the Imperial Government and the early Dominion Government. At some point - apparently after the 1850s - Indian Affairs reluctantly made it a practice to cover some of the costs of medicines incurred by the northern traders and churches. By the late 1800s, Indian Affairs was occasionally paying for destitute relief when matters could not be ignored. This required relief policies and a bureaucracy. With supervision for purposes of assimilation, and also relief in mind, the familiar system of Indian agents and superintendents was introduced in 1875. A full-fledged Department of Indian Affairs followed in 1880.⁵⁶⁶ That year the federal government had to react swiftly to widespread epidemics of smallpox and measles, and an alarming increase in the incidence of tuberculosis amongst the aboriginal population generally. Scales of assistance were developed to which the traders and missionaries were expected to rigidly adhere. The ration system that emerged closely resembled the ungenerous British Poor Law, applied with particular meagreness to a population widely considered lazy and easily spoilt by handouts. This correspondence has been noted recently by federal

officials, one of whom observed in a history of Indian Affairs' relief activities that: "An analysis of branch welfare policy in these years revealed numerous correspondences with the ungenerous, punitive Elizabethan Poor Laws."⁵⁶⁷

This ration system followed a change in Imperial Indian policy in 1856 which made education the cornerstone of efforts to assimilate Indians into the Euro-Canadian population and the general economy. By the early 1880s, Indian Affairs had concluded that its current efforts to assimilate Indian adults would lead nowhere, and "these people" had to be taught and compelled to support themselves in ways considered appropriate to their geographic circumstances. Relief, as reward or sanction, became seen as a means to compel Indians to be industrious. While Indian adults could at best be coerced into productive labour, the Department felt that their children could be wholly assimilated through a rigid regime of schooling.

Consequently the year 1885 saw the first 'programme-specific' specialisation within the Indian Department. Four dedicated branches were created in addition to rudimentary divisions already existing: a Correspondence Branch; a Registry Branch; a Technical Branch (which prepared surveyors' drawings and directions); and a Statistics and Schools Branch. While the term 'programme' was unheard of at the time, the new units essentially had programme-area-specific tasks. The 1885 restructuring was particularly notable for creating an Education Branch, whose twofold function was to educate Indians adults into productive industry and off relief, and to educate Indian children into Euro-Canadian society.

Realising that assimilation was best served by intact Indian families sufficient for caring for children, an *Indian Act* amendment in 1887 gave the Superintendent General powers to deal with Indian men deserting their families. An 1894 amendment compelled Indian children to attend day or boarding schools. Indian adults could also be compelled to attend industrial or boarding schools if the agent thought this was necessary, but the policy emphasis was upon the child. Simultaneously an independent Schools Branch was created. These policy developments signalled a federal interest in the social welfare of Indians and constituted the first social service regulations that theoretically applied to the Crees in today's northern Quebec. However, in most cases these rules were applied sparingly or not at all in the 'Cree Region' until the first decades of 1900s when federal departments had established a measure of permanent presence.

Endnotes 13.2. Health and Healing Before Modern Health Care

⁵⁴⁵ For simplicity in the text, the eastern James Bay watershed region will be referred to as the 'Cree Region' although this is a modern designation.

⁵⁴⁶ Adelson (1992) explains this concept in detail.

⁵⁴⁷ This section is copied, with some reorganisation, from Chapter 1 in et al (2003).

⁵⁴⁸ Significantly, public health is the first Department to promote its name - *Miyupimaatisiwin-aa uhchi pimiplyhtaakinuwich utih ilyiyuu aschiikh* - and services in the Cree language

⁵⁴⁹ www.ksg.harvard.edu/hpaied/

⁵⁵⁰ Torrie et al (2003).

⁵⁵¹ Torrie et al (2003).

⁵⁵² Morantz (2002).

⁵⁵³ 'Mistassini' is the name of the lake and the trading posts at that location. 'Mistissini' is the name of the present Cree community in the same location.

⁵⁵⁴ Company responsibility within the "Indian Lands" was described in 1 & 2 Geo. 4, Cap. 66 (1821) and further clarified in subsequent agreements, such as the "Map and Statement of Rights" submitted in 1850 by Sir. J.H. Pelly.

⁵⁵⁵ See Parliamentary Paper 547 (1842), op. cit.

⁵⁵⁶ 20 Vic., Appendix 17b, A. 1857 - Memorandum from Commissioner of Crown Lands to the Legislative Assembly of the Province of Canada.

⁵⁵⁷ C.P., R.S.C. 1952 (16 Geo. VI), App. 3, Constitutional Acts and Documents, No. 9, pp. 6237-41: Article 14 of the Order of Her Majesty in Council Admitting Rupert's Land and the North-Western Territory into the Union, 23 June 1870.

⁵⁵⁸ 38 Vic., C. 49.

⁵⁵⁹ According to Morantz (1984), op. cit., these included: Great Whale River, Fort George, Eastmain, Rupert House, Nemaska (Nemiscau), Waswanipi, Mistassini, Kaniapiscaw, Nichikun, Neoweskau, and Timmiskimay.

⁵⁶⁰ Medical relief to groups of Indians, especial epidemic control measures, are well chronicled in *Hansard* (Debates of the House of Commons) and the *Annual Reports of the Superintendent of Indian Affairs* especially for the period 1870 to 1930.

⁵⁶¹ Those wanting to know more of the early years of the Indian Department should consult Wade (1966).

⁵⁶² C.P., J.L.A.C. (11 Vic., 24 June 1847), Report, sec. III, pt. I: General Recommendation No. 1.

⁵⁶³ 23 Vic. cap. 151.

⁵⁶⁴ 39 Vic. cap. 18.

⁵⁶⁵ The *Indian Protection Act* of 1850 (13-14 Vic., cap. 42) was the forerunner of the *Indian Act* of 1876. It established the basic approach for protecting Indians including the familiar prohibition on collecting of taxes or rents from Indians. This prohibition continues to pose special challenges in the administration of health services in the Cree Region. Subsequent legislation further developed the British government's sense of responsibility for the well-being of Indians. The 1857 *Act for the Gradual Civilisation of the Indian Tribes of the Canadas* (20 Vic., cap. 6.) and the 1859 *Civilisation and Enfranchisement Act* (22 Vic., cap. 9, An Act Respecting Civilisation and Enfranchisement of Certain Indians. See also the 1860 amendment) formalised earlier policies towards enfranchising Indians and managing their lives such that they would eventually cease to be a burden upon the government.

⁵⁶⁶ 43 Vic. cap. 28.

⁵⁶⁷ "Social Assistance Program - Policy and Program Evolution. Part A – History". DIAND Internal document prepared by Bob Wagner, Indian Programming and Funding Allocations, 25 May 1994. This relies substantially on Moscovitch (1993) Webster (1993, 1993a, 1994).

13.3. Health Services (1900-1945)

What we would now commonly recognise as mainstream health and social services began to emerge in the early 1900s along with a gradual development of federal and provincial welfare legislation and related regulations. These further codified the role of the family, the benevolent institutions, the municipality, and the two constitutional orders of government with respect to responsibility for persons needing assistance. Parallel to this statutory development was a pattern of increasing specialisation within government and its departments aimed at delivering assistance or at least supervising its delivery.

During the period 1900-1945 we see the first evidence of systemic attention by federal government units towards the well-being of the Crees. We also see, at the end of the period, the beginnings of the Canadian welfare state - including the exploratory, and belated, involvement of the Province of Quebec in providing public welfare services, although not yet to the Crees. Thus, during the first half of the 20th Century, what passed as health and social services for Indians and non-Indians developed along parallel lines, with most of the development occurring in the mainstream context.

13.3.1. Colonisation of Nord-du-Quebec and the Involvement of Quebec in Cree Well-Being (1900-1945)

The term ‘colonial’ in the present context is appropriate because the James Bay Municipality’s economy is colonial in the classic economic sense of the word and the Government of Quebec had appointed its first Minister for Colonisation in 1887.

The Nord-du-Quebec portion of Rupert’s land passed to Quebec, from federal control, in two stages. In 1898, in the interests of promoting colonisation under a provincial administrative presence, the federal parliament extended Quebec’s boundaries beyond the 52nd parallel up to the Strait of Hudson. In 1905, the federal government’s geologists sent to Chibougamau Lake returned with favourable reports. That year the entrepreneurs Obalskie and McKenzie formed a mining company in the vicinity and the next year saw 250 prospectors in the area. In 1909 the Quebec Government built a winter road from Chibougamau Lake to St. Felicien. Construction on the transcontinental railway section running through Haute-Mauricie began in 1910. The HBC started using this to supply its inland posts almost immediately, and it generated a northward movement of colonists to the Abitibi region.

This statute, enacted simultaneously with similar statutes respecting Ontario and Manitoba, established Quebec’s present northern boundaries. Quebec was required to recognise the rights of the Indian inhabitants, to obtain land surrenders from them as required, and to bear the costs of doing so. However, Quebec had to respect:

That the trusteeship of the Indians in the said territory, and the management of any lands now or hereafter reserved for their use, shall remain in the Government of Canada subject to the control of parliament. (Para. (e))

This, and Section 3 which guaranteed the continuity of the HBC’s rights, clarified the status quo in terms of responsibility for Cree well-being. The federal council known as the Government of the Northwest Territories ceased to have administrative involvement in northern Quebec, but Indian Affairs continued its legislated role of managing the Indians.

The 1912 boundary extension paved the way for the last major migration in Quebec: the non-aboriginal settlement in the 1920s and 1930s of the southern James Bay Region. In 1926 a British trading firm set up trading operations at Oskelaneo on the railway line, and henceforth the railway began to replace the canoe brigades along rivers running to James Bay that for centuries had supplied the inland posts. The switch to supply by railway improved the profits of the traders, and, as winter and later all-season roads were put north to Chibougamau, slowly eliminated the traditional seasonal wage labour available to the Crees while opening new types of labour around prospecting and forestry.

The first wave of farmer-colonists settled in the early 1930s in the vicinity of the parishes of Beaucanton, Val-Paradis, and Villebois. Small-scale mines operated intermittently throughout the 1930s and 1940s, and by 1934 the Euro-Canadian population had reached 1,000. However, a provincial health and social infrastructure did not immediately follow the colonists. The first reason for this absence was that, at the time, health and social services in Quebec were largely a municipal responsibility - and the colonised southern portion of the Cree traditional realm had few municipalities. The *Quebec Municipal Code* of 1871⁵⁶⁸ required local municipal councils to make by-laws to contribute to the support of the indigent of all classes, to relieve persons injured in fires, to establish poor houses and other refuges for the poor, and to generally look after the destitute and sick within their municipal boundaries. This was further codified in the *Cities and Towns Act* (1903). This required municipalities to pass by-laws governing benevolent organisations within their boundaries.

The municipal tradition was interwoven with the *Civil Code* notion, alive today, that an indigent person's subsistence was the responsibility of the family - even in the case of adult indigents - provided they were in a position to assist. Practically no poor relief fell under Quebec provincial control. As late as 1930, foreign observers noted that the extent to which the Province of Quebec assumed administrative control of public welfare anywhere in the Province was strictly limited, and that the family, municipalities, and benevolent institutions were expected to take most of the burden of relief with relatively little assistance from the Province itself.⁵⁶⁹ This municipal-based system more closely resembled the English Poor Laws and had many similarities to the Indian relief system in which the Indian Agents could compel the band to take care of its sick and indigent. In the context of what would later become the 'Cree Region', there was no Euro-Canadian municipality in the vicinity and no reserves. Therefore no destitute or medical assistance was available beyond that offered by the traders and the missionaries, often with federal reimbursements.

There was one exception to this pattern of Crees having less protection and services than their Euro-Canadian counterparts. Quebec's statutes for protecting children were considered well behind those of other provinces: the Province had no superintendent of neglected and dependent children, and no compulsory school attendance law, although orphanages were subsidised as a matter of policy. In 1910 an *Act Respecting Juvenile Delinquents*⁵⁷⁰ provided for some measure of state intervention, but principally to correct the delinquent rather than address causes of the delinquency such as family circumstances. With no statute to ensure and enforce the protection of children by the state, an unmarried mother unable to secure support from the father had no recourse but to put the child up for adoption. A married but abandoned mother had little recourse for remedy by law. Since the Indian Act did contain limited provisions for youth protection, during this period the Cree had, in some respects, more protection than the colonists in Nord-du-Québec.

The second reason for the paucity of health and social services in was jurisdictional. The Government of Quebec considered most of Nord-du-Quebec the "Indian domain" and thus federal responsibility. In particular, it was still inclined to leave the administration of areas surrounding the trading posts - essentially the HBC's zone of influence - entirely up to the HBC who, when needed, sought direction from the federal government. The provincial government displayed little or no interest in establishing its own government structures until the recognition of the region's resource potential in the early 1960s. In

fact, in 1939 Quebec successfully sued Canada over the costs of providing medical and destitute relief to the Inuit.⁵⁷¹ As a Depression cost-savings measure, Canada had stopped reimbursing the traders on the grounds that Inuit were not Indians and, thus, not federal responsibility. The trading posts - some of the same ones that traded with the Crees - redirected their bills to Quebec. Unable to ignore the issue and not wanting to establish a provincial presence in the north, Quebec secured a Supreme Court judgment in full against Canada, with costs.

In 1944 a provincial Department of Social Welfare and Youth was created.⁵⁷² This was the first Quebec department tasked with overseeing the welfare of a class of people. In this case, the class was persons needing financial assistance including pensions, but the department also had some medical service responsibilities for the blind, the disabled, and certain others. Over the following decade this would evolve into the nucleus of a provincial welfare system - but one that the Crees had very little contact with for several decades.

13.3.2. Federal Involvement in Cree Well-Being (1900-1945)

13.3.2.a. Occasional Medical Attention by a Physician

The appointment in 1903 of a General Medical Superintendent for Indians signalled the beginnings of what much later became a full-fledged Indian medical branch. It signalled a realisation in Ottawa that regular attention to the health of Indians was important. Also in 1903 the draconian work or-starve relief policy, dating from the 1870s, was somewhat relaxed. A circular to agents at first glance appears very miserly, but in fact it authorised a more generous treatment of Indians:

*[The government] desires that economy shall be exercised in supplying relief (as well as grain) to Indians of your Agency. ...[they] should be given to understand that they must rely [on their] own exertions for their support, and when possible [take care of] their own poor. [Rations] should not be given except in cases of illness [or when] the applicant, on account of other infirmity [cannot furnish] the necessities of life; or in cases where [relief will] prevent actual suffering. Pork and [other items] to be...allowed [but] no tea, tobacco [should be] issued.*⁵⁷³

Following the appointment of the first chief medical officer over Indians, a federal physician was sent with the annual ships along the coasts of Labrador, Ungava, Hudson Bay and James Bay. In 1903 six Royal Northwest Mounted Police officers were deployed to northern posts. It is uncertain when the first one was permanently stationed in the Cree territory; however, from about 1903 the police began making visits to support the traders and generally make their presence felt along the coast.

Besides the physician on the government ship, Indian Affairs engaged another to make occasional inland tours of Northern Quebec and Northern Ontario. These tours sometimes included the Waswanipi area. The main objective was to observe and report on the population's health. The objectives also included vaccinating against smallpox and educating the population about preventing the spread of contagious diseases like tuberculosis. The travelling physician treated illnesses, extracted teeth, and performed other acts to the extent that his limited circumstances allowed. He occasionally ordered people, who had been seriously ill for some time, to be evacuated to a hospital. The physician brought supplies of medications, of which some were distributed on the spot and others, including more comprehensive medicines left in charge of the missionaries and HBC managers. The physicians reported on socio-economic conditions in addition to health conditions.

Throughout the early 1900s the traders attempted to treat illnesses among their Cree clientele using home remedies, patent medicines, and whatever supplies the visiting departmental physician might have left for later use. Around 1922 the establishment of the Oblate mission at Fort George led to the establishment of the hospital and school by 1930.⁵⁷⁴

13.3.2.b. Routine Medical Attention and Focus on Nutrition of Cree Schoolchildren

The involvement of the churches in Indian education dated back to 1620 in the South, when the French Récollets Order established a boarding school for Indian youth. This experiment ended in 1680, but by the 1820s church schools were re-appearing under various denominations. Indian Affairs began to recognise the usefulness of the churches in delivering Indian education across the country, so in 1892 began a partnership with the Anglican and Catholic Churches. By 1900 there were 225 Indian day schools in existence along with 22 industrial schools and 34 residential mission schools. In 1920, *Indian Act*⁵⁷⁵ amendments gave the Superintendent-General authority to establish day schools, residential schools, and boarding schools, and to provide for school transportation and prescribe standards. A new provision was that he could also enforce, by means of truant officers and penalties, attendance at school of Indian children aged 5-15.⁵⁷⁶ This provision, along with higher per-student federal contributions, made it feasible for the churches to embark on a programme of building Indian residential schools.

However, for reasons of geography, economic patterns and lifestyle and/or the presence of a local day school, neither the government nor the churches were able to compel most Cree families to send their children away to school until the 1950s.

In the late 1800s and early 1900s, the Catholic and Anglican churches opened summer day schools at some trading posts for the children of Crees, missionaries and traders. For instance, a tiny and crudely built one-room school was erected in Rupert House (Waskaganish). The teachers - who were all missionaries in the early years - were obligated by Indian Affairs to note the physical condition of the children, and to provide or arrange for medical assistance as needed. Thus, these schools marked the first more-or-less regular state monitoring of the health of Cree children.

In 1930 the Oblate Order opened a residential school in Fort George, operated by the Grey Nuns. It had a small clinic for the principal, but not exclusive, use of the students. Simultaneously, they opened a hospital with dispensary and “ambulance-canoe”. Only in 1935 did the school begin to receive small subsidies from the federal government⁵⁷⁷. In the mid 1930s, students came from Fort George, Ruperts House (Waskaganish) and Old Factory (Wemindji).⁵⁷⁸ This clinic and hospital amounted to the first permanent medical infrastructure in the region. Fort George Island’s central position on the coast, and its importance as a re-supply point for inland posts, made it a good location for a school and medical facilities.

The much older Anglican mission countered and opened their own Indian residential school at Fort George in the 1930s. In the mid 1930s, students attending St. Phillips were all from Fort George and Caniapiscau.

From the mid 1930s into the 1940s, a few selected Cree children - in the 1930s from Waskaganish and Waswanipi and later also from Mistissini - attended the residential school at Chapleau. Outside of Fort George, most Cree children did not attend residential school in the 1930s, with some from the coastal communities beginning to travel to school in Fort George in the 1940s. It was not until some time in the 1950s that schooling became widespread. In the 1960s, Cree children attended Moose Factory, Amos, Sault Ste. Marie, Brantford, and La Tuque. The day schools improved greatly over the years but were not in all communities in all years.

What impact did these schools have on the health of Cree children? From the 1920s onwards, the Indian Department's school agenda included preventative and curative medical treatment for the students. Those Cree children who did attend school began to receive routine health monitoring, periodic vaccinations, and other medical assistance as the need was observed.

In addition, both the residential and the day schools had a short-term positive effect on Cree schoolchildren's nutrition during those times when their families were sometimes eating poorly on account of the animal cycles and illness caused by contagious diseases. By the early 1920s, Indian Affairs was becoming more aware of the importance of a proper diet in the lives of Indian school children, although for years their approach belied a refusal to countenance measures which might spoil the child.⁵⁷⁹⁷⁴ The residential schools offered three meals a day including items such as vegetables and milk that were uncommon in the Cree diet.

However, the cumulative social consequences of the residential schools were that students - particularly those who attended residential rather than day schools - were often rendered unable to participate properly in the life of the community to which they were finally returned with linguistic and skills deficiencies to integrate into the local economies. As well, like the upper class English, they did not learn family skills required of parents, but some did return with notions of discipline alien to Cree society. As a Cree author has written:

Since the time of residential schools, Cree parents, and grandparents have not played a significant role in the upbringing of their children and youth as they did in the past. Therefore, Cree parents could not continue to pass down the teachings about youth sex and Cree knowledge as they had done in the past. Cree children no longer listened to their parents, therefore they could not learn from them.⁵⁸⁰

The negative social effects of the residential schools⁵⁸¹ began to become apparent in the 1960s, when Crees began having contact with organised social services and these were passed to the CBHSSJB when it assumed responsibility for social services in 1978.

13.3.2.c. Government Assistance to Indigent and Sick Crees, 1900-1945

Throughout the early decades of the 20th century, Indian Affairs was more concerned about the well-being of Indian schoolchildren than the health of Indians generally. Indian adults were still seen as an inherently lazy class of people who were apt to want assistance without grounds. This departmental perspective persisted through the long tenure of Deputy Superintendent-General Duncan Campbell Scott. In 1913, two weeks after taking office, he sent a circular to all Indian agents to remind them against undue discretion in approving assistance:

...The Department will be willing to provide the actual necessities of life to sick and aged Indians, or orphans and widows who are unable to work and have no means or no friends able to support them upon the facts being fully represented by the Indian Agent. In order to prevent suffering it may be necessary for an Agent to furnish a small amount of provisions without reporting, but in any such case the Agent should lose no time in

⁷⁴ The "Eskimo Biscuit" was developed in 1924 at the behest of the Department of Mines and later issued to Indians. It illustrates this paternalistic mind-set. This biscuit consisted of a "happy combination" of ingredients such as flour, fats, boiled meat, bran, molasses, linseed and whole wheat flour - the latter four included for their laxative effect. Because it was supposedly nutritious, yet was unappealing enough to be eaten only in cases of genuine hunger, it was imagined as a novel means of arresting destitution without encouraging dependency. Field reports later indicated that its appearance and appeal approximated that of a dog biscuit. Although departmental representatives complained that it was not a thing that White children would even eat, the biscuit was given to Indian children in schools as a mid-day meal throughout the 1930s. See: NAC, RG10, vol. 4094, file 600,264.

*laying all the facts before the Department and obtaining instructions as to further procedure.*⁵⁸²

Development of Separate Systems for Relief

The Great Depression (1929-1939) reduced the farm production of southern and western Indians, and it severely depressed the northern fur economy. By and large, the Indian Department proved incapable of any significant action to arrest the worst effects of the Depression upon its charges. Indians were even left out of discussions during the 1935 Dominion-Provincial Conference on Unemployment Relief. They were also left out of all the federal-provincial relief agreements and legislation.⁵⁸³ The approach to Indian relief during the Great Depression and immediately afterwards, reflects federal insistence that provincial health and welfare laws and systems should *not* apply to Indians.

An illustration of this was the federal *Old Age Pension Act*, enacted in 1927 as Cap. 35 of Statutes of that year. This was the first old age security law in Canada. This *Act* was notable for having a clause specifically *excluding* Indians and Eskimos from receiving benefits. Indeed, Indian Affairs was terrified that cash benefits would ruin Indians and derail the long-standing Indian Policy. Henceforth a two-tier system began to develop where resident Euro-Canadians and half-breeds were entitled to old age security but local Indians were not. Lacking the benefit of a modest pension, destitute aged Indians were entirely dependent upon their families, or upon the ungenerous rations listed on the Indian Affairs ration scale. Often it was a combination of the two.

This two-tier approach to relief was reinforced when, in 1940, the House of Commons passed an Unemployment Insurance (UI) Bill. Indians were administratively excluded from receiving UI benefits for many years, even though they were not legislatively excluded as was the case with old age pensions. This happened even though UI was now a federal area, so cost-sharing with the provinces would not have been an obstacle to Indian participation. Rather, the obstacle was the Indian Policy and the ration system that had been tailored to it.

Indigent Relief Under the Indian Policy

At the outset of the Depression, Indian Affairs Headquarters uncharacteristically softened its relief policy. Relief was not to be given to the able-bodied, in recognition of the fact that they could not be put to productive work. The Departmental Secretary wrote to agents:

*In view of the Department's attitude in this matter, it is taken for granted that each Indian Agent is endeavouring to instil and further a spirit of independence among the Indians under his care, but in doing so he should not overlook the fact that at the present time many Indians as well as Whites are unable to find remunerative work. Cases of acute distress arising from unemployment should not be allowed to go unrelieved.*⁵⁸⁴

However, in a few months the agenda changed. Now the goal was to save money, and the sympathy evaporated. The Department cut its relief expenditures in half between 1931 and 1935. By 1935, the per capita non-Indian person relief cost was 5-6 times what was spent per Indian. This was achieved through a series of measures. In April 1932, agents in Quebec were told to strike names from their relief lists if they suspected what today would be called “welfare fraud”. This became an annual request, which probably spread to agencies in other provinces. Another economy measure was to construct ration houses and issue rations directly. Previously there had been heavy reliance on merchants, such as the HBC, to issue rations and claim eligible costs back from the Department. By 1935, relief for the able-bodied had been so drastically curtailed that the department’s stance could be summarised as “grow a garden plot and

feed yourself or go hungry”, an expectation that made little sense in northern areas where crop-growing conditions were borderline and the Indians had no meaningful experience of farming.

Although the ensuing years brought some loosening of relief policies, the Second World War brought about a national Indian relief directive terminating depression relief measures and re-establishing a work-or-starve policy. The basis for entitlement switched back to a monthly ration scale at about the same time as wartime rationing was introduced for the general population. While the items on the Indian ration list were to be procured regardless of cost, the scale of issue was far less generous, and it failed to include the dairy and vegetable produce considered essential for the health of the general population. A circular in May 1940 summed up the return to harsh measures:

Relief allowances in the case of physically fit, able-bodied Indians should be cancelled not later than July 1. It is not the policy of the Department to provide able-bodied Indians with relief. All such Indians must undertake certain tasks either on the reserves or off the reserves. The cultivation of gardens, farm work, clearing land, road construction, drainage projects, wood-cutting, repair of buildings, care taking, and fishing and trapping in certain districts are all tasks that might be undertaken.

*Rations may be supplied to Indians engaged in such work. In no case, however, will it be permissible to supply relief to an Indian who refuses to undertake the task assigned him by the agent; and the character of the work in which the Indian is engaged must be clearly stated on relief vouchers sent forward to the Department for payment.*⁵⁸⁵

The new rules gave agents the authority to compel Indians to do war work, or any work in the national interest given the national emergency, or else starve.⁵⁸⁶

Medical Relief Under the Indian Policy

While unconcerned about Indian poverty, the Department was very concerned about the possibility of the poor sanitary conditions associated with poverty leading to outbreaks of contagion. Section 92 of the *Indian Act* was amended in 1914⁵⁸⁷ to allow the Superintendent-General freedom to: establish and maintain socio-sanitary regimes on reserves; make sanitary regulations for the prevention of communicable disease; ensure streets, yards, and houses were cleaned; and furnish medical assistance, medicines, and other articles to prevent the spread of disease. Compulsory medical attention was required on the direction of the Indian Agent or, as occurred in remote regions, his representative. These Indian Health Regulations are noteworthy because they evolved into the public health provisions of the *Cree-Naskapi Act* of 1984, whereby the Cree bands retain a measure of lawmaking capacity despite the introduction of overlapping provincial legislation. Today these by-law powers are an important aspect of the region's public health regulatory regime.

Medical relief policies suffered some of the same budget cuts as indigent relief. In 1932, appropriations for Indian medical services were reduced by 20%. The effect of this, in light of a worsened contagious disease situation, was candidly expressed by the Superintendent-General himself:

In some directions, however, the measures taken can only be justified by emergent necessity. No progress can now be made toward solution of the tuberculosis problem among Indians. On the contrary the department has been forced to refuse admission to sanatorium of many cases of tuberculosis which the attending physician reported as hopeful of arrest under sanatorium care, but hopeless if kept at home. These patients are prolific spreaders of the disease, and a burden on the well. The tuberculosis death rate

*among Indians is many times that among the white population, and every generation of Indians has more intimate contact with white people than the previous one.*⁵⁸⁸

Although early government records of tuberculosis amongst the Crees have not been found, it is known that some Crees were transported to the Moose Factory tuberculosis hospital by boat and aircraft.

In September 1933 a circular memo⁵⁸⁹ advised that sick rations were costing too much and had to be cut again: "The object of this instruction is to reduce rather than increase...expenditure on sick relief". Agents were instructed that rations for the sick were to be provided only for: tubercular patients at home; malnourished mothers who were nursing; children "less than about five years"; and exceptional cases requiring a special diet and certified by a medical officer.

On 1 December 1936, after 56 years as a department on its own, Indian Affairs was downgraded to a branch of Mines and Resources. This happened partially as a Depression economy measure, but also because Mines and Resources administered the federal North and the northern parts of most provinces where no provincial infrastructure existed. It also signalled a belief that Indians problems are best viewed in a context of economic development (or lack thereof). However, one result of this administrative change was the establishment of a separate unit responsible for medical services. The Branch was now organised into four divisions and a "Field Administration" (a re-organisation which persisted with little change until 1945):

- Field Administration Service (4 Inspectors, 1 Commissioner, and 115 Agents) plus
- Reserves and Trusts Service (land matters and timber);
- Records Service;
- Medical Service; and
- Welfare and Training Service (schools, employment, and agricultural projects).

This was a large step towards programme-specific organisation. The new medical services unit put some order into the medical services still being provided by missionaries, traders, government officials and RCMP officers. It also utilised the advice and services of personnel from the Department of Pensions and Health. Nevertheless, medical treatment continued to be provided by Indian Affairs' own medical field establishment whenever possible.

Under the new organisation, slight increases in the medical allocation were resulting in some expansion of Indian medical services. Also starting about 1936 was a slight improvement in the availability of medical treatment in general, particularly in tuberculosis management.⁵⁹⁰ Nonetheless, outbreaks of smallpox, tuberculosis, and colds continued to afflict the Crees into the 1940s. The Cree population was still predominately nomadic or just living apart from the trading posts. This lifestyle helped to spare the Crees from some of the epidemics which ravaged adjacent Aboriginal populations, and vice-versa. For example, epidemics of influenza and smallpox struck Fort Chimo and Frobisher Bay during the period 1940-1950, but the Crees were spared. Even so, the government thought that sick Crees were becoming a health threat to Euro-Canadians, particularly to the many soldiers in the region for the war effort.

Most of these personnel arrived for the construction and operation of landing fields such as those at Val d'Or and Chibougamau. An American air station was established at Fort Chimo in connection with the air route for the supply to England of aircraft built in North America. This precipitated the approval of plans for the first federal nursing station in the Cree lands, at Fort George. Penicillin, the first antibiotic and

real cure for bacterial infections such as pneumonia, was developed during World War Two. Towards the end of the War it was becoming available to civilians and a while later to Indians. A vaccination programme was also initiated at Fort George shortly after its clinic opened.

By 1944 victory was in sight. The federal government began to consider improved health and social programmes and services, for all Canadians, in the post-war period. In May 1944, senior Indian Affairs Branch officials appeared before the Parliamentary Committee on post-War Reconstruction. They acknowledged the inadequacy of existing legislative and administrative arrangements concerning Indians and their welfare. They appealed for political support to improve the Indians' lot, specifically, a Royal Commission or a special Parliamentary inquiry on the subject. The all-party audience was receptive. Several years later a parliamentary committee would be struck, but not under the conditions the officials or the Minister might have preferred.

Endnotes 13.3. Health Services 1900 - 1945

⁵⁶⁸ 35 Vic., cap. 68.

⁵⁶⁹ Strong (1930), an American observer, examined the development of public welfare administration in Canada and elsewhere, including Quebec's comparative position.

⁵⁷⁰ 1 Geo. V, cap. 26.

⁵⁷¹ SCR 104 of 5 April 1939 ruled in Quebec's favour when that province sought compensation after Canada ended payments for "Eskimo relief." Eskimos were ruled to be Status Indians (although the *Indian Act* did not apply) and Canada was ordered to pay partly on account of a long-established fiscal involvement which had been demonstrated through documents produced by Quebec. The broader fiscal responsibility implications of this, with respect to precedent in Indian program administration, remain to be developed and argued in the courts. The Proceedings and Evidence of this case (Queen's Printer, 1938) have much historic material describing European occupation of the coastal area. It also describes the historic presence of Inuit in the vicinity and, to a lesser extent, their social and economic relation to the James Bay Crees. It also gives insight into the ration system that the northern Quebec traders used to support destitute Natives.

⁵⁷² 8 Geo. VI, cap. 32.

⁵⁷³ NAC, RG 10, Red Series, Vol. 3086, File 279,222-1, "Circulars on all Policy Matters 1904-1934," Circular on Relief, Ottawa, dated 28 October 1903, Issued by the Deputy Superintendent-General.

⁵⁷⁴ Morantz (2002).

⁵⁷⁵ 10-11 Geo. V., cap. 50.

⁵⁷⁶ 10-11 Geo. V., cap. 50, p. 308, sec. 10.

⁵⁷⁷ Morantz (2002).

⁵⁷⁸ Public Health Department data from RG10 Vol 6112, Reel 8189, File 350-10; Vol 6113, Reel c8189, File 337-10, Pt. 1; Vol 6193, File 462-10, Pt.1; Vol 6204, Reel C7936, File 467-10, Pts. 1-4.

⁵⁷⁹ The "Eskimo Biscuit", developed in 1924 at the behest of the Department of Mines and later issued to Indians, illustrates this paternalistic mind-set. This biscuit consisted of a "happy combination" of ingredients such as flour, fats, boiled meat, bran, molasses, linseed and whole wheat flour - the latter four included for their laxative effect. Because it was supposedly nutritious, yet was unappealing enough to be eaten only in cases of genuine hunger, it was imagined as a novel means of arresting destitution without encouraging dependency. Field reports later indicated that its appearance and appeal approximated that of a dog biscuit. Although departmental representatives complained that it was not a thing that 'White' children would even eat, the biscuit was given to Indian children in schools as a mid-day meal throughout the 1930s. See: NAC, RG10, vol. 4094, file 600,264.

⁵⁸⁰ Saganash (2005).

⁵⁸¹ The negative social effects of the Indian residential school system have been well-documented. Volumes 1 and 3 of the Report of the Royal Commission on Aboriginal Peoples are recommended. Cree School Board (1998) briefly touches on the effects on the James Bay Crees.

⁵⁸² NAC, RG 10, Red Series, Vol. 3086, File 279,222-1A, "General Instructions to Indian Agents in Canada," Item 5, issued by Duncan Campbell Scott, Ottawa, 25 October 1913.

⁵⁸³ Federal and provincial joint relief activities for Whites, up to 1935, are well summarised in: "Survey of Federal Relief Activities Since 1930: Report of the Dominion Commissioner on Unemployment Relief Details

Administration of Various Measures to Alleviate Distress and Promote Employment.” in *Labour Gazette*, May 1935.

⁵⁸⁴ NAC, RG 10, Red Series, Vol. 3087, File 279,222-1B, Circular to all Indian Agents from A.F. MacKenzie, Secretary, Ottawa, dated 10 September 1931.

⁵⁸⁵ NAC, RG 10, Central Registry, Vol. 7094, File 1/10-3-0, "Relief Food Policy, 1888-1963," Circular C-118-1, to Inspectors and all Indian Agents from H.W. McGill, Director, Indian Affairs Branch, Department of Mines and Resources, Ottawa, May 22, 1940.

⁵⁸⁶ Ibid., and Memorandum to Inspectors and Indian Agents from H.W. McGill, June 15, 1940; also NAC, RG 10, Central Registry, Vol. 7094, File 1/10-3-0, Memorandum from R.A. Hoey, Superintendent of Welfare and Training to accompany Circular C-118-1 to Inspectors and all Indian Agents from H.W. McGill, Director, Indian Affairs Branch, Department of Mines and Resources, Ottawa, May 22, 1940.

⁵⁸⁷ 4-5 Geo. V., cap. 35.

⁵⁸⁸ *Annual Report of the Department of Indian Affairs, 1933*, p. 12.

⁵⁸⁹ NAC, RG 10, Red Series, Vol. 3087, File 279,222-1C, Memorandum to all Indian Agents, Re: Sick Relief, Special Relief for Sick Indians, from A. F. MacKenzie, Secretary, dated 20 September 1933.

⁵⁹⁰ *Annual Report of Indian Affairs Branch, 1938*. pp. 190, 192, 194, 197.

13.4. Programmes and Services (1945-1975)

13.4.1. 1945 - The Turning Point in Cree Well-Being

Nineteen forty-five was a turning point in Cree health. The first indication of this was the transfer of Indian medical relief from the Indian Department to the newly created Department of National Health and Welfare (DNHW).⁵⁹¹ While the *Indian Act* health regulations continued to apply, the DNHW was not legally empowered to apply Indian trust moneys to Indian health. Henceforth Indian health became a 100% federal fiscal responsibility. This removed an obstacle - the Crees' lack of money to appropriate for relief - which had restricted the assistance they had been receiving. However, Indian Affairs continued to retain and to use its capacity to apply Indian moneys to destitute relief and towards social interventions. This involvement included the care of persons in loss of autonomy.

The transfer of Indian health to DNHW reflected a formal administrative separation of Indian medical relief and Indian destitute relief. The former was to be managed by the department specifically tasked with looking to the health of all Canadians. Indian destitute relief, by now becoming known less as 'relief' and more as "welfare", remained under Indian Affairs. "Medical" was dropped from the title of the division dealing with social welfare. Years afterwards, officials of DNHW's Medical Services Branch (MSB) explained the transfer and its aftermath thus:

...only health services were transferred...land, housing, education, welfare and even environmental hygiene, remained with the Indian Affairs Branch of the Department of Mines and Resources. The Indian Affairs administrators, be they known as Indian Agents, Superintendents, etc....remained the designated "health officers" on Indian reserves, not the personnel of the Department of National Health and Welfare.

This split in the administration to Indians caused some confusion in the public mind. Personnel of Health and Welfare are still called Indian Affairs. There is a natural tendency to think that the department concerned with housing, water supplies, sanitation etc. would also be responsible for health services and vice-versa. The transfer was made to increase the efficiency of health services, as then organised under a Minister whose prime responsibility was health...but in retrospect, it seems unfortunate that these were so clearly separated from the administration of such matters as housing, sanitation and welfare, for it has been evident that many of the causes of health deficiencies originate in the socio-economic status of Indians.⁵⁹²

Since the first contact with Europeans, the growth of the Cree population was severely constrained by various chronic and acute health determinants, of which the cyclical diseases were the most quantifiable. Population estimates suggest that there were only around 1,760 Crees in 1857. This took a century to double and in 1971 had only reached around 5,495:

James Bay Cree Population. 1857 and 1971 ⁵⁹³		
Post / Locality	1857	1971
Caniapiscau	200	
Nitchequon	80	
Pike Lake	80	
Waswanipi	150	650
Mistassini	200	1,511
Rupert House	250	874
Fort George	200	1,309
Little Whale River	250	
Great Whale River	250	326
Kibokok	100	
Paint Hills		557
Eastmain		268
Total	1,760	5,495

From about 1945 the threat of infectious diseases as a constraint on population growth declined rapidly, especially in connection with the new federal emphasis on dealing with childhood diseases. From then, the Cree population growth approached and later eclipsed that of Canada and Quebec. The high fertility and growth rates of today's population were impossible until the arrival of effective health programmes and services – particularly those dealing with public health and environmental health. Improved housing and sanitation conditions also helped, but these improvements did not initially keep pace with improvements in health services. During the 1940s and 1950s - the early settlement period - housing and sanitary conditions were, by and large, primitive as they were in other remote Indian communities. Overcrowding, disposal of waste, and water potability, became matters of great concern to health officials. These threats grew as most of the population took up residence in proto-communities centred on the trading posts. Health services, particularly public health and environmental health, were a major influence in making the primitive living conditions tolerable until the conditions improved from the 1960s.

Immediately after the War, the federal government implemented a vigorous public health strategy to assault the ill health of the Indian population as a whole. Aeroplanes, first seen in the 1920s, now carried more doctors on more visits although at first only in the summer. The old economic arguments against large-scale inoculation were abandoned. A large-scale BCG vaccination programme commenced in 1946. Transient medical teams started inoculating children for diseases. The teams came with X-ray machines and dozens of Crees were diagnosed with tuberculosis and sent to Indian sanitoriums at Moose Factory, Macimic near Val d'Or, or south. Some never returned. The last of the tuberculosis epidemics occurred ten years later, in 1956, but the event was quickly contained. Poliomyelitis does not seem to have struck the Crees as hard as it struck the Inuit. In 1947 there were 42 Inuit hospitalised in Edmonton and Quebec City for polio.

Indian Affairs modified its relief policies, concurrent with the rapid expansion of Indian health services. In 1945 the new Superintendent-General of Indian Affairs sent a circular memo to all Indian agents calling for a "new approach to Indian administration".⁵⁹⁴ This new thinking was principally concerned

with the provision of welfare services, including services of a more social character. Agents were directed to tailor their interaction with Indians and Indian bands to act as advisors, rather than dispensers, in the provision of local services. Local non-Indian volunteer agencies (i.e., 4-H Clubs, Homemakers' Groups, and Women's Institutes) were to be encouraged to extend their services to reserve residents. There was direction to consult university experts (particularly experts in co-operative projects and adult education) and involve them in projects to improve Indian education and economic prosperity. Attempts were now made to engage the Crees in dialogue with local nurses, and in voluntary activities of a social support nature.

The "new approach to Indian administration" fell far short of a call to get the provinces involved. The Superintendent-General's vision, at this point, did not encompass provincial delivery or provincial fiscal responsibility. It was an attempt to get volunteer agencies to extend their services onto reserves, or to form reserve-based branches. However, few off-reserve agencies would ever include Indians within the client population. For this reason, over the next decade, Indian Affairs would intensify its attempts to establish reserve-based branches of these agencies. There was no suggestion that outside agencies should bear any of the costs; by default, any extension of their services onto reserves would have to be funded through the Department although no federal budget provisions were made. For example, in a few years there would be an Indian Affairs Homemakers' Programme, with policies and a modest budget. Starting in 1945, Cree families with children under the age of 16 began receiving the 100% federally funded and administered Family Allowance established the year previous. This was the first public assistance programme not prohibited from application to Indians. A regulation under the *Family Allowance Act* specifically authorised the extension of family allowances to Indians. However, it also authorised Indian Affairs, rather than the newly created DNHWS, to deliver the benefits in a manner complementary to the ration system. To Indians, the monthly allowance was issued as rations rather than cash until the late 1950s. This entirely supplemental ration proved of significant value as a public health measure. Although Indian Affairs had control of the programme administration and the conditions for receipt of benefits, the Family Allowance signalled the beginning of the end of the Indian ration system.⁵⁹⁵

Also in 1945, the Minister for Indian Affairs came under sudden, effective, sustained attack over the ration system. Previously there had been little mention of it in the House of Commons except as attacks on spending on Indians, or else complaints about lack of accountability by field agents. On 24 October 1945, the newly elected Opposition member D.S. Harkness, noting the persistence of the Indian exclusion clause in the bill to amend the *Old Age Pension Act*, presented a resolution for extending the Old Age Pension to Indians. The response cited "administrative difficulties" arising from provincial administration of the Pension Act and stated that rations were issued in lieu of pensions. The miserly ration scale was read to the House. Harkness asked why these scant rations, calculated at 3,000 Calories per day,⁵⁹⁶ amounted to just \$4-5 relief per month when the maximum pension benefit for non-Indian people was \$30. The Minister responded with a monumental defence of Indian relief measures. He explained how and why the Government was committed to keeping Indians out of its proposed national social security system. He claimed that the *Indian Act* and the *Family Allowance Act* together provided an alternate social security system which met and exceeded the needs of old Indians and other Indian indigents. Canada had given Indians, he argued, free benefits including education and health services, including hospitalisation and drugs.⁵⁹⁷

In the following six months, pressure for a Royal Commission into Indian Affairs mounted. Opposition members took up the calls of interest groups who wanted better treatment for Indians, or at least a more humane way of assimilating them. The public was particularly upset by the unequal treatment that Indian veterans received as compared with non-Indian veterans. Bowing to this pressure, on 13 May 1946 the Minister introduced a resolution calling for a Joint Committee into Indian Affairs. The developments of

1945 had set in motion changes that would lead to a rapid and sustained interest in the health of remote Indians such as the Crees.

13.4.2. 1946-1975: Introduction of “Modern” Health and Social Programmes in the Cree Region

The period 1946-1975 marked the appearance and spread in what would become the ‘Cree Region’, of health and social programmes that today would be recognised as “modern” in terms of their organisation and objectives. However, the full range of services that were available to Quebec’s general population had not yet appeared in the Cree Region by 1975.

The systemic, structured health and social services system in the Cree Region today has its roots in the 1945 split of Indian health services from Indian Affairs. Indian Affairs, having far more experience with Indians, was quicker than National Health and Welfare in re-organising itself to meet its new partnership role. The first comprehensive Indian Agent's Manual, which included detailed relief provisions, was issued in 1946. This Manual was the ancestor of the social development programme manuals presently maintained by the Department's regional offices. It reflected the acceptance of Indian Affairs of a Departmental, province-like responsibility to deliver and primarily fund programmes to Indians. The changes included, in 1947, splitting Indian Affairs’ Welfare and Training Division in two:

- (1) Welfare Division (welfare, family allowances, handicrafts, and Veterans' Land Act administration); and
- (2) Education Division (responsible for running and supervising the large system of federal and church-run Indian day and residential schools).

These new establishments marked the beginning of conceptualising and administering Indian social welfare (and education) as discrete programme areas with budgets, policies, and objectives. The organisation of Indian welfare (at Indian Affairs) and health (at DNHW) was now beginning to resemble provincial departmental practice. However, two decades would pass before the federal agencies administering these provincial-equivalent functions mirrored their provincial analogues in a significant way.

13.4.3. Evolution of Cree Region Health Programmes, 1946-1964

National Health and Welfare assigned its Indian health responsibilities to a new unit called “Medical Services Branch” or “MSB.” This name persisted until the late 1990s when it became “First Nations and Inuit Health Branch” or “FNIHB,” although it is still commonly known as MSB. Initially this unit established new medical infrastructure, especially in the remote regions, with great urgency but insufficient strategic planning. This included, as will be explained later, the gradual spread of federal clinics beyond Fort George and across the Cree Region. Certain hospital service needs were immediately met. Moose Factory Hospital, specialised in tuberculosis treatment, was opened in 1948 in the period immediately following WW2, although it was at first extremely difficult to recruit staff. . To it were sent the more serious cases from both sides of the Bay. Two hospital ships equipped with X-ray machines, the CGS Nascopi and CGS C.D. Howe, visited coastal posts and evacuated TB cases.

The aggressively interventionist stance of MSB was, in the immediate post-War years, widely appreciated and recognised as long overdue. Despite this, the epidemics were not over. In the early 1950s, influenza

killed about 200 people along the coast. As well, mild gastro-enteritis epidemics - a new threat linked to people living in confined areas without proper sanitation facilities – were sometimes reported in the warm months. Medical Services Branch renewed its efforts to instal preventative health services and to offer local acute care. In 1950 a clinic was authorised at Rupert House (Waskaganish), followed by the first inland clinic at Mistassini (Mistissini) in 1954. More antibiotics became available. Dentists and ophthalmologists arrived by plane in the early 1950s, but for years they attended only to Cree school children and the Euro-Canadian population. Gradually, the lifespan of the average Cree increased, and the infant mortality rate improved although it remained a source of concern.

Although Indian health had been under DNHW since the end of the War, some of the Indian agents and agency superintendents still had retained administrative control over aspects of the actual delivery. This relationship involved considerable friction between the two federal departments. In 1952 and until about 1969, the Mistissini and Chibougamau people were cared for by the Pointe Bleue Agency in Lac St-Jean. All other Crees received medical services through the Abitibi Indian Agency's Superintendent, who according to the Nurse-Supervisor's annual report "dominates the agency as a dictator and the nurses have no real responsibility".⁵⁹⁸ The Abitibi Agency office was at the time based in Amos. The Superintendent in question had a reputation in Ottawa for being a good manager of Indians and of federal funds. His heavy-handed approach was not atypical, and was considered appropriate by Indian Affairs' Headquarters. The Nurse-Supervisor admitted that:

*Superintendent Larivière is a hard worker and he has great accomplishments to the credit of his agency...[he] gets everything he asks: he has summer dispensaries while on the North Shore we are still under tents; he obtains each summer, the services of an X-ray unit. We asked for one last year, but it was refused...He has just offered to Nurse Fortin the Mistassini post for next summer at \$8.00 per day with an assistant. This assistant is not necessary and I am absolutely opposed to her appointment. We are too much in need of nurses elsewhere...*⁵⁹⁹

Ultimately, the Headquarters of the two departments began to agree that the health of the Indians - and the morale of nurses - was best served by the assumption by MSB of all of the remaining health administrative responsibilities. With this take-over came a re-orientation of the distribution of health resources in the Cree Region, including the construction of nursing stations at Paint Hills (Wemindji) and Rupert House (Waskaganish).

13.4.3.a. Rations to Welfare: Transfer Dependency and the Declining Fur Trade

By the late 1940s it was apparent to the federal government that the fur trade was in serious, irreversible decline across Canada. With no evident wage economy, government health and social interventions became all the more vital and pressing. While there was little if any concern about increasing access to health services, there was concern about increasing access to social assistance. For a time there were profound differences of opinion in federal circles over the merits of allowing Indians access to the system of financial assistance programmes that was rapidly developing in the mainstream.

While MSB's interventionist approach was considered a welcome change, its partner-in-health, Indian Affairs, suffered a succession of serious public criticisms over its inability to provide services either fairly or humanely. In 1947-49 the Joint Committee on Indian Affairs criticised and embarrassed Indian Affairs Branch over its punitive ration system, which was subject to a scathing, and mounting, attack by parliamentarians who wanted Indians to get benefits similar to others. By 1947 all the provinces had relief systems in place, with entitlement norms, for provincial residents. Despite this Indian Affairs continued to resist the application of these standards to Indians, fearing it would spoil them. The Deputy Minister for Indian Affairs told the 1948 Indian Affairs Committee that although pensions would be

preferable "because the underlying theory in all our dealings with the Indians is to increase their sense of responsibility," the backwardness of some Indian groups required the ration approach.⁶⁰⁰

The ration system was not even liked by all the people involved in its administration. Despite the presence of the Branch Director, Secretary, and Supervisor of Family Allowances, the Inspector of Indian Agencies for Saskatchewan was commendably open:

*To the destitute Indian we issue rations. We who have the job of handing out those rations were never very proud of the quantities, or the quality either. There is very little attention paid to vitamins and so forth; it was just something to fill them up. The ration has become more generous in recent years, thanks to some of the new Indian Affairs officials who brought pressure to bear on those others who do the providing of the money...but we are still not proud of it...if they are still to be...sustained by rations as formerly, those rations ought to be more generous, much more generous and varied.*⁶⁰¹

In 1949 cracks started to show in the ration system. A small (\$8 a month) monetary allowance was issued to aged Indians including Crees. This was in addition to rations, the occasional issue of free housing materials, and a special medical diet recently established. The aged allowance was a last-ditch effort to appease the Joint Committee – a forum obviously heading towards a call for the abolition of the ration system. Starting 1 July 1950, ration issue to Indians over 70 stopped and their means-tested special cash allowance increased from \$8 to \$25 a month. Receipt of the aged allowance, like the Old Age Pension, was still tied to the applicant passing a means test. Now the federal government was paying Indians, directly, approximately the maximum amount it would have reimbursed a province under the Pension Act, but refused to pay the provincial contribution. Indigent Indians 65-69 remained on the existing ration scale, because the Department felt that "the standard is now adequate for the purpose."⁶⁰² However, the \$25 cash allowance to aged Indians was not supplementary to rations - it was in place of them.

Also in 1950, the Minister of Indian Affairs reaffirmed that "the ultimate goal of our Indian Policy is the integration of the Indians into the general life and economy of the country...[but] during a temporary transition period of varying length, depending on the circumstances and the stage of development of different bands, special treatment and legislation are necessary."⁶⁰³ Achieving this, he argued, required equality of access to health and welfare services, education, and economic development funds. This access, in turn, necessitated provincial involvement in policy development and the actual delivery of services. This signalled a retreat from the historic policy of Indian Affairs being the sole agency authorised, or able, to deal with the welfare and advancement of Indians.⁶⁰⁴ Yet for over a decade, the federal government knew better than to risk provincial ire by actually pushing this proposition of provincial involvement in service delivery.

In 1951 the uniform ration scale, established in 1928 and modified in 1941, was expanded slightly. More meat was issued. Milk was now on issue, without a doctor's recommendation, to families with children. Improvements occurred in the supplementary rations issued to the sick and convalescing. The latter included juice, better meat, and other nutritious "White foods" formerly thought likely to spoil Indians. In 1951 Indians finally received legislative entitlement to the new categorical pensions designed for the national population: Old Age Assistance (OAA), Old Age Security (OAS), Blind Persons Allowance (BPA), and Disabled Persons Allowance (DPA). Of these only Old Age Security was not cost-shared with the provinces. Quebec and the other provinces agreed to include Indians on reserve in the eligible population owing to what amounted to blackmail: there would be no federal contributions for these pensions to the larger population, if the province insisted on Indian-specific provisions. This was, broadly speaking, the first involvement of the provinces in Indian social programming.

The confidence of the public, and of Cabinet, in Indian Affairs' ability to deliver programmes and services to Indians was now diminished. Effective 1 January 1951, Indian Affairs lost its formal responsibility for Indian old age relief to National Health and Welfare and the provincial governments, although it retained a support role for many years.⁶⁰⁵ Indian Affairs Branch now did an about-turn and supported Indian pensions as if it had always wanted them, claiming that:

*the larger monthly Old Age Security payments and more liberal regulations which eliminate the means test and permit payment to Indians in mental institutions and hospitals will be of great benefit to Indians 70 years of age and over and will have an important influence on the welfare of other age groups on the reserves.*⁶⁰⁶

By the end of 1951 it was common for categorical social benefits (Family Allowance and old age pension) to equal the earnings of a family whose breadwinner worked. Sometimes these social benefits exceeded earnings by as much as 2:1. The benefits accruing from these payments were spread amongst family members, as one would expect in an extended family environment. This was despite the best efforts of Indian Affairs officials to ensure otherwise – such as issuing Family Allowance not just in kind, but in the form of articles with little resale value and little use to anyone except a child. (This explains, for example, the large numbers of identical, brightly coloured rubber boots and coats that were issued). The Family Allowance was still not issued to families during the months that their children were in residential school. For families whose children were enrolled in day schools, benefits remained conditional upon satisfactory attendance.

The Indian agents were increasingly intervening, in a social worker role, in the family lives of Indians. The agents were alarmed at the social effects of the rapidly growing “free” cash supplied as benefits. They sometimes confiscated the new old age pension cheque in order to control its expenditure, but this was rare and hard for them to explain to Headquarters. Their concerns were not entirely unfounded: starting about 1951, social benefits began to make menial work unattractive when it seemed the family could manage on handouts. In becoming accustomed to the categorical benefits, they also became less reluctant to go on destitute relief, which was now often called “welfare” and “the Dole.” Perplexed by these tendencies, Indian Affairs hired its first social workers in 1951.

Indian Act amendments gradually required Indian Affairs to adopt a less-and-less paternalistic role. The 1948 Report of the Indian Affairs Committee had called for a complete revision of the *Indian Act* with a view towards facilitating the gradual transition from “wardship” to full “citizenship.” The Committee called for: more band self-management powers and fewer Departmental powers; federal financial assistance, particularly in welfare; easier procedures for bands to incorporate as municipalities; and assistance towards self-government from the Department. In 1951 the *Indian Act* was significantly amended⁶⁰⁷ with this in mind. A change of great importance was the introduction of a provision (sec. 87) making the laws of the provinces applicable to Indians, except to the extent that they were inconsistent with the *Act*. Previously, pursuant to a 1936 addition to the *Act*, it took a federal regulation to enable a provincial law to apply to Indians. Section 87 in 1951 effectively vacated federal jurisdiction in all areas it had operated in as a matter of policy. The new approach suggested also that the federal government could occupy provincial constitutional turf with respect to Indians, and vacate it at will, handing any problem area back to the provinces. The provinces were wary of this, but the federal government was still careful not to suggest a withdrawal of federal services.

13.4.3.b.Expansion of Social Programmes

Federal services continued to expand throughout the 1950s. By 1953 the Welfare Division was operating an Indian housing programme. The Division intensified its efforts to improve social conditions by

funding and assisting Homemakers' Clubs and other community organisations on reserves. Branch social workers were now apprehending children at risk of abuse or neglect and arranging for foster home placements. In 1954 a Rehabilitation Officer was appointed to co-ordinate resources within the federal government and outside agencies with respect to assisting disabled and handicapped Indians to achieve a measure of self-support. (Rehabilitation following lengthy hospitalisation for tuberculosis was a prime concern). Starting in 1955 Indian Affairs relied increasingly on provincial agencies for the provision of services. Grants were given to provincial institutions to cover Indian participation.

The newfound federal interest in Indian welfare was connected to a feeling that the traditional economy was dying fast. Remote Indians including the Crees were now encouraged, with rations and building materials, to build permanent houses. They were also promised jobs that never materialised. In place of jobs they were to receive government assistance. In this way, life on assistance became an intergenerational reality for many Crees.

In 1956 an *Indian Act* amendment (Section 96(a)) permitted provinces to grant full liquor rights to Indians on the same basis as other persons in the province. Section 96 (a) recognised Indian drinking rights provided the provincial Attorney General had issued a proclamation to that effect, and provided the bands concerned agreed by means of a local referendum. Legalised alcohol thus came to the Crees in the late 1950s but permission to drink in bars only happened in the mid-1960s. An increase in social problems was noted. In September 1966 a bottle collection drive in Mistissini netted 600-dozen beer bottles for the support of the local church.

Further changes in social policy for Indians occurred during the late 1950s. Federal Treasury Board Minute No. 508331, dated 30 November 1956, gave authority to initiate payment of relief to indigent Indians by way of cheque rather than through payments in kind. However, it was understood that cash payments would be limited, in the first year, to about 10% of the indigent cases. The new authority did not establish any entitlement. Unlike in the provincial systems, there were no clear rules guaranteeing benefits to persons meeting certain eligibility criteria. This too represented a flouting of provincial laws of general application. The eligibility of Indians for relief was still left to the judgment of the Agency, but now, the Branch was authorised to make routine use of public funds for the provision of relief. Funding was earmarked by headquarters for the purpose, chargeable to the annual parliamentary appropriation "Welfare of Indians - Operation and Maintenance". While there were further Treasury Board directives on Indian relief, the 30 November 1956 one could be considered to mark the roots of 'Aide sociale' to the Crees.

Changes in 1957 to the *Indian Act* and the *National Housing Act* allowed Indians to apply for assistance from CMHC in the same way as other Canadians. At the same time, Indian Affairs established a housing programme to complement the CMHC programme. In general, banks were unwilling to provide Indians with mortgages on the grounds that their houses, being on reserves, were protected against seizure under the *Indian Act*. Although only Mistissini was technically a reserve, obtaining financial support in northern Québec was next to impossible, which made federal loan guarantees and free housing materials essential to most families. Indian Affairs's Welfare Appropriation was soon assisting 77% of all Indian housing completions nationally.⁶⁰⁸

13.4.3.c. First Moves Towards Integration with Provincial Services

During the ensuing years the federal government adopted a somewhat contradictory set of positions on services to Indians; on the one hand increasing its service levels, while on the other hand arguing that provinces ought to be playing a larger role. Throughout the late 1950s and early 1960s Indian Affairs gradually aligned its services more and more with those provided by provinces. It also ceased to draw funding for Indian programmes from band trust funds, instead using general government revenues, while

not initially attempting to charge costs of on-reserve and remote services to the provinces. However, as programmes were expanded and funding scales approached provincial standards, federal concerns about costs increased. It is perhaps no coincidence, then, that the expansion of federal services was soon followed by an increasingly narrow interpretation of the federal responsibility for services to Indians, and various attempts to involve provincial governments in delivering services to Indians - and paying for them.

In 1958 the Welfare Division took on responsibility for negotiating federal-provincial agreements under which the provinces would take over welfare services to reserve Indians. This reflected a major shift in federal Indian policy. However, at that time, little pressure was put on the provinces to move in this direction.

That pressure eventually followed from another Joint Parliamentary Committee on Indian Affairs in 1959. Although the Department was still struggling with the question of whether provinces should be involved in the administration and funding of Indian welfare programmes, this conference represented an opportunity to initiate federal-provincial negotiations on the issue. Over the next several years, internal discussions resulted in a Cabinet position that the ration system should be abolished and full responsibility for welfare services should be transferred to the provinces. Only one success was ever achieved: a 1959 amendment to Ontario's *General Welfare Assistance Act* allowed 17 bands to administer social assistance according to provincial norms. Indian Affairs funded 80% of the cost, while the bands were expected to come up with the 20% municipal share required in Ontario. Quebec, however, steadfastly refused to get into the business of social services to Indians.

In 1960 Indian Affairs was given authority⁶⁰⁹ to provide welfare services to certain categories of non-Indians living on Indian reserves and to negotiate agreements with provinces to provide provincial welfare services to persons residing on Indian reserves or in Indian communities. A further authority⁶¹⁰ extended the provision of welfare services to categories of non-Indians residing on reserves and generally to provide, on a discretionary basis, child and family services to any resident of an Indian community. To an extent not yet clarified, this seems to have resulted in the occasional, and short-lived, provision of federal social services to non-Indian residents of Cree communities. These measures essentially clarified the understanding that reserves - and non-reserve Indian communities - were federal turf in regards to the provision of social services.

In 1960 only 307 Crees had stable wage employment. By 1961, the national welfare dependency rate on reserves was about 30% of the reserve population and it was growing. Statistics such as these, and the cost curves associated with them, alarmed officials at Indian Affairs Headquarters.

A "Federal Provincial Relations Division" was created within Indian Affairs as a direct consequence of this alarm. Its role was to advance the goal of transferring responsibility for Indian social services to the provinces. The first phase of Canada's plan to offload costs onto the provinces was to get the provinces to agree that provincial welfare standards should apply to Indians. This was achieved during a 1963 Dominion-Provincial Conference on Indian Welfare. The provinces agreed to this principle at a meeting at which there was no mention that this principle might imply a reduction of federal fiscal and administrative responsibility.

By the early 1960s Indian Affairs was running a welfare programme that approximated "average" provincial practice, apart from having slightly lower scales of assistance. In July 1964 the Department was authorised⁶¹¹ to adopt and generally adhere to social assistance standards approximating those of the relevant province.⁶¹² This set it on the path towards running provincial-equivalent welfare and education delivery systems. A Cabinet decision during 1964/65 eliminated the possibility of drawing on band monies to fund relief programmes.

The second Dominion-Provincial conference on Indian welfare occurred in October 1964. An agenda for provincial cost-sharing and provincial delivery on-reserve had been secretly approved, during the spring of 1964, by the Liberal Cabinet as the new direction for federal government policy. The new Government made cost-sharing of all Indian programmes and services its main theme at this second and last Indian welfare conference. Its main thrust was to get the provinces to recognise that federal constitutional jurisdiction over Indians was not inconsistent with the concept of Indians as citizens of the province, to whom the province had the same basic obligations as to other citizens. If they would agree to this, federal officials reasoned, they could not deny having primary financial responsibility. The Department had at last developed a position on the question: "Have the provinces any fiscal responsibility towards Indians?" This question had not been asked previously because provincial involvement had not occurred to anyone in a serious way. The federal answer is worth quoting at length:

The federal Position is that the provinces have responsibility and our arguments in support of this contention are as follows:

- (a) *Provinces have the same basic responsibility to Indians as to other citizens, for Indians are citizens of the Provinces, not legal wards of the government as is popularly believed;*
- (b) *The jurisdiction over Indians vested in the federal government is an exclusive legislative jurisdiction, rather than all-embracing, and is not inconsistent with the concept that the Indian is a citizen of the Province;*
- (c) *Indians, although granted certain tax concessions by federal legislation, in other respects contribute to the general revenue of the Provinces on the same basis as other citizens;*
- (d) *That through their sharing of costs with the federal government in the categorical pensions field [i.e., the 1951 Old Age Allowance, Blind Persons Allowance, and Disabled Person's Allowance], Provinces have recognised some responsibility for Indians;*
- (e) *That some provinces have given recognition to the principle in other fields and extend services to Indians and Indian communities on the same basis as to non-Indians and non-Indian communities;*
- (f) *That to deny any Provincial responsibility is to hold that the Indian is not a citizen of the Province - a position that is inconsistent in most Provinces with the right to vote in Provincial elections, and his obligation to pay provincial licence fees, sales tax and all indirect taxes.⁶¹³*

First, it should be stated that Quebec, like the other provinces, did not subscribe to many, if any, of these federal interpretations. Responsibility for Indians remained purely federal from the provincial perspective.⁶¹⁴ Second, these federal interpretations, which arguably represent a selective rewriting of history, remain the arguments used to justify the federal position that the provinces should be doing it all, on and off reserves. Indian Affairs knew that, if the provinces did not become involved on reserves, it would have no choice but develop a mirror image, parallel delivery system and bear the full costs. The Department knew that the recent decision to adopt provincial rates and conditions for social services, especially, would trap it into high recurrent expenditures.

In fact, having sold the provinces on the idea that Indians should have access to services similar to those of other residents, the Department was now stuck. The provinces would not take over on-reserve administration without guarantees of continued, 100% federal reimbursement. Canada would commit at best to complete reimbursement at the start, with gradual diminution of federal contributions as Indian socio-economic conditions improved. In the interim, both levels of government had accepted the principle of equivalent services, and created an expectation that these would be forthcoming. (What was not generally agreed was that the provinces would deliver these services to Indians - particularly to those on federal land – or that the provinces should begin to assume more of the costs.) Consistent with this principle, a Social Development Directorate was formed in 1964 to act as an on-reserve equivalent to the delivery system in each province.

Spending authority was given in 1965⁶¹⁵ to enter into cost-sharing agreements, substantially in the form of annexed agreements, with the governments of the provinces for the extension of welfare programmes to Indians. The provinces were to bill the Department of National Health and Welfare (who administered the 1956 *Unemployment Assistance Act* etc.) rather than Indian Affairs Branch. This type of arrangement only materialised in a 1965 deal with Ontario. This arrangement was not repeated. This is because the other provinces correctly reasoned that Ontario would find itself in a fiscal trap in which it ended up paying increasing amounts for on-reserve services.

In 1966 a new *Department of Indian Affairs and Northern Development Act (DIAND Act)* linked the administration of Indian affairs and northern affairs, while removing general responsibilities for energy, mines, and resources to a new department. This division within DIAND remains today, as the Indian and Inuit Affairs Programme and the Northern Affairs Programme respectively. There was also a Cabinet decision against legislatively occupying the constitutional field of Indian health and welfare. This was to protect the policy that provincial welfare laws of general application apply to Indians, and therefore the provinces have constitutional fiscal and administrative responsibility. The rationale was that Canada would be admitting fiscal responsibility if it were to pass Indian-specific health or social legislation. This Cabinet decision remains in effect today.

The *Canada Assistance Plan Act* represented the first major offloading event in Indian welfare financing. Enacted in 1966, *Canada Assistance Plan Act* (CAP) was administered by the Department of National Health and Welfare. This Plan shared 50% of the eligible costs incurred by the provinces and municipalities in providing welfare services to persons in need. Components of CAP were general assistance, homes for special care, child welfare (mainly foster homes) and welfare services (in reference to day care, counselling, child welfare services, rehabilitation, community development). The federal government played the role of consultant to the provinces and supported services "having as their object the lessening, removal or prevention of the causes and effects of poverty, child neglect or dependence on public assistance..."²³ Previously Canada had paid most rural and urban Indian welfare costs, but with CAP, the federal government forced the provinces into 50:50 cost-sharing of social programmes to off-reserve Indians. The choice was simple: no cost-sharing for the mainstream population if Indians are not included. However, despite CAP, charge-backs continued to some provinces/municipalities for social assistance to Indians during their first year off-reserve. This included the James Bay Cree communities.

National Health and Welfare also participated in this effort to involve provinces in providing services to Indians. In 1968 National Health and Welfare revised its Indian Health policy to reflect a more limited view of federal responsibility. The new policy stressed a need to force Indians and the provinces to assume fiscal and administrative responsibility for Indian health. It also included a clear statement that Canada had no legal obligation to provide any health services to Indians. Despite this feeling of no legal responsibility, Canada knew that it had the functional responsibility, and so the reach of Medical Services Branch in the Indian regions continued to expand. By 1975 MSB had busy facilities in five Cree communities: Eastmain; Fort George Island; Mistissini (still known as Mistassini); Paint Hills

(Wemindji); and Rupert House (Waskaganish). Another clinic type facility existed at Great Whale River (Whapmagoostui) to serve the local Crees and Inuit.⁷⁵

The only other health and social services development of note in the period just before the signing of the JBNQA was a further reinterpretation of federal responsibilities for Indian health in 1974. Part of the strategy to implement this 1974 Indian Health Policy was dispelling the “myth”, widely held amongst officials, that Indian health services were provided pursuant to federal legal obligations. In 1975, a handbook issued to employees of MSB spelled out on the first page that officials were not to encourage Indians to think an obligation existed:

*In only one of the many treaties can be found any reference to any matter relating to health. This one reference is to be found in Treaty No. 6...nine years after Confederation...Thus, contrary to popular misconception, Canadian Indians do not have any treaty or legal rights to free health services to be provided by the federal government...Events, however, were to force the government to take action in regard to Indian health, largely because there was no other authority in a position to do so. In the growing provinces such health services as did exist were rudimentary and quite inadequate for even the white settlers. Legally, too, only the officers of the Government of Canada had lawful access to reserves or any authority over the Indians so any action necessary had to be taken through them and it was increasingly evident that action had to be taken.*⁶¹⁶

Once again this was not a version of history that was fully endorsed by either the Indians or the provinces. The point is that, during the years that the JBNQA negotiations were beginning, the federal health department became clear that it was in the Indian health business reluctantly - and it wanted out. Seen in this light, Section 14 of the JBNQA (which assigns fiscal and administrative responsibility for existing health programmes to the Quebec government rather than the federal government) was an undreamed-of opportunity. Yet future experience would demonstrate that this was the only time a province would agree to assume general responsibility for health services to group of Indians on federal land.

13.4.4. Colonisation of Nord-du-Quebec and Involvement of Quebec in Cree Well-Being (1945-1975)

The strong federal service presence in the Cree Region was necessitated partially by the slow development and spread of provincial service delivery agencies. Lacking such agencies within a reasonable distance of most of the Cree communities, the purchase of provincial services was difficult or impossible.

The provincial health infrastructure began to develop throughout the 1950s in concert with a rapid burst of government, commercial, and communications infrastructure in the Nord-du-Quebec areas outside of the Cree localities. One of the main triggers occurred in 1947 when Quebec started a gravel road between St-Felicien and Chibougamau (now Highway 167) to carry ore and supplies. By 1949 it reached Kilometre 212 and the HBC started using it to supply Mistassini post. The demise of the canoe brigades, initiated 20 years before, was about complete.

The Chibougoumau expansion had begun in 1934, closed for the period of the War, and re-established in earnest afterwards. Chapais began in the mid 1950s and the bridges were functional between Senneterre and Chapais by 1960 although the road took a few more years to improve. Chibougoumau rapidly became

⁷⁵ The section *Development of Clinic Services* describes this aspect in greater detail.

a strong economic centre of colonial Nord-du-Quebec. From a few cabins in 1951, it grew to 1,262 people in 1956, 4,765 people in 1961, and 10,000 people in the early 1970s. The parish of Chibougamau was established in 1952 and the town was incorporated in 1954. Major mines became operational in 1955 and 1956.

The rudiments of government and commercial services began. Matagami and Joutel were founded in the early 1960s during an upsurge in mining activity. Lebel-sur-Quévillon was founded, as a result of economic diversification, in 1966. Its economic rationale was, and remains, the processing of trees harvested in the southern portion of Nord-du-Quebec into pulp and paper. A northern administrative zone, the James Bay Municipality (JBM), was established in the early 1970s in connection with the James Bay hydro project. The JBM encompasses most of the Crees' traditional territory, and it remains centred on three urban localities: Radisson, Joutel, and Villebois-Val-Paradis-Beaucanton. Its jurisdiction covers these villages and the hamlets of Miquelon and Desmaraisville, but stops at the Cree lands as they are defined under the *JBNQA*.

The first administrative movement of the government of Quebec into the Cree communities seems to have been the replacement of the RCMP by provincial police starting in 1961. Two years later the Direction générale du Nouveau-Québec (DGNQ) was formed. Its mandate included the assumption of provincial responsibility for residents of northern Quebec, in areas where infrastructure was absent or where only federal infrastructure existed. The Cree and Inuit communities were effectively centres of English federal administration. To some, this was a threat in the context of Quebec's growing concern over its territorial integrity. While the DGNQ was particularly entrusted with establishing a presence in the "federal" communities and displacing federal responsibilities, Quebec was still not prepared to assume financial responsibility for these communities.

Before long the DGNQ and the main federal agencies operating in the region began to have conflicts. The DGNQ appeared to be operating a 'hearts and minds' policy of winning over the Aborigines towards eventual provincial administration through an administrative presence. The Crees were unmoved and suspicious, particularly as the DGNQ was seldom prepared to extend provincial services to them or otherwise show monetary benevolence. For the most part, the DGNQ was content to "show the flag" in cosmetic, low-cost ways. The DGNQ's efforts did not alter the fact that the Crees and Inuit were receiving all of their health and social services from federal agencies.

The opening of a military radar station in Great Whale (Whapmagoostui) stimulated the opening of a provincial office and a clinic there around 1970. (A federal clinic at Great Whale, built about 1962, was already serving the Cree and Inuit populations.) In the same year, the Province also opened the Chashasipich hospital, in place of the mission hospital (which had been operating at Fort George since the 1930s). The Chashasipich facility was unique in that a few members of the Fort George band sat on its Board of Directors – marking the first involvement of the Crees in decisions about regional health administration. The Fort George and Great Whale facilities were the only provincial health establishments operating anywhere in the Cree lands.

The establishment of these two facilities should not be taken to suggest a new provincial openness towards Registered Indians' rights, nor a willingness to displace services being offered by Canada. Today's "federal on-reserve / provincial off-reserve" fiscal demarcation, which applies generally in all provinces, arose in the 1960s but did not fully crystallise until the 1980s and 1990s. By about 1970, Quebec was extending some general health, social, and education services to Indians. This was however under a degree of duress. Like the other provinces it was caught in a trap by its acceptance of conditional federal transfers. These had no special provisions for the Indian populations. The result was that, in order to get the funding, Indians off-reserve had to be accorded provincial services. Quebec did, for

instance, allow all Indian women to receive provincial Mother's Allowance at provincial expense. It also allowed Indian children to attend provincial schools, especially in municipalities.

The situation was less generous in remote areas. In 1974 when the *JBNQA* was being negotiated, Canada funded some services in 65 off-reserve Indian communities including 20 in Quebec.⁶¹⁷ Except for Mistissini, this included the Cree communities which were not entirely federal land until made so by the *JBNQA*. Quebec treated remote, federally administered Indian communities like reserves even when the federal land there amounted to only a few dispersed plots. These were all considered federal fiscal responsibility, and although Quebec was willing to offer services delivered by provincial agencies based off-reserve, it expected federal funding for this. Indeed, Indian Affairs and MSB paid for most, if not all, social and medical services respectively. This included the services provided at the Chashasipich Hospital in Fort George, which had funding agreements with MSB. These arrangements also paid Chashasipich Hospital for administering federal clinics for Registered Indians in the Inuit lands, including the federal Great Whale facility.

13.4.5. Section 14 of the JBNQA and its Origins

Meanwhile, the interest of the Government of Quebec in the Cree communities and their environs grew from the realisation, in the early 1960s, that the area held immense hydro-electric potential. The Crees clearly made use of this land and they had not ceded any rights to it. Moreover, at least some of the Cree communities were liable to be significantly affected by major constructions.

With hydro development in mind, in November 1966 the Quebec Privy Council established a commission to study the territorial integrity of Quebec.⁶¹⁸ Amongst the Commission's tasks was to study and report on "the problem posed by Federal properties and territorial rights in Quebec." This was with special regard to federal presence in Indian and Inuit communities. In 1971 this Commission released Volume 4 of its report, entitled *The Indian Domain*. The first conclusion of fifty was that: "By virtue of the general theory of the law and practices of States, it is impossible *a priori* to recognise the existence of prerogatives of public power in favour of the Amerindians of Quebec." However, conclusion No. 16 read: "The 1912 Act imposes on Quebec the obligation to recognize Indian rights over this territory and to obtain their surrender"

However, the report's first of its thirty-three recommendations was that Quebec should take immediate steps to honour its obligations towards the Indians incurred under the 1912, *Quebec Boundaries Extensions Act*. This discharge of obligations was to consist of up-front land compensation and ongoing annuities, whether or not the Indians and Inuit were agreeable. Quebec would then, in theory, seek federal ratification that these responsibilities were discharged, thereby:

annulling any debt of whatever nature, whether individual or collective, incurred by the State of Quebec towards the Indians and the Eskimos...[and] that approaches be made to the federal government urging it to implement as soon as possible the proposals in its White Paper to the effect that jurisdiction over the Indians and Eskimos of Quebec be transferred to the Government of Quebec.

The Commission was especially encouraged that Indian Affairs Minister Jean Chretien's 1969 White paper promised that this transfer of administrative responsibility would be accompanied by transfer of federal funding of existing programmes, augmented as necessary.

The report's favourable view of the 1969 White Paper raised alarm in Indian circles throughout the Province, as the Indians of Quebec Association had already been active for over five years. The Indian protest across the country caused the paper to be withdrawn soon after its introduction, and spurred the establishment of the National Indian Brotherhood, the predecessor of the Assembly of First Nations.

Two months after the *Indian Domain* Report, Premier Bourassa announced the James Bay hydro project. The disinclination of Quebec or Canada to negotiate, and the fear of flooding of hunting territories and loss of way of life brought representatives from the eight Cree communities together for the first time in history. At the point of initial and serious conflict with the Quebec Government (April 1971) the Crees had no common political or administrative entity representing them as a collectivity. With the assistance of the Indians of Quebec Association, the Cree communities agreed to collaborate with the Inuit to fight the hydro project and engaged a young lawyer who succeeded, on 15 December 1973, in obtaining an interlocutory injunction from Justice Malouf based on "prima facie" evidence of Indian rights over the lands occupied by the Crees and Inuit in the pursuit of their traditional activities. Although the injunction was quickly overturned, it forced the Bourassa Government to deal with the Crees.

On 16 August 1974, the Crees formed the Grand Council of the Crees of Quebec (GCCQ) to fill the vacuum resulting from their recent withdrawal from the IQA. Final offers between Crees and Quebec were exchanged in October 1974. After a one-month community consultation, the Agreement-in-Principle (AIP) was signed. This established the parameters for negotiating a full agreement. From January to July 1975, negotiations on a Final Agreement occurred through a complex array of sub-committees, working groups, and task forces. One of these, which included officials of the federal and provincial health departments, concentrated on what eventually became Section 14 of the JBNQA dealing with health and social services.

The Crees were concerned that the services they were getting through the federal clinics were intolerably poor. For example, during the Section 14 negotiations, Cree Grand Chief Billy Diamond wrote in his notes:

- *Nurses try to control the Band Council.*
- *Children sick - 105° F Temp. Still want us to bring child out to Hospital.*
- *Can't send patients.*
- *Nurses said repeatedly – The Council not the Boss.*
- *Doctors don't take the time to finish seeing the patients.*⁶¹⁹

The Crees felt that the contractual services they got from the provincial system - particularly from Montreal General Hospital - were superior to those provided directly by MSB. This, and a desire to have all regional health and social services co-ordinated and administered by one Cree agency, explains why they were prepared to accept a Cree health board within a provincial network.

On 15 October, one year after the signing of the Agreement in Principle, the Cree band councils met in Montreal for a month of intensive negotiations for the Final Agreement. Mid-way through these negotiations, the federal Cabinet authorised the Indian Affairs Minister to instruct his negotiators to signal federal acceptance of key s. 14 aspects to which the Crees had already agreed in principle:

- a) *It is proposed that a Cree Regional Board, operating under the Provincial Act respecting health and social services (1971 L.Q. c.48) be established to administer health and social programmes for the Cree;*

- b) *Funding of the health programme will be by the Province of Quebec and will include benefits previously provided by the Department of National Health and Welfare;*
- c) *Existing federal health facilities in the areas will be transferred to the Province of Quebec by Order-in-Council and used in the provision of health services;*
- d) *The Cree have the option to retain Federal health services until such time as they have accepted full provincial funding of programmes on a progressive basis, of say 4 years.*

On 11 November 1975, following frantic last-minute negotiations, the seven parties who had signed the Agreement in Principle signed the JBNQA. The final stumbling block was a Cree demand for written assurance by federal Indian Affairs Minister Buchannan that federal programmes would continue to apply to the Crees.⁶²⁰ This duly arrived.

Fiscal responsibility for future programme costs seems to have been dismissed as something of a red herring when viewed in the larger picture. In 1975 Canada was vitally interested in how much it would have to pay in cash settlement and the JBNQA would result in diminished programme expenditures, but it did not have a clear sense of the extent of the saving. The DIAND Minister advised his Cabinet colleagues in 1974 that:

*It is impossible to predict with any certainty future financial implications arising out of any James Bay Settlement. It is hoped and anticipated that a carefully managed programme of economic and social development in the James Bay area will result in a reduction of federal expenditures in that area for welfare and economic development in particular. Direct federal welfare expenditures are estimated at approximately \$600,000 per annum and represent about one-half the cash income in the area. Other federal programmes in health and education would continue under the terms of this agreement, especially in relation to reserve areas...The Province feels there are many things in the agreement which will result in a greater degree of involvement of Native people in provincial structures, hopefully leading to less dependency on all levels of government.*⁶²¹

Nonetheless, Section 14 established Quebec as having primary fiscal responsibility for health and social programmes to the Crees. This meant that DNHQ would transfer its facilities in the Cree Region to the relatively new *Ministère des affaires sociale* (MAS), who, in turn, would transfer them to Cree control. The MAS would assume the costs for programmes and services formerly administered by Health Canada, and the Crees would enjoy the same type of services as existed elsewhere in Quebec at provincial expense. To the federal government this was a dream come true: a province taking over administrative and *fiscal* responsibility for a large remote area populated by Indians. Time would prove, however, that the exceptional circumstances that drove this decision would not be repeated in other provinces.

Section 14 does not directly address the fact that most of the *social* programmes that the Crees received in 1975 were delivered by Indian Affairs, at times through an inter-departmental arrangement with DNHQ. Child protection services, and services to the elderly, are examples. Yet it was clear to all concerned that these too would become provincial fiscal responsibility and fall under Cree administrative control. Section 14 also had a clear provision to ensure "the continuation of federal programmes on reserve lands held by the Crees on the same basis as with other Indians."⁶²² In other words, new DNHQ programmes for Indians were supposed to be offered to the Crees, although the Crees contend that over the years they have not benefited from each and every new Aboriginal programme from that department.

Endnotes 13.4 Programmes and Services 1945-1975

⁵⁹¹ The Department of National Health and Welfare (DNHW or NHW) was created on 24 July 1944 by cap. 22,8 of Geo. VI) and became operative on 13 October 1944. Indian health responsibility was taken on effective 1 November pursuant to P.C. 6945.

⁵⁹² Department of National Health and Welfare, 1975. *Medical Services and You*. Ottawa: Medical Services Branch. pp. 4-5.

⁵⁹³ After Helm (1981).

⁵⁹⁴ NAC., RG 10, Vol. 6811, file 470-2-8, pt. 1, Hon. J.A. Glen to All Indian Agents.

⁵⁹⁵ See Moscovitch and Webster (1997).

⁵⁹⁶ The Calorie notation, suggesting war-time rationing concerns, is misleading here. There is nothing to suggest that the 1945 Indian relief scale was based on energy or nutrient considerations. Rather, Calorie notation was simply added to a list of issue items which had remained much the same for years.

⁵⁹⁷ *Debates of the House of Commons*, 1945 pp.1456-7, p. 1460.

⁵⁹⁸ Annual report by the Nurse's Supervisor of Indian agencies in the province of Quebec. Nurse's Supervisor Pauline Laurin to Director of Indian Health Services Dr. P.E. Moore, dated 10 January 1953. p. 19.

⁵⁹⁹ *ibid.* pp. 22-23.

⁶⁰⁰ Canada, 1948. *Minutes of Proceedings and Evidence. Special Committee of the Senate and the House of Commons to Investigate the Indian Act*. Ottawa: King's Printer. p.72.

⁶⁰¹ Canada, 1947. *Minutes of Proceedings and Evidence. Special Committee of the Senate and the House of Commons to Investigate the Indian Act*. Testimony of J.P.B. Ostrander, Inspector, Indian Agencies, Saskatchewan. p.1088.

⁶⁰² *Debates of the House of Commons*, 1950. p.3714.

⁶⁰³ *ibid.*, 1950, p. 3938.

⁶⁰⁴ Canada (1993). The issues touched on were so sensitive that a disclaimer appeared on the paper, to the effect that the views were the author's and not the Department's. This is interesting given that he was a salaried Departmental researcher, and that his unit was tasked with preparing the paper for another Departmental unit.

⁶⁰⁵ *ibid.*, p.61.

⁶⁰⁶ *Annual Report of Indian Affairs Branch*, 1951. p. 60.

⁶⁰⁷ 15 Geo. VI., cap. 29.

⁶⁰⁸ Department of Citizenship and Immigration, 1958 (?). *A Review of Activities 1948-1958 Indian Affairs Branch, Department of Citizenship and Immigration*. p. 16.

⁶⁰⁹ T.B.M. No. 547716, dated 3 March 1960.

⁶¹⁰ T.B.M. No. 547716-1, dated 31 August 1961.

⁶¹¹ T.B.M. No. 627879, dated 16 July 1964.

⁶¹² "Social Assistance and Related Social Development Programs of the Department of Indian Affairs, January 1979"; Treasury Board Minute No. 627879. See Shewell's (1991) "The Use of Social Assistance for Employment Creation on Indian Reserves" for a detailed analysis and history of the 1964 Treasury Board Minute). See also the two-page details of request to Treasury Board, submitted for the meeting of 16 July 1964.

23. Memoranda, Federal-Provincial Conference on Indian Affairs, 29-30 October 1964, "Financing, Including Consideration of the Scope and Extent of Provincial Responsibilities," pp. 1-2.

⁶¹⁴ Some provinces, such as Ontario, were willing to discuss some provincial delivery involvement in social services, but with the expectation that this would be on behalf of the federal government and with full cost-recovery.

⁶¹⁵ T.B.M. No. 645190, dated 9 September 1965.

⁶¹⁶ Canada (1975a), pp. 1-2.

⁶¹⁷ For a picture of federal-provincial fiscal relations for Indians at the time see: "Remarks to Federal-Provincial Conference, Indian Affairs Item - Hon. Guy Favreau, Minister of Citizenship and Immigration", n.d., PARC file 1/1 1-2-8 Vol. 4, inclusive dates 1968 to 1971, title: Administration - Federal-Provincial Conferences - General. Also see "Perceptions and Positions on Fiscal Responsibility for First Nations Social Assistance: Lessons Learned From the Historical Record" (Webster, 1995).

⁶¹⁸ Quebec P.C. 2209, dated 24 November 1966.

⁶¹⁹ Handwritten notebook of Billy Diamond, entries dated 15 May 1975 to 6 June 1975. Quotation from notes made on 29 May.

⁶²⁰ "With respect to Clause 7 of the said Agreement in Principle, Canada undertakes, in particular, that programs and funding for education, housing, and health, will continue to apply to the James Bay Crees and Inuit of Quebec without discrimination to the said Crees and Inuit because of any rights, benefits, or privileges arising from the Final Agreement, all of the foregoing subject to general Parliamentary approval of such programs or funding and the criteria established from time to time for the application of such programs." Judd Buchannan, Minister of Indian Affairs and Northern Development, to Chief Billy Diamond. 15 November 1975.

⁶²¹ Memorandum to Cabinet from Minister of Indian Affairs and Northern Development Judd Buchannan, "Federal Reaction to Proposed James Bay Land Claims Settlement." Cabinet Document 594-74 dated 28 October 1974, p. 8.

⁶²² Memorandum to Cabinet from Minister of Indian Affairs and Northern Development Judd Buchannan, "Federal Reaction to Proposed James Bay Land Claims Settlement." Cabinet Document 594-74 dated 28 October 1974, p. 5.

13.5. Programmes and Services in 1975

Contemporary reports from Medical Services Branch indicate that, in 1975, Cree health status was worse than that of many Indian groups in Canada, and below that of Canadians and Quebecers generally. The James Bay Region had a disproportionate number of accidents, and infant mortality continued to be a special concern. (The Quebec Region of MSB considered infant mortality its "top priority" in 1975, as it had for several years previously). The existing public health challenges were accentuated by poor housing and by a poor socio-sanitary situation. The rate of infections was very high and these occupied much of the time of the available personnel. For instance, as late as 1978, 22.1% of Cree children admitted to the federal clinics had otitis media. Tuberculosis remained a significant health threat.

It was felt - but not yet systematically documented - that health and social problems were worsening owing to the accumulating direct and indirect effects of resource development. Within a few years it would become clear that substantial investments in programme delivery, and in sanitary infrastructure, were unavoidable. There is little evidence to suggest, however, that the magnitude of this need was appreciated in 1975.

The signing of the JBNQA in 1975 began a five-year process, starting in 1976, of fusing the federal and provincial facilities in the region into one entity under Cree control. The official implementation period was five years, but this took effect only upon the enactment of the Agreement's enabling legislation. To the federal government, at least, the end date for completing the process of fusion and transfer was 31 March 1981. The federal and provincial systems were different in fundamental ways. This made the establishment of common control and policies a complicated undertaking, made more difficult by gross deficiencies in existing services which soon made themselves apparent. Before examining the events of the implementation period, it is appropriate to consider the federal and provincial services that were fused and brought under Cree control.

13.5.1. Federal Programmes and Services in 1975

13.5.1.a. Arrangements for Delivery of Social Services

In 1975, DNHW and Indian Affairs delivered all health and social services in the Cree Region, or arranged for them to be provided under contract. There was some overlap between the two departments in responsibility for environmental health services like water purification and waste disposal. By the 1970s they delivered a range of arguably complementary environmental health services. Over the next few years the increasingly unsatisfactory condition of these socio-sanitary services would have a profound impact upon regional health services.

The federal government does not appear to have directly administered any social services in the region although various local committees and clubs were founded at Indian Affairs' urging. Instead, Indian Affairs contracted with provincial agencies to serve the region. Social workers from Indian Affairs made visits to the region during the 1950s and 1960s, but these dwindled or stopped entirely once the provincial contracts were in place. Chibougamau Hospital and Senneterre CLSC provided limited social services under funding agreements with Indian Affairs.⁷⁶ Social workers from these contracted establishments visited the Cree communities monthly at most, and sometimes came only when a problem was reported.

⁷⁶ As was customary, this was done through "purchase of service" agreements rather than as charge-backs for individual cases. In part because of this, Indian Affairs Headquarters did not receive case-specific data, which today would be useful in examining impacts of socio-economic changes on the social caseloads.

There were also some contractual arrangements to provide foster care in places like Chibougamau and Val d'Or.

The federal guidelines made no attempt to replicate the full range of social services available through provincial establishments elsewhere in Quebec. Canada delivered, or paid for, only a bare minimum, and some federal services existed only on paper.⁷⁷ Thus, the travelling social workers concerned themselves principally with youth protection. This was also true of the one provincial social worker who began practicing out of Chashasipich Hospital about 1975. (This worker probably would not have arrived had it not been for her spouse who also worked at the hospital).

13.5.1.b. Special Case of Social Assistance Administration

The provincial government in 1975 considered Aide sociale (i.e., social assistance) a social programme, but not one to be administered through its health and social services network. Today, it is administered by the *Ministère de l'Emploi et de la Solidarité sociale*.

In contrast, Indian Affairs delivered social assistance through its social programme infrastructure, and it continues to do so today. Initially, Indian Affairs' social workers had the lead role in determining who received this assistance. Until the early 1970s, however, it is not clear who supervised the actual issuing of payments. The administration appears to have been done by some long-distance arrangement with the assistance of some local representative – probably the band manager or HBC factor, as was the case in other remote Indian communities. By 1975, the communities of Eastmain, Fort George, Mistissini, and Waswanipi were definitely administering the Indian Affairs social assistance programme under recent changes that allowed for local delivery.

It is possible that the role of Indian Affairs – rather than Health and Welfare – in the delivery of social services was not fully appreciated by all concerned when the JBNQA was negotiated. Perhaps as a consequence, responsibility for the administration of social assistance did not pass to the Cree Health Board even though it was, technically, a federal social programme extant in 1975. Section 14 of the JBNQA was unclear about the transfer of social programme responsibilities of Indian Affairs – and of the limited health programmes which Indian Affairs administered – although it did clearly transfer all of the “health” responsibilities of National Health and Welfare. Indian Affairs therefore continued to deliver social assistance, at first directly, and later through band-run programmes.

Over time, all but two Cree communities (Mistissini and Waswanipi) exercised their *JBNQA* option to have the *Ministère de l'Emploi et de la Solidarité sociale* take over the administration of social assistance. This had the unforeseen consequence of eliminating certain “bonus” features of the Indian Affairs' version of the social assistance programme. The most notable of these discretionary measures was the Work Opportunities Programme. This allowed social assistance to be reprofiled as wage subsidies, thereby providing minimum wage employment and avoiding some of the stigma attached to welfare dependency. These matters of social assistance administration concern regional health services in two ways. First, an opportunity for centralised management of all social services was lost, and the omission of this key programme from CBHSSJB jurisdiction makes the implementation of a regional holistic service plan more difficult to accomplish. Second, we see that at least some social benefits have fallen

⁷⁷ For example, in 1975 if not earlier, a Mental Health Programme was on the list of services offered through the federal clinics. However, there were no dedicated staff in the region, and no indications of visits by psychologists or counsellors have been found.

through the cracks with the passage of time. The impacts of both of these things on health status and health services are impossible to estimate.

13.5.1.c. Arrangements for Delivery of Health Services

Like social services, some health services were provided through contracts with provincial agencies. However, the situation differed for health services in that MSB did have staff on the ground to directly provide some services through nursing stations and health centres in the Cree Region. There are extensive and clear records of these federal health facilities in 1975. These were all minimal facilities. Paint Hills (Wemindji) and Rupert House (Waskaganish) each had a nursing station. The Waswanipi people alone had a more basic health station. The federal health facility at Fort George was designated a health centre (centre sanitaire) along the same lines as the MSB installations at Eastmain and Mistassini. These health centres focused on public health services, and were run by nurses.

The clinic situation at Great Whale was more complex. Although the locale had had a permanent trading post since the 1890s, it was not until the mid-1950s that the Crees and Inuit in the vicinity of Great Whale started to settle in a permanent sense. Job opportunities associated with a construction of the military radar station, coupled with federal offers of rations, housing material, and permanent jobs (which mostly did not materialise), led to settlement and then to the establishment of federal and provincial facilities. The federal Great Whale Nursing Station was transferred to the Inuit - not the Crees - under Section 15 of the JBNQA. The Cree Health Board's records are unclear about the circumstances surrounding the installation of a Cree administrative presence in Whapmagoostui, as the Cree part of the Fort George locality became known. CBHSSJB employees who were present in these early years believe that the CBHSSJB received the provincial Poste-de-la-Baleine nursing station. Later, the inadvisability of two separate clinics in the same community was realised, and the Cree and Inuit Boards cooperated on the construction of a joint facility.

Towards the end of the federal administrative period, Chashasipich Hospital was managing, under contract with MSB, the administration of health services in certain coastal Inuit communities. Although Chashasipich Hospital also had service contracts for support to the Cree communities of Mistissini, Rupert House, Paint Hills, and Great Whale, it appears that these contracts were entered into after the JBNQA was signed.⁶²³ This suggests that Moose Factory Hospital was the prime hospital for coastal Cree Region communities, other than Fort George, until after 1975. The signing of the Agreement may, or may not, have been a reason for the designation of Chashasipich Hospital as the main service point. An internal report by MSB, dated 1977, observed the challenges imposed by Moose Factory's comparative isolation, and suggested that the state of Chashasipich Hospital's new main building was excellent.⁶²⁴

The support offered by Chashasipich Hospital to the Inuit clinics included providing the personnel to work in the clinics as well as offering hospital services in Fort George. This facility had a capacity for minor surgery and – most of the time anyway – a surgical nursing team to make use of it. A surgeon was not always present on a regular basis, and it is known that sometimes one would be flown in according to a schedule. Despite the surgical capacity at Chashasipich Hospital, and especially towards the end of federal administration when scheduled air routes were well developed, coastal patients needing hospitalisation were often flown to the 52-bed Moose Factory Hospital in Ontario.⁷⁸ The federal Fort George health centre continued to dispense preventative services to local Crees, particularly immunisations and parental and newborn counselling.

⁷⁸ The Moose Factory hospital had a resident surgical team, an obstetrics capability, and 32 nurses. It was frequently more expeditious to transfer Cree patients there than to the hospitals at Chibougamau and Val d'Or. It was also possible to transport patients to Moose Factory by boat, but this practice declined rapidly as air connections improved.

13.5.1.d. Health Programmes Offered by MSB in 1975

In 1975 the programme orientation of Quebec Region, MSB, was a practical manifestation of the overarching Indian Health Policy of November 1974.⁶²⁵ There were three classes of programmes whose names reflected the terminology then in general use in Quebec:

- Clinical Medicine Programme (Programme de médecine clinique).
- Community Health Programme (Programme de médecine communautaire).
- Participation of Indians in the Health System (Participation des Indiens dans le système de santé).

In Quebec Region in 1975, the delivery of the responsibilities under these three classes of programmes was organised as follows. These programme descriptions were attached as annexes to the service-delivery agreements that MSB negotiated with hospitals such as those at Chashasipich and Chibougamau.

(Clinical Medicine Programme. Under this category were grouped treatment and related follow-up activities: acute treatment, observation, diagnosis, specialist visits and transportation, referrals to hospitals, dentist visits, and optometrist visits

Community Health Programme (Programme de médecine communautaire). Preventative health activities, health promotion, disease control, and related activities fell under this category. Specifically, this class of programmes included:

- Dental Health Programme: The objective was to offer Indians the same level of preventative and curative dental care as available to other Canadians.⁷⁹ All of the Cree Region's clinics had a room where a visiting dentist or dental hygienist could practise his/her trade.
- Maternal and Child Health Programme: This programme sought to reduce the high incidences of infant mortality and childhood disorders on reserves. The main elements were: (1) pre-natal and post-natal consultations; (2) paediatric consultations and immunisations; (3) dental inspections and dental hygiene education in schools; and (4) provision of essential first-line maternal health services on reserves, and of obstetric and paediatric support services mainly in federal hospitals (e.g., Moose Factory).
- Environmental Health Programme: This programme, dating to about 1950, was concerned with clean living conditions, safe disposal of wastewater, safe disposal of wastes generally, and inspection of food preparation. This activity was co-ordinated with DIAND, which was responsible for socio-sanitary infrastructure including waste disposal and water treatment.
- Health Education Programme: This health-promotion programme, established in 1950, had a centrally based, 18-member team whose members travelled to communities across Quebec. The goal was to educate Indians and their teachers, principally in local schools,

⁷⁹ In the 1980s, this activity was largely wrapped into the new Non-Insured Health Benefits programme instituted by DNHW.

about personal health and hygiene. Periodic physical inspections were carried out, usually in the school, of the eyes, throat, and ears. The purpose of these activities was to reduce the spread of communicable diseases, such as gastro-enteritis, tuberculosis, influenza, gonorrhoea, and eye infections.

- **Nutrition Programme:** The objective was to educate Indians to improve their eating habits. In 1974, the office known as Nutrition Canada identified the general nutrition deficiencies amongst Indians and suggested suitable nutrition guidelines. The main nutrition problems concerned pregnant mothers and young children. Junk foods including soft drinks were now becoming commonplace on reserves. There was now greater reliance on processed foods and less on wild foods. High incidences of infant caries, dental disease, iron deficiency, vitamin C deficiency and so on were being observed. A central programme cadre developed training aids, posters, and handouts for use by the clinics. Training of local staff was organised. Occasionally nutritionists visited the communities.
- **Mental Health Programme:** this programme focused on alcohol and drug abuse, suicide prevention, accident prevention, and child abuse (the latter in collaboration with Indian Affairs or provincial authorities).
- **Communicable Diseases Programme:** This highly centralised programme provided vaccinations against the more serious threats (e.g., measles and tuberculosis in children) and occasional vaccinations as needed when risk was elevated (e.g., influenza vaccinations for adults). Tuberculosis control received special emphasis. There were strict guidelines, and strict enforcement (through *Indian Act* powers), respecting compulsory testing, acceptance of prophylaxis when diagnosed, and acceptance of long-term hospitalisation when needed.
- **Chronic Diseases Programme:** The focus was on ensuring long-term hospitalisation for elderly persons in loss of autonomy or otherwise chronically afflicted. The regional office considered frequent home visits essential, but the clinic records indicate that such visits seldom if ever occurred in the Cree communities. (Note that the “Care of Dependant Adults” and “Rehabilitation of Adults” programmes, of Indian Affairs, had primary responsibility for arranging for and supervising chronic care.)

In addition to these programmes available in 1975, two further programmes were introduced shortly after the signing of the JBNQA:

- **Environmental Contaminants Programme:** This was established in 1976 as a direct result of recent research into environmental contamination, particularly new research into methyl mercury in northern environments. The James Bay mercury situation was the catalyst for this programme.
- **National Native Alcohol and Drug Abuse Programme (NNADAP):** This drug and alcohol programme was approved in January 1975, but it was only beginning to operate when the JBNQA was signed. It represented an expansion of the alcohol and drug services that had formerly been offered under the Mental Health rubric.

Participation of Indians in the Health System.

This third element of MSB's 1974 Indian Health Policy was less a programme than a policy to involve Indians to a greater extent in local health delivery. Apart from Cree participation on the Board of Chashasipich Hospital – which was provincial – Cree participation in the health and social services was almost non-existent in 1975. It has not been possible to identify any of the nurses as being Cree. There were no Cree doctors and apparently no Cree health administrators. This policy included: encouraging the formation and operation of local health committees; regular liaison with band councils; and hiring and training more Indians to work mainly in community clinics.

It is under this latter heading that the familiar Community Health Representative (CHR) Programme would fall. MSB introduced this programme nationally about 1972 and it appears that at least several Cree CHRs were working in the five Cree Region clinics by 1975. However, they do not appear to have been generally known as 'CHRs' but rather as 'interpreters'. CHRs were intended as interpreters but also as nurse-assistants who could do certain health tasks under supervision; e.g., maternal health counselling, health promotion generally, and patient preparation. They were also meant as the link between the local band and the nursing station. The CHR was considered a substitute for a fully trained Aboriginal nurse. It had proven most difficult to recruit and retain Aboriginal nurses and many of the MSB nurses were imported from areas as far away as the United Kingdom.

Although the hiring of CHRs was a first step in involving residents, none of the Cree bands had any role in direct health care delivery. This was before band management of facilities anywhere in Canada was ever considered. In fact, the first band delivery of any programmes started experimentally in 1975 with the introduction of the Contribution Arrangement funding agreement for local administration of some of Indian Affairs' responsibilities.

13.5.2. Provincial Programmes and Services in 1975

In 1975 Quebec's system of health programmes and services was highly distinctive. What little of the Provincial system existed in the Cree Region did not merge readily, or seamlessly, with the inherited aspects of the federal system. The federal system was decades old. It had entrenched policies and unwritten ways of doing business. The Provincial system was very recent and was not yet completely implemented across the Province. An understanding of the "new" provincial regime will aid in understanding the eventual clash in administrative cultures and operational modalities.

It was post-War federal legislation that accelerated Quebec's transition towards modern health and social administration. The federal *Unemployment Assistance Act* (1956) changed the face of mainstream social assistance by introducing federal cost-sharing into a hitherto exclusively provincial field: assistance to unemployed persons ineligible for unemployment insurance. The Department of National Health and Welfare reimbursed the provinces 50% for eligible welfare costs. The *Unemployment Assistance Act* stimulated the establishment of provincial welfare legislation and regulations. Previously the provinces had scant legislation governing relief to the unemployed employables. This responsibility was, by and large, left to the municipalities as was most evident in Quebec.

The 1956 *Unemployment Assistance* legislation also caused the provinces to adopt scales of assistance, which, while not identical in dollar value between provinces, were comparable in coverage. Moreover, the administrative requirements and federal cash share prompted even the poorer provinces – such as Quebec – to adopt coherent, provincially-co-ordinated social assistance systems. The new provincial

social assistance programmes incorporated social work principles for needs-testing and general administration. On 1 July 1959, Quebec signed an *Unemployment Assistance Act* agreement with Canada. On 11 May 1960 the financial contribution of municipalities was abolished except for services to normal children admitted to institutions and hospitalised indigents. Further pushes towards public administration of social programmes followed. The *Canada Pension Plan Act* of 1965 stimulated the establishment of the provincially administered Quebec Pension Plan. A federal *Canada Assistance Plan Act* (1965) compelled all the provinces to adhere to additional administrative principles in exchange for the federal contribution.

The modernisation of Quebec's medical services took a longer and somewhat rockier road. Changing Quebec's deeply entrenched municipal-benevolent delivery system required the construction of an expensive, complex, provincially run infrastructure largely from scratch. Movement in this direction was aided by a growing realisation that the old system was unable to properly address Quebec's disproportionately inferior health and social conditions. An important provincial commission observed as late as 1963:

*The average state of health of Quebec's population is inferior, on the whole, to that of residents of other provinces. Many families have several children among whom we often find a mentally deficient, an epileptic or a cripple. Moreover, sons of poor families have to leave school at age 13 or 14 to do hard work on the farm, in lumber camps or in factories, thereby ruining their health after a few years. So we find a very large number of persons unfit for certain types of work. Others are totally disabled.*⁶²⁶

A first big step occurred following the predecessor of today's Canada Health Act⁶²⁷, the federal Hospital Insurance and Diagnostic Services Act of 1957. This Act provided contributions averaging 50% provided rules were followed. Insured outpatient services had to be comprehensive according to a definition. Insured inpatient services had to include: accommodation, meals, nursing services, diagnostic procedures, the use of operating theatres, most pharmaceuticals and medical supplies, anaesthesia, physiotherapy and radiotherapy. The expectation of public administration was particularly influential in transforming Quebec's health and social infrastructure from one based mainly on municipalities and benevolent societies, to one largely public-administered under a strong department of health and social services.

Quebec's participation in the new federal plan brought about the provincial *Hospital Insurance Act*. Effective 1 January 1961 this eliminated municipal contributions towards hospitalisation. By then, all ten provinces and both territories had in place public insurance plans offering comprehensive coverage for in-hospital care. As the terms of receiving federal funding did not allow for separate arrangements for hospital services to Indians, Quebec and the other provinces assumed responsibility for hospital services for Indians within their boundaries. It was understood, but not written, that all Indians had to be registered. Their coverage came into effect the moment they required access in an off-reserve provincial facility.

The federal *Hospital Insurance Act* did not, however, cover the costs of physicians' services outside of hospitals. In 1962, Saskatchewan set the precedent by legislating coverage for these services, within Saskatchewan's boundaries. This became a model for the federal *Medical Care Act* of 1966, which took effect on 1 July 1968. On 1 November 1970, Quebec entered the national cost-shared medicare system. Registration of eligible residents began on a compulsory basis. By 1972 all twelve provincial and territorial medicare plans included physicians' services. More than any other event, the November 1970 agreement marked the beginnings of the familiar RAMQ (Régie de l'assurance-maladie du Québec - Québec Health Insurance Board) system for reimbursing physicians in provincial employ or private practice. Participation in the federal scheme was also a last straw leading to the conversion of the Catholic Mission Hospital at Fort George, in 1970, into a public institution with provincial core funding.

Initially the movement in Quebec towards a publicly run health and social system, supported by provincial taxes with federal contributions, was gradual. The greatest turning point in health and social organisation occurred in 1972 when the implementation of Quebec's Bill 65⁶²⁸ commenced in earnest. Bill 65 profoundly changed the nature of health and social administration by integrating services into public-administered delivery and governance units, all under the supervision of a powerful Minister of Health and Social Services.

The main feature of the system was the Local Community Service Centre (or CLSC in French). The CLSCs were set up each with a board of 12 local residents and health personnel as the first line of service delivery. The emphasis was upon preventative and supportive health and social services. Referrals were made as needed to other units in the system (social service centres, reception centres, and hospital centres). The geographic zone of responsibility for each CLSC was intended to ensure a maximum travelling time of 30 minutes to gain access to front-line services. Urban CLSCs were to serve a population of 30,000 and rural CLSCs were to serve a minimum of 10,000. The Cree Region met only one half of the 'rural' population requirements and the 30 minutes access time was a distant goal which would only be approached - regarding clinic services at least - when all of the Cree communities received a health station. About 30 of 70 planned CLSCs were operating by 1975.

The other delivery elements of the new system were:

<u>Hospital Centre:</u>	The referral point for diagnosis, treatment, and rehabilitation. Essentially, they were the former acute care hospitals with new outpatient and community responsibilities. They were associated with the CLSCs through shared board membership and service contracts.
<u>Social Services Centre:</u>	The CLSC's referral point which addressed the more complex social services needs. Twelve such centres were intended to replace 54 agencies of different types. They were associated with CLSCs in the manner of hospital centres.
<u>Reception Centre:</u>	There were two classes of these, consisting of centres for the elderly and for children, respectively. They operated on referral from other elements of the system.

Twelve regional 'health and social service councils' (i.e., "boards") were initially established in order to co-ordinate this system. Their boards had 24 members consisting of local residents and representatives of the constituent delivery agencies.

The 1972 provincial legislative reforms under which the CBHSSJB was and remains organised, were meant to put most Quebecers within 30 minutes of a CLSC and one hour of a hospital centre. Chibougamau Hospital (1959) and Chashasipich Hospital were for many years the only major health installations in Quebec's far north. A massive building programme, accelerated by the influx of southern hydro workers, soon resulted in a network of major health installations in the vicinity of the Cree Region and mostly within the JBNQA settlement area:

Significant Provincial Health Facilities in Nord-du-Quebec and their Opening Dates ⁶²⁹		
Facility	Duration	Remarks
Radisson Health Centre	1996 opened	Successor la Grande Hospital Centre.
La Grande Hospital Centre (Radisson)	1973 opened 1996 closed	Responsible for Baie James area. Served a hydro camp.
CLSC des Grands Bois (Chapais)	1974 opened 1996 closed	Responsible for Chibougamau-Chapais area.
Hopital Chibougamau Lte	1959 incorporated 1996 restructured	Responsible for Chibougamau-Chapais.
Centre de santé Isle-Dieu	1983 opened	
Centre Hospitalier de Val d'Or	1974 opened	Abitibi-Temiscamingue region (08).
Centre Hospitalier la Grande Riviere (Caniapiscau)	1979 opened 1983 closed	Served a hydro camp.
Centre Hospitalier la Grande Riviere (Laforge 1)	1991 opened 1994 closed	Served a hydro camp.
Centre Hospitalier la Grande Riviere (La Grande 4)	1979 opened 1987 closed	Served a hydro camp.
Point de service de Matagami (Joutel)	1982 opened	

Because Canada was reluctant to mirror this investment in the Cree Region, gross disparities in access to services developed during the early 1970s. These persisted for over a decade and were substantially addressed only following the withdrawal of federal services and under provincial funding.

Section 14 of the JBNQA specifically referenced the new legislation governing the re-organisation of provincial health and social services. It also solved the matter of how the Crees would be guaranteed representation on their regional board. The challenge in the Cree Region would be twofold:

- to place the responsibilities for the above classes of establishments within a single CBHSSJB; and
- to collect these responsibilities into a single administrative locus given the fact that little regional infrastructure existed up to that point, and what did exist was federal and thus somewhat alien in administrative character.

Endnotes 13.5. Programmes and Services 1975

⁶²⁵ Detailed MSB programme guidelines are contained in Canada (1974), “Policy of the Federal Government Concerning Indian Health Services.”

⁶²⁶ *Report of the Study Committee on Public Assistance* (1963). p. 60.

⁶²⁷ Wanting to discourage extra billing by physicians, and also hospital user charges, the *Canada Health Act* (1984) provides for automatic dollar-for-dollar penalties when any province were found to allow such extra charges for insured health services.

⁶²⁸ Bill 65, *An Act to Organise Health and Social Services*, 2nd Session 29th Legislature, 1971.

⁶²⁹ Compiled from “Répertoire des Établissements,” at <http://www.MSSSQ.gouv.qc.ca/reseau/etablissements.html>. This list might not be complete.

13.6. Programmes and Services After 1975

The course of programmes and services development in the Cree Region, since 1975, has been heavily influenced by the first few defining years of the Cree Health Board's existence. The infrastructure and programmes that were inherited, and also installed, during these formative years played an important role in addressing the social and health impacts of rapidly changing economic circumstances. Conversely, omissions and misjudgements during the early years created administrative challenges and lost opportunities, which in some cases are not yet fully.

The most defining years were the five-year implementation period, created by the JBNQA, during which the CBHSSJB would be formed and become fully operational. The implementation period was to commence in 1976 and end in 1981. However, the CBHSSJB itself was legally created in 1978 rather than immediately as the Crees had anticipated. The transfers of facilities and related programmes was not complete until 1981, and even then certain core regional functions remained in the hands of outside delivery agencies for many years. A comprehensive regional system of programmes and services, analogous to what was available in mainstream Quebec, would take another two decades to develop.

This delayed schedule, coupled with other pressures such as inexperience, funding constraints, the difficulties of fusing federal and provincial administrative modalities, and an escalating demand for services, set the CBHSSJB off on the wrong foot and headed it towards the trusteeship which occurred in 1980.

13.6.1. Administrative History

13.6.1.a. 1977-1978: The CBHSSJB Starts off on the Wrong Foot

Early Days

Until the CBHSSJB was a functioning legal entity with facilities to administer, the Grand Council was the Cree legal entity that Canada and Quebec dealt with when they needed agreement on matters such as health delivery contracts. For example, the GCCQ gave its consent in 1977 to the provision of services to Mistissini residents by Chibougamau Hospital. Even before that, the Grand Council was actually involved in delivering social services to Crees. For a short period it delivered the National Native Alcohol and Drug Abuse Programme (NNADAP). This MSB programme was established in 1975 and was one that the federal government would continue to fund.

The Indians of Quebec Association (IQA), from whom the Crees had already distanced themselves, were demanding loudly that all NNADAP funds for Quebec Indians be disbursed through the IQA. The Minister, and the Crees, would not accept this. A regional advisory board was created to advise MSB about various issues, including the merits of NNADAP project proposals. The Crees had their own administrative issues to deal with, so they wanted a simple arrangement under which the GCCQ would deliver the Cree share of the regional programme until either the CBHSSJB or the Cree bands were in a position to take over. This was readily agreed to by MSB. The GCCQ then operated the programme until the CBHSSJB was in a position to assume responsibility in 1978.

Meanwhile, the Crees grew increasingly upset over what they considered undue delays by the Government of Quebec in creating a Cree Health Board. In 1976 the Crees unilaterally created a

“provisional” board. Without legal powers and funding from the MAS, this unofficial entity came into immediate conflict with the Board of Directors of Chashasipich Hospital.

The resulting friction precipitated a provincial decree on 19 April 1977 which created the CBHSSJB as a public body with a small implementation budget, although not yet with any administrative responsibilities. The idea seems to have been to form a nucleus of Cree expertise and to prepare for the take-over of existing facilities. Between then and the legal creation of the CBHSSJB a year later, some planning did occur, although there was far less agreement between the stakeholders on major issues than was to be desired. Additionally, external pressures and complexities mounted during the three years between the signing of the JBNQA and the creation of the CBHSSJB. These conspired to make it impossible for the CBHSSJB to succeed when it formally took on service delivery responsibilities.

Establishing the CBHSSJB’s Geographic Boundaries

On 20 April 1978, one year after the CBHSSJB was given recognition as a public body and a week after the appointment of Inquirer / Administrator Naud, another decree⁶³⁰ established the CBHSSJB’s geographic boundaries. This set out a metes and bounds description for a Health and Social Services Region 10b to be administered by the CBHSSJB. This area included responsibility for Nemaska, which at the time was an abandoned village, although the JBNQA contained provisions for it to be re-established. The same decree authorised the first officially recognised Cree administrative board of 14 directors. The CBHSSJB was to be the only corporation authorised to maintain all of the categories of public establishments listed in the legislation governing health services organisation in Quebec. On the same date, the provincial Chashasipich Hospital would come under CBHSSJB control.

This decree, and the legislation creating the Cree and the Inuit health boards, created a division of the JBNQA settlement area into three health and social services zones:

- Region 10a (Kativik Health Council)
- Region 10b (CBHSSJB)
- Region 10 (Nord-du-Quebec)

For clarity, in the mid-1990s the numbering was re-organised but the boundaries were retained:

- Region 17 (Nunavik)
- Region 18 (CBHSSJB)
- Region 10 (Nord-du-Quebec)

Section 14.0.5 of the JBNQA states that the jurisdiction of the CBHSSJB is limited to Categories 1A, 1B, and 2 lands. Region 10, whose numeric designation has not changed, corresponds to the Radissonie (Baie James) area. This includes the colonial communities of Chapais, Chibougamau, Lebel-sur-Quévillon, Matagami, Radisson, Valcanton, Villebois, Miquelon and Desmaraisville. In this way, the Cree Region 10b (now 18) was established as eight jurisdictional islands, each centred about a Cree community, with Region 10 filling the areas between the communities. To this was added Ouje-Bougoumou, the ninth island under CBHSSJB jurisdiction when it was built in the mid 1990s.

These 1978 boundaries remain the legal boundaries in force. The metes and bounds descriptions generally match the land definitions in the *JBNQA*, although not always exactly. In any event the legal boundaries are not always practical for service delivery, and the CBHSSJB has felt compelled to occupy some of the intervening void between the islands of Cree land. Often the Cree Board has been the only

establishment in a position to provide services in these isolated areas of bush. The CBHSSJB continues to provide bush medivacs, bush kits for Crees camping or living on the land, and ambulance services when accidents happen within reach of the Cree communities. Sometimes this is done by formal agreement with Region 10 and other times by unwritten understanding.

Establishing the Mandate of the CBHSSJB

Despite the decree of April 1978 which legally created the CBHSSJB and its zone of jurisdiction, the Crees did not feel that the official CBHSSJB was properly constituted and mandated as per the obligations of the *JBNQA*. A bill to create a Cree health and social administration entity (Bill 10 - *An Act to Amend the Act Respecting Health Services and Social Services for Cree and Inuit Native Persons*) had been introduced nearly half a year earlier - in November 1977 – to fulfil requirements in Section 14 of the *JBNQA*. Bill 10 established what the Crees feel is a limited “health and social services council” rather than the comprehensive, integrated Cree Board of Health and Social Services contemplated in the *JBNQA*. They feel that a further violation of their rights in this regard was repeated in R.S.Q. c. S-5 when Bill 10 became law, and repeated again in the decree that set out the Board’s jurisdiction.⁶³¹

The law and the decrees which established the CBHSSJB collapsed the complex multiple board structure that Quebec law stipulated for the different establishments elsewhere in Quebec into a single entity for the Cree Region. This doubled as regional board and a hospital board. However, grey areas in the scope of the programme responsibilities of the CBHSSJB remained until clarified by letters patent - a licence to operate as an establishment - issued in 1982. In particular, the CLSC role was not spelled out although such a role was assumed from the outset. Permission to operate as a regional social services centre and a reception centre was absent until 1982, even though the CBHSSJB had some involvement in social services delivery from early on. A Social Service Centre was created by decree in January 1979,⁶³² but until the letters patent it was neither fully functional nor fully funded as an operating centre. Thus, the CBHSSJB began delivering some services without all of the necessary legal or empowerment, and without the full budgets associated with the activities.

The month of April 1978 was a tumultuous one with various health sector developments. That month, *JBNQA* Complimentary Agreement #4 (Chisasibi Agreement) was signed. This amended the *JBNQA* to provide for the relocation of Fort George to Chisasibi. This had a direct impact on the services provided by the Cree Health Board and funded by Quebec. In particular, the mission hospital at Fort George would necessarily be abandoned and its responsibilities transferred to Chisasibi Hospital Centre on the mainland side of the new village of Chisasibi. The federal health centre at Fort George would also close and its responsibilities be taken over by a new Chisasibi Hospital Centre on the mainland. This was subsequently authorised by decree in July 1979.⁶³³

Clarifying Responsibilities and Setting up the CBHSSJB

In late 1977, only months after its creation, the CBHSSJB agreed to have the Département de Santé Communautaire (DSC) of the Montreal General Hospital perform four key regional functions by “long distance”:

- co-ordinate tertiary level care;
- arrange visits by dentists and specialists to the communities;
- provide community health services, including prevention and promotion; and
- arrange for patient transportation services.

The actual responsibilities of the DSC were more extensive than this suggests. For instance, this agreement included research and also the recruiting and training of health professionals. The DSC’s

mandate was formally conferred through a letter to the MGH, from the MAS, dated 26 January 1978. The stated rationale was that the CBHSSJB would not be able to handle these responsibilities at first. It also needed assistance to develop as an organisation. The Board realised this, but the agreement to out-source these services had a price: the organisation would initially lack some of the capacity needed to make fundamental management and policy decisions.

In 1978 a new issue arose to complicate the development of the CBHSSJB: the rapid politicisation of Section 14 implementation. The Crees and their provincial and federal partners began to stake out clearer expectations of what each thought Section 14 implementation meant, and what the obligations of the various parties were. An atmosphere of caution, and the beginnings of distrust, began to appear. As well, a new departmental player entered the scene, thus complicating the process of transferring responsibilities and establishing a strong Cree board. In January 1978, the *Direction générale du Nouveau-Québec* (DGNQ) was replaced by the *Secrétariat des activités gouvernementales en milieu amérindien et inuit* (SAGMAI).

This new organisation was analogous to Indian Affairs as a lead provincial agency with respect to Aboriginals. It was conceived as an Aboriginal affairs secretariat with intimate links to the Quebec cabinet. SAGMAI was soon co-ordinating the efforts of various provincial departments. Before long the Cree health file was caught in a tug of war between the provincial departments responsible for health and for Aboriginal affairs. In some respects this mirrored the often-strained relationship between the federal departments responsible for health and for Aboriginal affairs.

For an unknown length of time,⁸⁰ Medical Services Branch had been contracting with Chibougamau Hospital to administer the Mistissini clinic. On 27 February 1978, MSB, the newly created CBHSSJB, and Chibougamau Hospital signed a one-year agreement to continue Chibougamau's clinic services to Mistissini. This agreement also extended the hospital support that was being offered by Chibougamau. The Hospital specifically undertook to provide the three classes of Indian health programmes of MSB Quebec Region. The agreement had a detailed list of these as an appendix. Alarmed by reports of health problems in Mistissini, the Crees demanded and got a tripartite committee established to oversee the execution of the extended contract. This consisted of one representative each from the CBHSSJB, the Mistissini Band, the Roberval and Chibougamau Hospitals with two from the MAS. Over the next several years, problems at Mistissini worsened considerably as a result of various factors.

The CBHSSJB decided in 1978 that Val d'Or would be the best place to establish its head office. This decision was influenced by the fact that other recently created Cree entities, including the Cree Regional Authority, were also located there. The central nature of the location, easy availability of office space, and potential savings in transportation costs were other factors in the decision. The Board had been allocated a small budget to pay for an administrative cadre. The posts of General Manager, Director of Planning and Research, Director of Inland Communities, and Administrative Trainee were created and filled. This marked the beginning of the present policy to hire Crees for positions, whenever possible, on the basis of managerial aptitude even while lacking desired health sector experience. At the time in four Crees with previous health sector experience were hired.

In the absence of any assistance from the Ministry, the Board turned to the Inquirer / Administrator of Chashasipich Hospital for assistance. This man was also acting as the Assistance General Manager of the CBHSSJB. Fortunately for the administrative and managerial development of the Board and its senior cadre, M. Naud had been relocated to Val d'Or. This was, however, unfortunate for efficient

⁸⁰ This relationship was certainly active throughout 1977/78 pursuant to an agreement between MSB, Chibougamau Hospital, and the GCCQ.

administration of Chashasipich Hospital as the remaining personnel at Fort George were not up to the task of managing things without resident executive supervision.

Relations Between the CBHSSJB and Chashasipich Hospital

Several weeks after the CBHSSJB received legal recognition as a public body, it met with MAS officials to make its views known on the continued provision of services to the Inuit communities. On 12 May 1977⁶³⁴ the new Board signalled its intent to withdraw the satellite services provided by the Chashasipich Hospital to Povungnituk. This was to occur as soon as an agreement could be made between MSB and Chashasipich Hospital (which was not yet under CBHSSJB control). A deadline of 1 September 1977 was set to withdraw the services, which consisted of one doctor, one nurse, and one interpreter stationed in Povungnituk. With respect to Ivugivik, the CBHSSJB indicated that it would continue to provide two nurses and an interpreter until the Kativik Board was ready to assume responsibility, but no later than 31 March 1981. Finally, the Board indicated a desire to temporarily unify health services in Great Whale until the Inuit were in a position to provide services. At the time, Chashasipich Hospital was providing two nurses and two interpreters at Great Whale, who served both the Inuit and Cree populations there.

The imminent loss of responsibility for Inuit services raised the concern of the Chashasipich Hospital Board Members, and some of the employees. These people were already worried over rumours that the facility would be closed and the village relocated to the mainland. They tended to view the CBHSSJB – still just an advisory body – with distrust and the idea of a Cree takeover of services with suspicion. The concern was compounded by a perception that they should have been a party to the Section 14 negotiations during 1975. Relations between the Crees and the Chashasipich facility worsened.

In February 1978 the Board of Directors of Chashasipich Hospital resigned *en masse* to protest what it felt was intolerable interference by the CBHSSJB in its jurisdiction. Because the CBHSSJB was still just an advisory board, the resignation left no legal entity to administer Chashasipich Hospital's responsibilities which, at the time, included assisting the Cree Region's clinics and running some of the Inuit clinics. The mass resignation rendered apparent the need to accelerate the completion of the legal process to assign the CBHSSJB jurisdiction. Even so, the Government of Quebec chose to proceed cautiously. As an interim measure after weeks of management vacuum, on 12 April 1978 it appointed Réal Naud as Inquirer / Administrator of Chashasipich Hospital until August 1978 and without a board of directors. It was clearly understood that he was to manage things pending the assumption by the Crees of administrative responsibility in the near future.

Immediate Challenges for the CBHSSJB in 1978

At the same time as the CBHSSJB was going through its growing pains, the Cree School Board was also being brought into being. This entity assumed the responsibilities of Indian Affairs in running schools for the Crees.⁶³⁵ The residential school on Fort George Island, recently substantially enlarged,⁶³⁶ was soon closed in connection with the move to the mainland. The last residential school for Cree children (La Tuque) closed at about the same time. Day schools in each of the existing Cree communities came under Cree School Board jurisdiction. Soon a large school complex in Chisasibi was under construction, with another following in Mistissini. A start was made on planning for the eventual delivery of school health services and for the increased student caseload associated with fewer students out-of-region. However, the CBHSSJB lacked the human and financial resources, or a full view of the implications, necessary to conduct this planning properly. Consequently the organisation would be unable to provide all the necessary support when the new education regime began fully functioning in a couple of years.

An additional challenge was the public concern about mercury contamination that began in the spring of 1978. During 1978/79, an extensive epidemiological study on the health effects of mercury on the Crees

was initiated by McGill University. The Donner Canadian Foundation, DNHW, and the MAS provided the funding for this. The infant CBHSSJB struggled to manage the public health consequences of the relatively new scientific knowledge of mercury contamination of fish, primarily from background environmental levels, and the concerns of the Cree population which rapidly approached panic. The CBHSSJB had no public health capacity and, when the concerns first arose, its infrastructure was limited to what could be provided through the hospital at Fort George.

13.6.1.b. 1979-1980: From Bad to Worse

In March 1979 the Minister of National Health and Welfare was authorised to sign a transfer agreement pursuant to the *JBNQA*, with Quebec and the CBHSSJB.⁶³⁷ This began the process of transferring fiscal responsibility for Cree health to the government of Quebec. Eastmain was the first federal facility transferred to Quebec for take-over by the CBHSSJB. In 1979 the transfers of Paint Hills and Rupert House were also accomplished. Most of these new responsibilities fell upon the Fort George hospital staff, who simply could not cope with these heavy and unusual demands. More friction developed between the CBHSSJB's headquarters in Val d'Or and the hospital personnel at Fort George.

In 1979 Chashasipich Hospital had 152 people on its payroll. Besides its hospital function it still administered health services in Povungnituk, Akulivik, and Ivujivik. By the end of that year it had been assigned responsibility for all aspects of the administration and assets of the clinics at Eastmain, Rupert House, and Paint Hills, yet the MAS had not yet increased its budget accordingly. Budgetary deficits formed and worsened. The CBHSSJB, which had been functioning largely as a hospital board, immediately found that community clinic administration was an additional level of complexity for which it was unprepared. The second wave of facilities (Waswanipi, Great Whale River, and Mistassini) was supposed to be transferred to Quebec, and then to the Crees, soon afterwards. However, the federal government delayed these transfers for another two years for reasons it has not disclosed, but which may be assumed to include concern that the CBHSSJB be in a position to accept them. A dispute between Canada and Quebec over who should pay for the clinic operations during the implementation period may also have been a factor.⁶³⁸

The full assumption by the CBHSSJB of the responsibilities of Chashasipich Hospital took over a year to achieve. The CBHSSJB received its health responsibilities in April 1978, but it was not until a year later (11 April 1979⁶³⁹) that a decree transferred the assets for the sum of one dollar. Even then, transfer did not occur immediately upon the authorising decree. On 13 July 1979 the CBHSSJB, impatient, resolved to request M. Naud to transfer the assets. This was accomplished pursuant to resolutions of the Hospital Board dated 15 November 1979. An agreement of sale was duly signed and the CBHSSJB began the year 1980 with a hospital of its own that was about to be demolished, and relocated to the mainland.

The audit committee of the CBHSSJB reported on financial affairs on 15 September 1979. The findings were worrisome. Serious accountability problems were identified, many related to a lack of policies, monitoring, and staff training. The lack of a qualified accountant at Fort George was also a serious detriment. The full extent of the deficit was hard to establish but it was clearly a source of concern. The problems actually began in 1976, two years before the CBHSSJB took over. Thus the CBHSSJB had inherited problems that were already well advanced. Additionally, expected operating revenues had not materialised. The problems included:

- Funding from the MAS for operating recently-acquired federal clinics had not yet arrived;
- Services continued to be provided to the Inuit outposts, although the federal funding had stopped due to non-renewal of the contract;

- Substantial receivables had not been billed to the MAS, due to the disorganised state of the financial administration; and
- Expected funding from the Secretary of State, for a friendship centre in Chibougamau that processed patients sent there for treatment, had not been received.

The Cree Board continued to make the best of this difficult situation in the absence of any significant outside help and with incorrect estimations of cash flow. While the MAS provided separate budgets for the hospital and the CBHSSJB, the administrative responsibilities of these organisms overlapped. Soon the hospital budget was under new pressures. The reports of audit committees and investigators noted not only that funding was not being received, and also that the funding that did arrive was not always being well spent.

To put this administrative turmoil in perspective, one must understand that the CBHSSJB was an experiment without precedent. Meaningful Aboriginal control of health services, even on a small scale, had not been attempted elsewhere in Canada. Even in 2004 there are no comparable examples on such a large scale. Much was taken for granted at the time. Neither the federal or provincial governments provided much in the way of resources or technical support for its Cree administrators to learn the art of managing a growing, and already complex, service delivery organisation. There was no programme of assistance and little monitoring, although there was intense interest when things were observed to go awry. The Section 14 implementation period was characterised by a lack of foresight on the part of all actors.

The mounting pressures and the extraordinarily difficult situation caused M. Naud to tender his resignation on 5 October 1979, to take effect on 15 December 1979. The writing was already on the wall: two weeks later a decree⁶⁴⁰ appointed an investigator to look into the affairs of Chashasipich Hospital. The period of investigation was from 1 April 1976 to 31 October 1979. Most of the period of investigation was actually before the assumption of responsibility by the CBHSSJB.

The Cree Regional Authority was alarmed. Its representative on the CBHSSJB (who at the time was also the Vice-Chairman) furnished a detailed report.⁶⁴¹ This summarised the difficulties that had been brought to the attention of the Board by its own auditors. The CBHSSJB was keenly aware of its internal challenges and, with the Cree Regional Authority, felt that government failures to implement Section 14 obligations were behind the management problems and thus behind the appointment of an investigator. Lacking management expertise, and with no support forthcoming from the MAS or from MSB, in October 1979 the CBHSSJB entered into an assistance agreement with the Cree Regional Authority. Under this the CRA was empowered, for six months, to analyse the organisation's major problems and advise on their correction. Additionally the CRA was to assist in administrative matters. This arrangement was feasible owing to both organisations then having their headquarters in Val d'Or.

The Crees nonetheless hoped that the Ministry's external investigator would produce a report that would help correct the full range of challenges faced by the CBHSSJB, not just the administrative problems within the hospital. The report of the Investigator was debated in the first quarter of 1980. It did not address most of the Section 14 implementation issues that the Crees considered the root causes of the CBHSSJB's difficulties. It did, however, make useful management observations. It also prompted the MAS to increase its budget for the CBHSSJB and the hospital, although the financial deficiencies were not fully corrected. Likewise, some administrative problems persisted and others emerged.

Operational Difficulties Increase

In early 1980, the CBHSSJB started to seriously feel the effects of geography on its ability to centrally manage regional operations. Val d'Or was well situated as a management hub for the inland clinics, but

so far it had responsibility only for the coastal clinics, to which there were no direct roads or convenient air flights. Furthermore, the new Chisasibi Hospital (which replaced the Chashasipich hospital located on Fort George Island) was now under construction. This administratively complex event made it even clearer that the continued geographic separation of hospital and senior management was unwise. The relocation of Headquarters to Chisasibi would be necessary when circumstances permitted.

The CBHSSJB was also having difficulty in asserting its jurisdiction in the communities whose health it was now responsible for. Under MSB administration, all of the communities with federal clinics had, in theory, a health committee composed mainly of local residents (although in fact these committees came and went according to the interest of the population). The CBHSSJB was at first poorly equipped or positioned to offer management, policy, or service support to these facilities that began taking over. The nurses were sometimes left to their own devices to carry on, as best they could, their own interpretation of the federal programmes (i.e., Maternal and Child Health, Sanitary Health, etc.). The concerns raised by the Crees during the Section 14 negotiations – over nurses not listening to local the authorities – also remained a problem. Under these circumstances, such local health committees as existed could be either a help or a hindrance. In some cases, it was not clear to whom the nurses reported: the CBHSSJB, the committees, their former masters, or to themselves. However, there is some evidence that the health committees could at times be invaluable in identifying health issues and helping the nurses and doctors respond to local ways.

The simmering mercury problem escalated with the public release, in May 1980, of the McGill University study into mercury pollution. This report, whose veracity was questioned by some, suggested that some Poste-de-la-Baleine (Great Whale) and Mistissini Crees were exhibiting clinical symptoms of Minamata disease. A joint committee, including the Crees, was established. Mercury poisoning, and treatment, quickly became an extremely sensitive issue, which highlighted deficiencies in Cree medical services. The pressures upon the CBHSSJB grew as a result of public fears and the withdrawal of the regional public health services which were formerly the responsibility of MSB's Quebec Region office.

A catalyst for Remedial Action: The Gastro-Enteritis Outbreak of 1980

In the spring and summer of 1980, simultaneous with the mercury problems, Fort Rupert, Nemaska, Fort George, Rupert House, Paint Hills, and Mistassini all experienced serious outbreaks of gastro-enteritis. In several villages the majority of the children became ill, and one year later the Cree infantile death toll was four. As is normal with such incidents, by and large the afflicted adults recovered more quickly or experienced milder attacks. Detailed reports of the causes pointed to serious deficiencies in the socio-sanitary infrastructure. This infrastructure had until recently been the direct responsibility of Indian Affairs – and in some cases still was. The reports showed that, besides failures in the systems for ensuring potable water, the sanitary disposal of effluent was deficient. Part of the problem was discharge by the Fort Rupert clinic (still under MSB control) of raw sewage into open ditches. The federal Minister of Health received significant negative publicity⁶⁴² and ordered temporary repairs before abandoning the Fort Rupert facility to Cree control and provincial funding.

The GCCQ now demanded a federal-provincial inquiry. On 12 September the GCCQ charged that Quebec was responsible for the gastro-enteritis epidemic and had failed to respect the JBNQA, particularly Section 14. The GCCQ filed suit in Quebec Superior Court to compel Quebec to either implement s. 14 or to have it declared null and void. This triggered a new and somewhat hostile relationship, between the MAS and the CBHSSJB that would persist for many years.

One month after the s.14 implementation suit was launched, Quebec placed the CBHSSJB in trusteeship (20 October 1980). The following day the Crees filed a petition for an injunction to cancel that decision. Now there were two s.14 suits against Quebec. In the trusteeship suit, the GCCQ was especially

concerned that imposed trusteeship was an intrusion on the s. 14 guaranteed right to self-government in health and social services. Another allegation was that the CBHSSJB had inherited a grossly inadequate system on which extraordinary demands were placed; hence the CBHSSJB had been set up to fail.

The MAS sent a trustee team to Chisasibi to take over the administration of the CBHSSJB. However, the community of Chisasibi issued a band council resolution that forbade MAS personnel from setting foot on Cree soil. The MAS personnel retreated to Radisson where they attempted to assert control from a hotel room. The CBHSSJB's staff understood that they would lose their jobs if they went to Radisson to meet the MAS officials, or if they otherwise assisted them. After several days the trustees returned to the south without accomplishing much. The GCCQ now had to assist the CBHSSJB with \$100,000 to cover administration costs, because the MAS had frozen its budgets. The trusteeship exercise per se was not successful from any perspective. However, the parties later reached an accommodation, which led to SAGMAI declaring five years later that:

*...the problems relating to the functioning of the establishments have been resolved and the quality of relations which have arisen makes it possible to have good co-operation between the representatives of the Department and those of the establishment.*⁶⁴³

In December 1980, while the CBHSSJB was still theoretically under trusteeship, the Crees initiated legal action against Canada regarding its alleged failure to fulfil certain JBNQA obligations relating to health services. The federal Cabinet was advised that the Crees had at least moral grounds to complain:

*...generally speaking, the [federal] government has not made the special efforts necessary to make it work well. For the most part, the view was taken that implementation of the Agreement was a routine matter. Thus, open-ended discretionary obligations have often been met with little more than minimal compliance. If this approach continues, the Native parties will have a moral, though not a legal case, for saying they were misled about the effects of the Agreement.*⁶⁴⁴

During the year 1980, with some federal installations yet to be transferred and faced with litigation and negative publicity, Canada reluctantly agreed to a two-year implementation review. Diagnosed health problems were a catalyst behind this decision. This was, at the time, small comfort to the Crees whose regional board was still under trusteeship. However, eventually the federal review would result in socio-sanitary improvements that would reduce some of the population health pressures when the CBHSSJB began its uphill road to recovery.

13.6.1.c. 1981-1984: The Road to Recovery

New Facilities and Expanded Services

By early 1981 all of MSB's former responsibilities for health education and preventative school health programmes had fallen upon the infant CBHSSJB. No budgets and no personnel were transferred in connection with this responsibility. In particular, there was a loss of regional support personnel formerly associated with MSB's regional office. Further, the target population now included students whose school health needs were formerly taken care of by residential school arrangements outside the region. The Département de Santé Communautaire of the Montreal General Hospital (MGH), appointed in 1978 to manage key regional functions by "long distance," was neither equipped nor sufficiently mandated to properly occupy this area. This was made more challenging by the documented decline, during the final years of federal administration, of federal health activities in schools in some of the Cree communities.

As will be seen in the section dealing with CBHSSJB clinics, a significant backlog in inspections, immunisation, and health education was about to be felt.

In January 1981 the federal Privy Council orders authorised the withdrawal of federal services, and transfer of facilities to Quebec, in the remainder of the Inuit and Cree communities. In particular this meant the Waswanipi,⁸¹ Great Whale River (Whapmagoostui), and Mistassini clinics.⁶⁴⁵ From the federal perspective, implementation of the JBNQA required the transfer of remaining federal responsibilities no later than 31 March 1981, whether or not the CBHSSJB was in a position to take over the responsibility from Quebec.

In February 1981 the trusteeship was conditionally ended four months after it began.⁸² On 31 March 1981 Canada abruptly ceased administration of health services in Waswanipi, Great Whale River, and Mistissini. The new Cree Health Board was in a poor state to assume control of these federal responsibilities, and objected to the withdrawals. The Cree position was, and is, that the unilateral federal withdrawal constituted a breach of the JBNQA's requirements for an orderly transfer, as well as Cree acceptance of provincial funding (i.e., Cree consent). The GCCQ furthermore felt that Canada has a residual responsibility to provide for adequate health and social services when Quebec fails to do so.⁶⁴⁶ Canada's position from the outset was that any residual direct role would be "interference in an area of provincial legislative/administrative jurisdiction."⁶⁴⁷ However, it would consider a request to extend federal services to the Crees provided a Cree-Quebec joint request was received, although the chances of this happening were slim and nothing came of it.

In addition to the transfer of the federal clinics, the new community of Nemaska received its clinic in the aftermath of the 1980 gastro-enteritis epidemic, which claimed two Nemaska children). No federal clinic had been located at Nemaska; this was a new construction built by the MAS. The new clinic opened under CBHSSJB control on 1 April 1981. Then, in June 1981, a tuberculosis outbreak occurred in Mistissini. The Mistissini facility had just come under CBHSSJB control and, indeed, it had just ceased to be operated by Chibougamau Hospital under contract to MSB. The Mistissini clinic was immediately overwhelmed and the embryonic CBHSSJB administration, based in Chisasibi and without a public health unit, was too geographically isolated to offer effective assistance. The intervention of public health personnel from the MGH helped to contain the outbreak and restore a degree of public confidence.

On 18 August 1981 the new village of Chisasibi was inaugurated. Approximately 200 dwellings had been moved from Fort George Island, renovated, and in some cases enlarged. The new Chisasibi Hospital Centre was not, however, quite complete until November. In the interim, health services on the mainland had to be provided through the federal clinic and the hospital on Fort George Island. This raised practical problems, particularly in stormy weather when passage by boat was risky. The process of decommissioning the Fort George Hospital, and transferring its contents and staff to the mainland, further pre-occupied the CBHSSJB when it was struggling to adapt to the new federal facilities, and to deal with the outbreaks in Mistissini. By this time (January 1982) the Board was responsible for serving a

⁸¹ The present Waswanipi clinic, built as a provincial project, was opened in December 1980. The timing was inopportune because the CBHSSJB was still under trusteeship. It appears that a special federal contribution of \$2.5M was made towards the costs of new clinics (i.e., Waswanipi and Nemaska) and associated staff housing. The CBHSSJB ultimately received \$485,000 to equip and furnish these buildings.

⁸² Shortly afterwards (3 March 1981) the injunction request from the Crees was denied largely owing to the recent termination of trusteeship. The following month, the GCCQ appealed the rejection of injunction. This was mainly due to: (1) the issue of the legality of externally imposed trusteeship had not been resolved, and trusteeship could occur again; and (2) the feeling that the CBHSSJB was taking the blame for provincial failure to implement s.14 and federal failure to guarantee this implementation. This appeal dragged on for at least six years, being still active at the end of 1987.

population of 7,264 Crees spread amongst the communities, 60 Inuit in Chisasibi, and a couple of hundred non-Natives.

The CBHSSJB introduced new programmes and expanded some existing ones in addition to coping with these changes. Partly as a result of reports from a Mercury Task Force (established in 1980), the CBHSSJB began its own mercury programme even though Quebec was reluctant to provide any funding. It also expanded the existing dental programme. From October 1981, full-time dentists had been installed in Chisasibi and in Rupert House. Plans made in 1982 led to another being hired in July 1983 to serve Eastmain, Great Whale (not yet called Whapmagoostui), and Mistissini. At the same time a part-time dentist was engaged to serve Waswanipi and Nemaska. This would prove a major improvement over the dental services provided during the federal administration. By and large, dentists had rarely visited the clinics, and the dental resources in the Abitibi area were strained to the point that sometimes only the most serious cases were sent.

Urgent efforts were made in 1984/85 to recruit a resident dental hygienist following a study of dental health in Quebec. This had indicated disturbingly poor dental health amongst Cree children. The only permanent dentist resigned from his Mistissini post that year. Aside from his work, there were 40 visits by 10 different dentists, with each community being visited. This was a large improvement since the federal days, but still there was no dental department *per se* in the territory.

In short, over the 1981-84 period, the CBHSSJB's responsibilities increased significantly. The Board inherited federal responsibilities for health education, and also inherited the last of the federal clinics. It became responsible for a new health centre in Nemaska; and it introduced a mercury programme and greatly expanded the dental services available in the Territory. The Board also had to deal with outbreaks of infectious disease and the relocation of the Chisasibi Hospital – all this in a context of rapid population growth.

Issues Around Fiscal Responsibilities and Implementation of the JBNQA

The cash flow and deficit situation became exceptionally critical following transfer of the last clinics. Section 14.0.23 of the JBNQA provided that the funding to the CBHSSJB, during the implementation period, would be the actual federal and provincial expenditures on Cree health and social services during fiscal year 1974/75. Use of the 1974/75 fiscal year as a starting point did not reflect the changing conditions. Moreover, the 1974/75 amount, which time showed was inadequate to begin with, was viewed by Canada in particular as a funding ceiling that should not be exceeded during the five-year period of transfer. Canada consequently avoided urgently needed upgrades to facilities, and new programming was not implemented. The last facilities, which were transferred in early 1981, were particularly run-down.⁶⁴⁸ The Crees took the position that the object was to save money and leave Quebec holding the bills.

The particularly deficient service situation in Mistissini became evident immediately upon its transfer to the CBHSSJB.⁸³ The Mistissini clinic was received with strong evidence of five years of inattention or at least lack of progress. To the structural and administrative problems at Mistissini were added alarming reports of backlogged immunisation schedules and elevated incidences of preventable diseases.⁸⁴ The cumulative effect of these deficiencies was sudden demands to the MAS for equipment, structural repairs, and additional personnel. The Ministry's response was neither immediate nor to the full extent that was desired.

⁸³ The Wemindji facility was also observed to be wanting, although it seems that the most detailed clinic evaluation was undertaken in Mistissini, which had a much larger population.

⁸⁴ See *Development of Services by Sector* for a detailed discussion of some of these deficiencies.

On 26 March 1981, the Crees and the Inuit presented a brief to the federal Standing Committee on Indian Affairs and Northern Development, articulating grievances with respect to the implementation of the JBNQA. Afterwards, the Committee made uncharacteristically sympathetic and strong recommendations to the Ministers of DNH and DIAND. In particular, it issued a stinging condemnation of Indian Affairs for failing to implement commitments in socio-sanitary infrastructure, thereby contributing to health problems:

Both Inuit and Cree representatives charged that the federal and the Quebec governments were failing to implement major portions of the Agreement. They maintained that even though the Agreement was signed five years ago both the Inuit and the Cree have not received adequate funding for community infrastructure as specified in Section 28.11 and 29.0.40 of the Agreement. This Committee is especially concerned with the failure to provide basic community services. After hearing evidence of such adverse environmental conditions - corroborated by the Department of National Health and Welfare officials appearing in the same session - as inadequate and sub-standard housing; appalling sewage disposal facilities; and contaminated water supplies as well as poor hygiene practices, the Committee fears repetition of any future epidemics among the Cree and Inuit peoples and urges prompt corrective action.

*This situation is further exacerbated by the failure of the federal government to provide the "catch-up" funding for the essential services that were neglected during the protracted period of negotiations. The Committee supports the Cree and Inuit contentions that the Agreement entitled them to funding for special programmes additional to these regular ones available to all Indian and Cree peoples. Such funding was to have been provided by the governments of Canada and Quebec. Moreover, when Bill C-9, legalising the Agreement, was before the House of Commons in 1977 the Minister of Indian Affairs reiterated that the Government would undertake to provide for the special additional funding for community infrastructure, housing and sanitation programmes.*⁶⁴⁹

On 15 September 1981 the GCCQ protested about the poor state of Cree health to the Parliamentary Committee on Justice. The GCCQ also called for recognition that the JBNQA guarantees the Crees the right to proper health and social services. Their point was made although no acknowledgement of its validity resulted.

In February 1982, Indian Affairs released the Tait Report into Implementation of the JBNQA. This acknowledged that Canada had not yet fully implemented all its obligations under the JBNQA. The report asserted that:

*Canada's objective in dealing with the issue of Cree health care services has been to make the Agreement work as intended, and thereby ensure that the Cree people receive a consistently high standard of health care services...Canada's aim has been, and will continue to be, to attempt to resolve this issue through tripartite negotiation...A resolution of the jurisdictional and budgetary problems of the Health Board and a new initiative regarding the provision of essential sanitation...are necessary steps in remedying the serious health problems currently being expressed by the James Bay Crees. The assumption by Canada of responsibilities which clearly rest with Quebec, would do little to enhance overall implementation of the Agreement.*⁶⁵⁰

The Crees had seen the Tait Report, but they were impatient with a refusal by federal officials to state how much remedial funding would be forthcoming. It was not even certain that funds would flow during the current fiscal year. Therefore, in May 1982, the Crees again argued implementation difficulties before the federal Standing Committee on Indian Affairs and Northern Development. Among the special concerns voiced were inadequate housing and a related, persistent threat of further epidemics owing to

lack of aqueducts and sewers. Lack of public and environmental health programming were also key concerns. The following month (June) the Crees asked the World Health Organisation to conduct an inquiry into the 1980 gastroenteritis epidemic.

In July 1982 the federal financial response to the Tait Report was finally released. Over the next five years an additional \$61M would be allocated for the improvement of Cree and Inuit schools, housing, and sanitary facilities such as sewers and potable water supply. Canada claimed that this was in order to respect the spirit and intent of the Agreement - not to meet any legal obligations that Canada may have under it. The federal response coincided with announcement of the opening of a 25-bed hospital in Kuujjuak. The Crees responded to this softened federal position with a willingness to re-attempt negotiations instead of litigation. This amounted to naught.

At the time the Government of Quebec was not interested, when pressed by the Crees, in holding a similar implementation review regarding its own obligations. Despite this official provincial denial of possible culpability, the MAS sent tangible signs that it now realised that its funding need better reflect northern conditions. The Ministry formed a team known as “*Service du Nouveau-Québec et des communautés autochtones*” primarily to examine the financial issues affecting the Cree Board, the Inuit Board, and the Nord-du-Quebec Board. Representatives of the CBHSSJB met this team in October 1982. The outcome of these meetings seems to have been a reformulation of the budget lines - funding meant for specific purposes in the annual budget to the CBHSSJB - to better reflect northern conditions.

Some of the budget lines now identified by a prefix N.Q (Nouveau-Québec), increased in amount, and were indexed by about one to three percent each subsequent year. There was no formula basis for establishing either the base or the indexing of the base. Because of this, the limited benefits of additional funding were felt in the short term, but in just over a year the Crees were protesting that these budget lines were insufficient and insensitive to the real cost drivers. Note that, at the time, no one had any mathematical model to scientifically isolate the budgetary effects of operating in a northern environment. The Crees felt the pressures of insufficient funding, and they had a sense of where the pressures were greatest, but they were no better equipped than the Ministry to identify the correct solution.

The Crees were not content to remain silent on outstanding Section 14 concerns during 1983. In November they carried their concerns about health and social matters to Quebec via the *Commission permanente de la présidence du Conseil et de la Constitution*. Quebec's alleged failure to live up to, and even discuss, its health and social obligations were described as prime issues regardless of whether the JBNQA is in fact constitutionally protected by the new Constitution. This presentation made a point, but once again achieved no immediate and tangible result.

Administrative Progress

The CBHSSJB was now receiving somewhat more assistance to develop its administrative capacity from the MAS headquarters in Quebec City. However, while the MAS was now vitally interested in the ongoing operations of the CBHSSJB, it was new to health administration in the far north and was often out of touch with the northern and cultural reality. Examples of this conceptual distance are various demands that were received for nonsensical reports.⁸⁵ The Crees felt that the officials of the MAS interfered, through insensitive directives and demands, with the operations and administration of the CBHSSJB. This, they felt, provoked continuous financial difficulties. Yet at the same time they felt that

⁸⁵ For example, soon after it opened, Chisasibi Hospital Centre began receiving demands for the number of parking spaces in its parking lot, when it did not really have a parking lot but merely a surrounding plot of land. There were also repeated inquiries over why “recreational vehicles” were in the CBHSSJB’s inventory. The answer is that these were ambulances in the winter because the local roads that existed were generally not ploughed.

what practical assistance was being received was insufficient for a Board and staff inexperienced in running a large, unique operation.

The year 1982 was one of consolidation and cautious growth. The first workable organisation chart was implemented and the various services - especially Administrative Services - underwent overhaul. When the CBHSSJB started operations, its financial management capacity consisted of a small accounting cadre in a tiny remote hospital. The trusteeship exercise helped to show that it was too much to expect this to meet the demands of regional administration. By early 1982 a small finance department was established, and the payroll and other key functions were computerised.

“Patient Services” (mainly transportation, translation, and lodging) were now re-organised as one unit under a single manager, although MGH still had the overall responsibility for the traffic to and from Montreal. The new Patient Services unit, with offices in Chisasibi, Val d’Or and Montreal, had the responsibility to transport patients and to arrange for their reception and assistance upon arrival. The importance of this activity increased owing to the fact that Chisasibi Hospital Centre was not equipped (as the hospital on the Island had been), to handle minor surgeries. All such procedures were now done out-of-region.

In July 1982, letters patent⁶⁵¹ finally defined the CBHSSJB as a four category establishment: CLSC; Hospital Centre; Social Service Centre; and Reception Centre. The funding associated with discharging these responsibilities would take a number of years to reach a level adequate to support meaningful operations. Nonetheless, the Crees greeted this official recognition as an important step towards a fully empowered Cree Health Board. Encouraged by more positive conditions, the Cree Board made efforts to exert its autonomy during 1982.

The period of consolidation and growth continued throughout 1983. Numerous administrative problems were dealt with – and some were left for later resolution – but on the whole, the year 1983 saw no health or administrative issues with cataclysmic potential. Services continued to be augmented or introduced – especially social services – and administrative procedures improved. A much better replacement clinic was under construction in Mistissini, where exceptional health problems and administrative dislocations had recently required robust interventions. The first policy and procedure manual was introduced in 1983. Prior to this, there was an unsatisfactory system whereby the policies were mostly set by the individual managers, supplemented by memoranda of instruction and interpretation issued by the General Manager’s office.

The inheritance in 1981 of the three inland clinics had sparked a debate within the CBHSSJB on the merits of having two CLSCs: one inland and one coastal. During 1983 this debate was nearing its conclusion. The physical distance from Chisasibi Hospital Centre to the inland clinics was clearly a serious impediment to CLSC administration. Chibougamau Hospital was much better situated to provide hospital support for a second Cree CLSC located in Mistissini. This would serve the inland communities. Moreover, physical premises would soon be available in Mistissini: the old wooden federal clinic would become available when the new brick provincial clinic opened in 1984. Formally, the CBHSSJB is one establishment so the two CLSCs were established in practice, but not by law.

The documentary record does not support the view, common today, that the inland and coastal CLSCs were established mainly to address unique cultural difference between inland and coastal Crees regarding service delivery. Rather, the decision was made based largely on practical considerations, particularly access to hospital support. The MAS was at first unwilling to consider the two-CLSC option, but in the end it gave unofficial assent, apparently swayed by the geographic reasoning behind the proposition. In connection with this, in 1982 the Nord-du-Québec region ceased being the CLSC designated to serve the

inland Cree communities. It was not until about 1987, however, that the Ministry's recognition of the Inland CLSC became official enough for its funding to reach a level considered tolerable by the Crees.

Hospital services also evolved over the period. The number of admissions to Chisasibi Hospital Centre was growing, although it varied from year to year. In 1984, 64 infant deliveries occurred in the relatively well-equipped obstetrics suite adjacent to the surgical area. This annual number of low-risk deliveries remained relatively constant for two decades until the population had doubled and the obstetrics activity was cancelled owing to lack of physicians.

Although it did provide facilities for low-risk births, Chisasibi Hospital Centre had strictly limited capacities. By 1984 it had one full-time physician, no surgical team, and no specialists. Patients needing surgical services were sent out of the region. Some hospital evacuations to Moose Factory, from the coastal communities, continued until around 1984. The protocol was for coastal Crees to go to the nearest hospital (Moose Factory or Chisasibi), the inland Crees to Chibougamau, and tertiary care cases to go to the Montreal General. Communications between the Département de Santé Communautaire (DSC) of the MGH, and the nurses and secondary care physicians, was inconsistent and sometimes inefficient. The availability of the DSC was perceived as a backup service, but in actuality the DSC did much more. Large core functions of the CBHSSJB were still administered by the DSC and would be for many years.

Specialists visited periodically, mainly with a view towards diagnostic procedures. There was another full-time physician in Mistissini, but in the other communities the rotation was one or two weeks a month by a stable group of external physicians. In 1984 the MAS (viz., RAMQ) agreed to review its medical staffing levels for the Cree Region. The number of physicians would gradually grow, but by 1984 Chisasibi Hospital Centre had settled into a limited-service mode that persists to the present day.

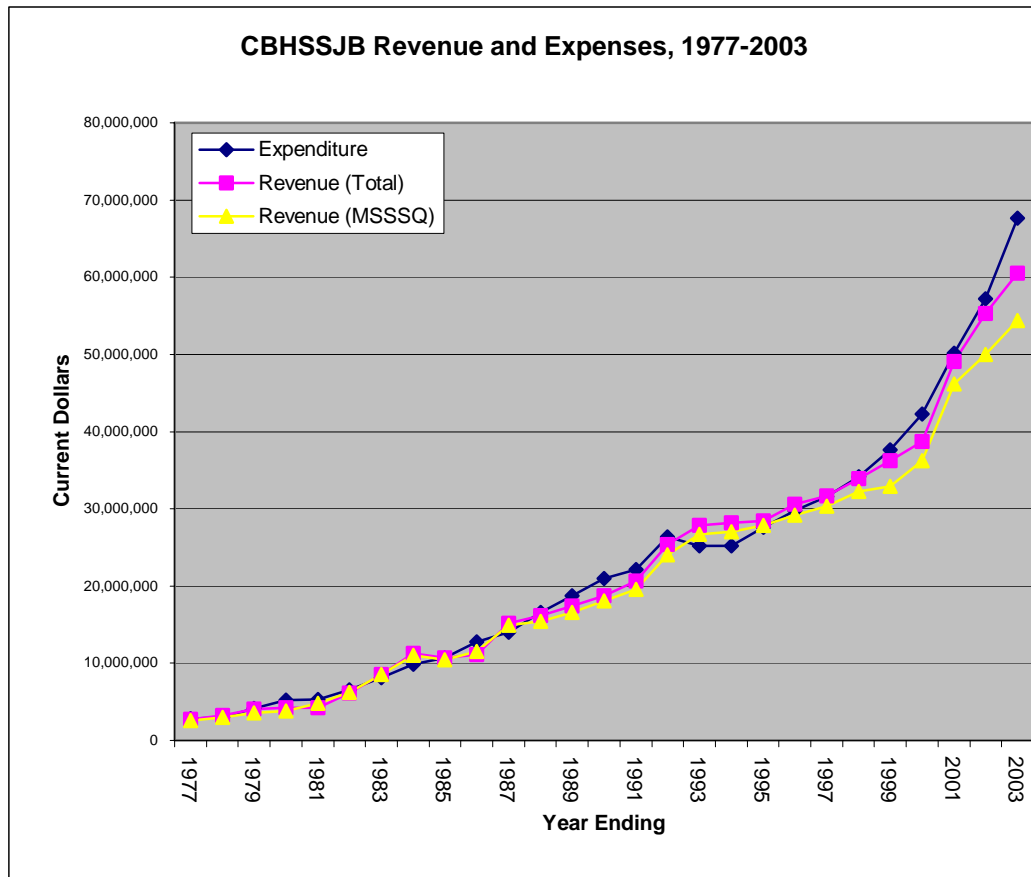
Understanding the Chronic Budget Shortfalls

The CBHSSJB began with an operating budget of \$2M, and by 1984 this had grown to over \$10M. This growth would have been even more impressive if investments in key support services had occurred within the region rather than outside of it.⁸⁶ Despite the growth, the Board's financial situation remained precarious, and the CBHSSJB started making requests for further funding. Correspondence from the MAS attributes much of the CBHSSJB's budgetary growth, from \$9M in 1982 to \$15M in 1987, to "expansion of social services." Exactly how much is difficult to determine, but it is true that basic medical services already existed in 1978, while a social services infrastructure had to be built from scratch. The funds allocated by the MAS towards social services were \$880,000 in 1982, rising to just over \$2,000,000 in 1987. The MAS saw this as a generous 96% per capita increase. Throughout the 1980s, especially, the correspondence from the Ministry made frequent reference to funding growth in percentage and per capita terms. The records of meetings with MAS officials indicate that provincial officials, even when they were sympathetic to statistics showing high service consumption, found it difficult to argue for increased funding on the basis of needs when the growth in funding seemed so dramatic.

CBHSSJB Revenue and Expenses, Years Ending 1977-2003.⁶⁵²

It was difficult to convince a Ministry that had just made massive regional investments, when only limited statistics could be produced to substantiate the need. Yet in fact there were a series of reasons for the rapid growth in expenditures:

⁸⁶ For example, public health, patient transportation to and from Montreal, and all surgery were administered by external agencies who received the funding for these services directly from the MAS.



First, caseloads were rapidly rising. The services that were installed and improved in the early 1980s were not planned, to the extent one might imagine, on the basis of statistics. Few reliable statistics were available until systematic collection began around this same time. In addition to this, there was a lack of experience upon which to project the potential health and caseload effects of regional developments. The paucity of social services during the early years makes it impossible to quantify the full social effects of the hydro-related developments on the Cree population. However, as monthly and annual statistics began to appear from about 1982 onwards, it became evident that the Cree Board had inherited a serious and worsening health and social situation. By 1984 the new and augmented services were straining to meet unanticipated demands.

Second, the impact of the federal withdrawal was greater than anticipated, and it took some time to realise this fact. Until about 1984, the MAS treated the Chisasibi Hospital Centre and the CBHSSJB's other operations as distinct financial units with separate budgets. This fiscal division complicated the attempts to seamlessly integrate hospital and other services. It also encouraged a situation in which hospital policies tended to be made by a committee of Hospital workers, in relative isolation from the Board of Directors. These "two solitudes" seem to have contributed to a failure to realise the full implications of the federal withdrawal from service delivery. The gradual withdrawal of federal involvement, which was completed in 1981, resulted in the loss or diminution of certain regional-level support functions. These included: environmental health, public health, mercury programme, and non-insured benefits

administration. The MAS did not at first fill these gaps completely, nor did it recognise that the Cree Health Board should do so. Montreal General was not well positioned geographically to deliver these services to the necessary extent, when in fact it began to take an active interest in the problems in the early 1980s. The role of Chisasibi Hospital in filling these gaps was not always clear.

Third, the CBHSSJB began to suspect that its chronic funding shortage was partially explained by the fact that many of the region's services were handled by external agencies. For example, in 1984, 23% of the Chibougamau Hospital caseload was Cree even though the Crees accounted for only 11% of the service population. Fifty percent of the paediatric admissions were Cree. A cumulative record of Cree use of their services began only in 1981. This is when systemic records keeping of Cree health and social statistics began generally, albeit at first on a modest scale. The Ministry was naturally aware of the caseload burdens upon all the establishments in its system. Funding to the external establishments who dealt with Cree clientele was adjusted to reflect the burden of this caseload. Investments were not made for hospital services in the Cree Region when this would duplicate services already being provided elsewhere.

Fourth, Non-Insured Health Benefits were an extremely significant cost-driver. During the early 1980s, the fiscal problem of Non-Insured Health Benefits (NIHB) was not appreciated as the serious matter that it was. Quebec initially was reluctant to acknowledge the continued provision of NIHB as a JBNQA fiscal obligation. The early 1980s saw a heated exchange over the continuation of these "free" benefits under provincial funding. The Ministry at first could not accept that free benefits (e.g., eyeglasses, orthodontics, and transportation for elective cases) should be provided through what it saw as a Quebec public establishment that was run by Crees. They did fund the patient transportation component of NIHB, although not fully or according to actual expenditures.

The CBHSSJB considered these formerly federal benefits a treaty right. Consequently, it increasingly cannibalised its hospital and CLSC budgets to maintain a minimum level of benefits. By the mid-80s the CBHSSJB ceased to determine annually what other services it would sacrifice in order to maintain NIHB: the "cannibalisation" of other services became automatic and the amount of depletion was no longer tracked. The result was deficits that were difficult to explain, and services that simply failed to develop as they should have. For instance, from an early point, social services tended to be viewed as secondary to health services when hard resourcing decisions had to be made. Internal requests for expansion of social services were usually accommodated to the extent that funding was left over after the minimum health costs were identified. Largely because of a minimal appreciation of Nordic costs, and special costs like NIHB, the MAS was unable to understand why the CBHSSJB would not use its discretionary funding capability to invest more in areas like social services. Not appreciating that discretionary funds – as well as other funds – were automatically disappearing into non-insured benefits, Ministry officials were disinclined to argue internally for more funds for the Crees.

A fifth cost-driver was the need to run additional services that were not required in southern areas. During the five years between 1982 and 1987, the proportion of the CBHSSJB's budget spent on health and social programmes declined. By 1987 the ratio of administrative to health delivery to social services costs was about approximately 7:6:2 respectively. The MAS viewed this as a tendency towards an inflated bureaucracy. However, by 1984 the CBHSSJB was involved in major activities that had no southern counterpart. Most of these activities were created to deal with special Nordic conditions. For instance, the CBHSSJB was: operating a number of network of staff housing units; running a Reservations Service for the high level of personnel transports necessary; running an allocation and maintenance system for staff housing and capital facilities generally; and running a Patient Services unit that was oriented towards transporting patients out of the region for care not available locally. A pharmacy system (consisting of pharmacies in Chisasibi and Mistissini, and dispensaries elsewhere) and

an embryonic Dental Department based in Chisasibi Hospital, provide further indications of how the CBHSSJB had to fill voids that in other regions would be occupied by private providers or other agencies.

The higher cost of providing services in the North also affected the budgets. Even though the CBHSSJB's overall funding increased sharply during the early 1980s, the budgets from the MAS did not sufficiently compensate for these costs. It was not until 2003 that the MSSSQ and the Crees reached an agreement in principle that Nordic costs are in the order of over \$1.50 per "southern" dollar.

Finally, costs were raised by administrative problems. For a number of reasons the administrative side of the operations was not efficient in the 1980s. These reasons included:

- a very high staff turnover rate;
- difficulties in recruiting skilled personnel;
- Cree employees who lacked sufficient training;
- lack or shortage of modern management tools, including desktop computers (which after 1980 had become standard in other establishments); and
- absence of a planning department.

The CBHSSJB's Situation at the End of the Period

As 1985 approached, the relations between the CBHSSJB and the MAS had become far less toxic. In June 1984, as part of a Cree-SAGMAI-MAS accord to move forward notwithstanding differences in Section 14 implementation, the CBHSSJB consented to a three-year plan for expanding and consolidating its operations.⁸⁷ By April 1987, over half of the financial requests in the original plan had been approved and additional funding would arrive, albeit slowly. This marked the beginning of a period of more genuine regional responsibility and programme delivery.

Against the good news of 1984/85 was a high staff turnover rate, which came close to crippling the organisation. The following senior people resigned over the course of the year:

- General Manager;
- Assistant General Manager of Administrative Services;
- Assistant General Manager of Health Services;
- Director of Finance (twice);
- Director of Professional Services; and
- Director of Nursing and Co-ordinators, Director of Community Clinics along with her assistant, and also the General Secretary.

These resignations were accompanied by a morale crisis, a slowdown in processing financial transactions, a cash flow problem that became another deficit problem, and management discontinuities leading to problems in various programmes during the following year.

In retrospect, the situation of the CBHSSJB in 1984 was remarkably advanced considering the administrative impediments at its inception in 1978. Since its creation in 1978, the organisation had witnessed and responded to remarkable, and often unanticipated, dislocative forces including:

- Construction of the town of Chisasibi.
- Demolition of most of Fort George and the relocation of its population.

⁸⁷ This plan, which was strongly promoted by the MAS, was the predecessor of the much more ambitious Strategic Regional Plan (SRP) that would be developed two decades later.

- Construction of the village of Waswanipi and the settlement of many of the families in the vicinity who had previously lived in the bush.
- Construction of the village of Nemaska, and the need to extend services there resulting in a new clinic.
- Significant outbreaks of contagious disease that were related to a rapid concentration of population in poor sanitary conditions.
- Improvement or construction of various roads and airstrips.
- Completion of much of the construction of the great La Grande dam complexes, with attendant employment opportunities and social impacts.
- Partial adjustment of the traditional economy to the development projects, through the implementation of a Cree Hunting and Trapping Income Assistance scheme.
- Construction of various Cree-run government installations in various communities.

Reflecting back on this period at a conference in 1985, Cree leader Albert Diamond said of the challenges of implementing Section 14:

The difficulty in starting implementation was that we didn't know what level of service was required. I think everybody agreed, even the government officials, that the level of services being provided at the time of the Agreement was quite low. In the case of the Cree Health Board, what is interesting is that prior to the Agreement all the services were provided by Health and Welfare, and that under the terms of the Agreement both governments were to supply funding. When we assessed the situation we found that we were way behind as far as providing adequate health and social services was concerned. It took us three years to convince the governments that drastic change was needed, including building new facilities and changing the way services were provided.⁶⁵³

With recent and significant service augmentations under its belt, the CBHSSJB was settling into a relatively stable regional role, albeit one that still lacked certain services and resources.

13.6.1.d. First Decade of Regional Operations (1985-1994)

The fiscal year 1984/85 ended with the first balanced accounting in the history of the organisation. This was as a result of adhering to an agreement with the MAS regarding zero-based budgeting in certain areas. The balanced result was achieved without having to cut expenditures on existing or immediately planned services. It was also balanced on the strength of promises by the Ministry - which would be honoured - to cover most of an accumulated deficit.

In 1985 the financial outlook and the general situation were encouraging. The Eastmain, Wemindji and Waskaganish clinics had recently been renovated and a new clinic had been built at Mistissini during 1984. Twenty-seven new lodging units were planned for 1985/86. Efforts to equip Great Whale with a shared Cree / Inuit clinic were continuing. In 1985 the CBHSSJB was authorised to have eight physicians or dentists, 36 nurses (with a turnover rate of 17%), and a dozen accredited social workers in addition to community workers. Altogether there were 130 permanent staff. The staff retention rate improved slightly over the following two years, owing to improvements in living accommodation, and the implementation of policies for professional development and personnel orientation and integration.

In 1985, ten years after the signing of the JBNQA, the CBHSSJB had managed to establish itself as the legitimate regional health and social services delivery organisation, even though questions continued to be raised in some quarters about its efficiency and financial competence. Significant increases in funding helped greatly to stabilise the organisation and provide services that had previously been non-existent.

An even greater increase in funding would occur over the decade 1985-1994. However, much of this was attributable to the construction and rebuilding of capital facilities.

Issues of Cultural Sensitivity

The CBHSSJB was growing rapidly in physical capacity but not so quickly in terms of Cree representation in the health professions. On 12 August 1986 the GCCQ protested to the provincial Rochon Commission on health reform that non-aboriginals dominated the CBHSSJB, and that the organisation therefore did not reflect Cree culture or needs. The Government of Quebec was accused of promoting this situation. The GCCQ, at the behest of the CBHSSJB, argued amongst other things that the doctors, paid directly by the RAMQ, displayed little loyalty or sensitivity to regional and cultural needs. The CBHSSJB wanted them transferred to its payroll in the manner that nurses were paid. For the MAS and its successor the MSSSQ this was, and remains, a non-negotiable issue. In 2004 the Crees would still prefer this arrangement, but because of increased sensitivity amongst doctors, and other factors, the issue is not as pressing.

The initial development of the CBHSSJB services was along southern lines, with little or no accommodation for how Crees might like to organise or deliver services. It is difficult to isolate what was Cree in the organisation, other than the Cree faces who were mostly in the unskilled and semi-skilled professions, and in higher management posts that were often appointments. During 1985 and 1986, vocal complaints were heard from the Cree communities regarding insensitivity and cultural inappropriateness in the services provided by the CBHSSJB. The Board was in a difficult position. Firstly, the supply of qualified Crees for the highly technically occupations was very limited, and neither the Cree School Board nor the CBHSSJB had funding or energies to implement a long-term programme to increase this supply. Secondly, the non-Cree employees were by now feeling unwanted in some quarters, which added to the other pressures which, they felt, encouraged them to leave the region. Staff turnover remained problematic but this was not a problem specific to the Cree Health Board. The Inuit complained that they too needed more control over their own health and social services for similar reasons.

Relations with Canada: Differing Opinions on Federal Obligations

Although Quebec was admitting no wrongdoing, it had recently accepted the need to invest substantial sums in Cree health and social services. Canada, on the other hand, felt no such obligation. Apart from allowing the Crees access to its National Native Alcohol and Drug Awareness (NNADAP) Programme, its investments with impacts on health services were limited to socio-sanitary infrastructure through Indian Affairs, not through Health and Welfare. On 3 December 1985 Grand Chief Ted Moses threatened to take Canada to court for alleged failure to meet JBNQA financial obligations including those in Section 14.

During the early months of 1986 the GCCQ was occupied in establishing a formal process of meetings with Indian Affairs. The intent was to stimulate movement on JBNQA implementation and to improve the level of financial support under new *Cree-Naskapi Act*. Five working groups were established: capital funding; operations and maintenance funding; economic development; housing; and federal government organisation to support JBNQA implementation. The Crees wanted a Section 14 working group, but Canada was adamant that this required provincial participation that at the time was impossible to get. This process, still operating today, negotiates funding including that for socio-sanitary infrastructure and for public health activities at band level. None of this money goes to the CBHSSJB, but the level of funding that is negotiated still determines services which indirectly influence the activities and caseloads of the CBHSSJB.

The Crees maintained their pressure on the federal government persistently. In 1988, faced with unrelenting Cree pressure to provide health funding in the absence of adequate investment by Quebec, and pressured to increase investment in socio-sanitary infrastructure, Canada attempted to show that the Crees were overly demanding. A consultant report for DIAND, which compared amongst other things health expenditures between James Bay Cree and other Registered Indian communities, was completed in July 1988. This concluded that, between federal and provincial funding, and health services, the Crees compared favourably with their counterparts elsewhere in the country. However, the study noted that the Crees had refused to participate; they would not provide any statistics. Therefore, the tables and the analysis had large gaps. Some guesswork was employed; e.g., Chisasibi Hospital Centre was thought to be 43 beds rather than 32.

Despite this posturing, however, Canada was now prepared to show some flexibility while not admitting culpability. In July 1988 the GCCQ accepted \$14M from Canada and agreed to drop its \$30M suit regarding federal failure to provide to establish and maintain municipal (i.e., socio-sanitary) services. Besides \$12M for services each year starting in 1984, Canada agreed to fund another \$8.3M over five years to account for inflation and population increases. This would have a further positive effect on lessening the burden on regional public health services.

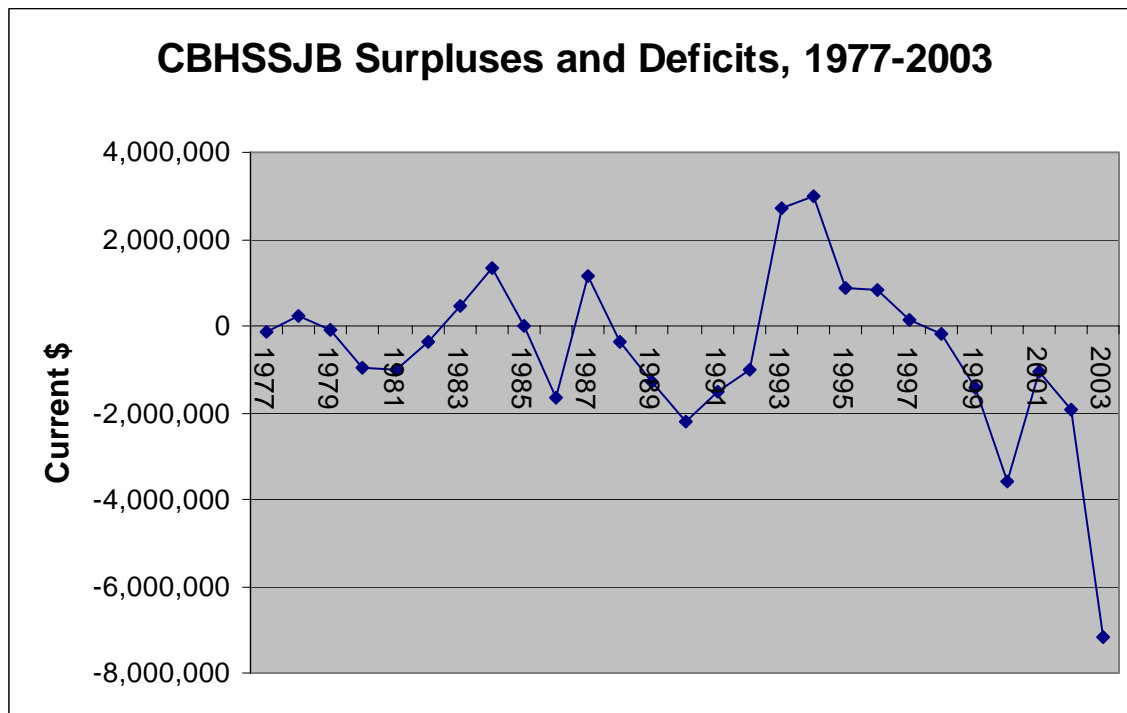
Relations with Quebec: Continuing Contention Over Budgets and Service Levels

The CBHSSJB now went from technically balanced in to deficit, finishing 1985/86 with a large new deficit of \$877,140. This made the cumulative 3-year deficit \$1,221,000. However, the MAS had agreed to cover this and, by the end of 1985/86, had provided \$1,155,000 (95%) with the remainder promised for later. The balanced result of the previous year would prove an elusive target in future years. Now the CBHSSJB drifted towards chronic deficit operation, always hoping that the MAS would bail it out after the annual audit or even later. The Ministry usually did provide the expected bailout – sometimes years later - although often there were conditions attached. Typically these included demands that subsequent budget exercises be zero-based. The Board as a rule accepted the money but, as a matter of policy, it refused to cut service levels if “zero-based” budgeting suggested this was necessary.

The Board’s situation was complicated by an additional problem that plagued the organisation for many years: promised revenues arriving too late in the fiscal year to be spent as planned. The resulting surpluses were somewhat artificial and usually connected with energy-draining efforts to prevent the funds from lapsing. Funding was thus sometimes expended with less planning than one might desire, and with results that were at times questioned. The net result of all this was that annual deficits tended to remain the norm, and the combination of bailouts and late-arriving funds produced wide fluctuations in annual operating budgets:

By 1987 one could see a pattern, which has continued until recently, behind this pervasive mode of deficit budgeting broken by infrequent, artificial surpluses. Nordic costs, which were not fully considered by the Ministry, added to non-discretionary areas like staff accommodation and staff travel. Over-runs in patient transportation costs, above the funded amount, became common. New staff continued to be hired for whom Ministry funding was not yet confirmed. On top of this, better but still insufficiently robust financial controls tended to allow deficits to accumulate in programme areas before senior management could appreciate what was happening.

The CBHSSJB finished 1988/89 with a record \$1,275,000 deficit, to a cumulative deficit level of \$1,679,000. Further adjustments for the period 1986-89 (\$404,000) reduced the outstanding accumulated deficit to \$1,275,000 by end of 1988/89, but as became common, represented only a fraction (32%) of the relief sought. Henceforth the Ministry became reluctant to provide full bailouts. This tendency, and the continued refusal of the Cree Board to consider service cuts, added considerably to the structural deficit.



During 1988 the CBHSSJB first sought Grand Council's assistance in resolving the deficit problems. The Ministry was cool to the idea of negotiating with the Crees= political arm, but they agreed to recommence negotiations with the regional health. In Chisasibi, on 25-26 October 1988, there occurred the first formal meeting between CBHSSJB management and MAS personnel since their falling-out two years before. Within a few months, the Ministry acknowledged that it owed \$775,942 or 56% of the amount claimed. This demonstrated that a limited dialogue was better than no dialogue when deficits were mounting. These negotiations resulted in partial relief, but again failed to establish what the Crees wanted most: a rational, multi-year basis of funding for the Cree Health Board that was driven by actual need. Under the status quo, the Cree Board was funded like any other establishment in Quebec: each year it received a proportion of the overall pie, and that pie could get smaller or larger.

The year 1990 began with the CBHSSJB, in February, presenting a lengthy brief to the provincial Parliamentary Commission that was contemplating proposed changes to R.S.Q. S-5 (the law governing Quebec's health services). This was the first substantial revision proposed for Law S-5 since the CBHSSJB was created. The Crees considered - and they do today - that changes to S-5 that impact on the CBHSSJB must be consistent with the JBNQA and, moreover, agreed-upon in advance by the Crees. Particular concerns at the time were that the S-5 amendments would impact negatively on their self-determination. The Commission may have considered this protest but it did not suggest any changes to accommodate the concerns of the Crees. The bill went ahead. While the legislative impacts were small, the Crees decried the process as a failure to consult and as unilateral action in disrespect of treaty.

The Ministry began to lose patience at what it considered Cree refusal to adapt. In February 1990, the Ministry demanded that the CBHSSJB recover \$1.5M of deficit spending by instituting economies. This marked the first time that the Board of Directors would flatly refuse an order from the Ministry to cut services. Previous refusals were of an informal nature and not overly antagonistic. Henceforth the Board's official policy would be to never cut services on account of services already being well below

standard. The Ministry's demand for service contractions, and the simultaneous legislative amendment, mobilised the CBHSSJB and the Grand Council to politicise the Section 14 file and to work more closely together to pressure the Quebec government.

The CBHSSJB closed the 1989/90 fiscal year with a record \$2.2M deficit and deadlock over how to deal with it. In July 1990, after a month of digesting the Cree Board's 1989/90 audit report, the Minister requested a paper that synthesised the Cree health and social situation, and which set out Cree health and social programme priorities and the fiscal requirements for implementing those measures. Other health boards would receive similar requests. The Cree Health Board complied with a detailed report that led only to discussions with MAS officials over disproportionately high Nordic costs. The interest of Ministry officials, in discussing Nordic costs, diminished after a few months. They later claimed that they lacked a mandate to negotiate outside of the funding parameters applicable to all regional boards.

In December 1990 the MAS released a Non-Insured Health Benefits Policy regarding JBNQA beneficiaries. This reflected a welcome realisation that non-insured health benefits was a major issue that Quebec could not disregard. The new policy amounted to a reversal of Quebec's previous refusal to recognise that non-insured benefits are a JBNQA right. However, in acknowledging in writing within the programme guidelines an entitlement, the MAS established this entitlement at a level similar to social assistance programme norms. The CBHSSJB refused to implement these new guidelines. They continued using those of the more generous federal NIHB Programme. The gap between the NIHB that the CBHSSJB delivered, and the NIHB that the MSSSQ would pay for, grew over the next decade until core programmes were being cannibalised by at least \$4M in order to maintain non-insured services.

With Bill 120 in 1991, Quebec began a major reform of its statutory framework regarding health and social services. This reform was in large measure a response to the fiscal shock caused by reductions in federal health and social transfer payments. Bill 120 laid the groundwork for what would be so-called Inter-Regional Equity Policy. Boards were requested to participate in an Inter-Regional Equity exercise. The objective, as explained to the regional boards, was to gather ideas about how the provincial health and social services budget could be better allocated during a time of severe restraint. This exercise was widely viewed as a competition between boards for scarce resources, although it was promoted as an opportunity for boards to network to share experiences on how to cut costs and manage within reduced envelopes. The Cree Health Board participated in the exercise in the hope that the Ministry would realise that it faced disproportionate Nordic and also general health and social costs.

The cautious hopes of the CBHSSJB, and perhaps of some other boards, were dashed when the April 1992 Ministry budget reduced and capped funding to regional health boards generally. Boards were requested to change their priorities, as necessary, so that less critical services could be abandoned or scaled back. The CBHSSJB continued to try to convince the MAS of its disproportionately high, and unavoidable, costs. Further negotiations with the MAS in 1993 provided enough programme-area-specific debt relief to allow the Cree Board to briefly operate again in the black. However, the Cree Board refused outright to propose or implement any service reductions.

A morale-lifting development occurred in 1993 with the planning and construction of a substantial modern clinic at Ouje-Bougoumou. This new Cree community was constructed on one square mile of provincial (not federal) land in an effort to resolve an entitlement matter that remained unsettled when the JBNQA was signed. In April 1994 the Board's overall funding allocation was slightly increased when Cree health in Ouje-Bougoumou was added to the Board's responsibilities. The CBHSSJB also took over providing non-insured benefits to Ouje-Bougoumou residents but with no increase in NIHB revenues from the Ministry. A positive development for the Crees was the acceptance of responsibility for patient transportation – a component of NIHB – between Montreal and the Cree Region. Montreal General began

to transfer this function during 1994/95 and the process was completed on 1 April 1995. In this case there was a transfer of existing funding to the Cree Board.

The implementation of Bill 120 – the restructuring of health boards in Quebec – gathered pace in 1994. In mid-1994 the Crees successfully argued that the CBHSSJB should remain outside the Bill 120 changes and still under the old Law S-5. The Inuit did not protest their inclusion in Bill 120. The end result was that the old law continues to structure the Cree Health Board while a newer mode of structuring applies elsewhere. The unintended result is that the Quebec Crees are now the only Aboriginal nation in Canada with their “own” defining health legislation.

The Ministry began changing its administrative procedures and funding modalities to reflect the legislative changes. These procedures and modalities were applied to the CBHSSJB as they were to all boards in Quebec, probably because of the administrative complexities involved in having two systems. To the Crees, this was tantamount to administratively changing some of the parameters under which the CBHSSJB was established pursuant to the JBNQA. The major reforms set out in Bill 120 were accompanied by a move from line-by-line funding and budgetary control to a system based mainly on a global envelope. In exchange for a fixed sum that was not tied directly to needs, but rather to affordability, regions received additional latitude to do whatever was necessary in order to balance their books. The move towards block funding removed benchmarks that were formerly used to allocate funds, and which were used by regional boards to argue for additional funding. Following the 1993/94 audit results, the CBHSSJB once again rejected pressures to do what was necessary in order to balance its books (i.e., reduce activities). The immediate impact of this particular dispute was a recurrent sum of \$432,000 that the Ministry (now the Ministère de la Santé et des Services sociaux du Québec, or MSSSQ) felt that the Crees were not entitled to, but which they were spending anyway. The CBHSSJB’s 1994/95 financial statements provocatively showed an account receivable from Quebec of \$432,000. This matter was not fully resolved until the year 2003.

The first decade of regional operations concluded in 1994 with a new resolve to fight the MSSSQ as hard as necessary. By 1994 the litigation landscape was rapidly becoming a constraint to negotiations on many topics, between various Cree entities and provincial departments. The Crees had felt compelled to resort to the courts on two-dozen occasions in regard to their JBNQA rights. In March 1994 the Crees launched their massive *Matthew Coon-Come et al. v. Quebec et al.* Quebec Superior Court action.⁶⁵⁴ Among its protests was a claim regarding the alleged failure of Quebec to properly and fully implement its s. 14 health and social obligations. This was the first Section 14 claim in two decades. It had a palpable impact on dampening what little provincial enthusiasm there was for negotiated resolutions in the health sector.

The CBHSSJB requested the Grand Council of the Crees of Eeyou Istchee (or GCC(EI), formerly the GCCQ) to establish a Section 14 negotiations table with the MSSSQ, and do “all things necessary” to accomplish the goal of Section 14 implementation. Subsequently a Grand Council resolution supported the Board’s stand. However, the high-profile Great Whale hydro battle was using most of the collective Cree energies and the MSSSQ was not interested in negotiations when matters were before the courts, especially when negotiations meant dealing with the Crees’ political arm that was doing the litigating. In any event it was not Ministry policy to negotiate, in the manner that the Crees intended, with any regional board. The Ministry did not negotiate with other regional boards over changes to Ministry policy. Rather, it engaged in dialogues over how its policies could be implemented.

13.6.1.e. Second Decade of Regional Operations (1995-2004)

This decade saw ongoing negotiations between the Crees and Quebec around service levels and funding. These negotiations revolved around several inter-related issues: Section 14 entitlements, and the extent to which they “guarantee” certain service levels; funding adjustments to compensate for higher costs in

northern regions; and the way in which Cree health and social services are organised and administered, including the legal framework for these services.

1995 to mid-1999: Negotiations at Working Level

During the first years of the period, there were repeated – and ultimately fruitless – discussions on the issue of Nordic costs. During March and April of 1995, the CBHSSJB participated in an Inter-Regional Equity working table. This was not Cree-Quebec negotiations, but the same sort of dialogue that was offered to the other regions. However, the MSSSQ proposed that this process could examine resource allocation within the Cree, Inuit, and northern regions. Despite its recent abandonment of efforts to “scientifically” determine regional allocations, the MSSSQ’s officials acknowledged that allocation methodologies designed for the south were deficient in the Northern context. A programme of data collection, needs determination, and resource justification was proposed. Exchanges of views and statistics occurred over the following months. The CBHSSJB started work on a substantial Cree Region resource justification document⁶⁵⁵ in the hope that this would lead to a more needs-sensitive funding mechanism.

The Board presented detailed calculations of hidden northern costs, expense and caseload projections, and funding rationales. Despite much discussion of these arguments with MSSSQ officials, an inadequate and arbitrary increment of \$1,500,000 was allocated in 1995/96. On the positive side, the Ministry appeared to recognise that Nordic costs were higher than it had thought. On the negative side, there was no recognition of the need to rectify programme deficiencies, or to allocate funds based on need.

In August 1996, after a period of diminished communications, officials of the MSSSQ finally indicated that the Ministry had really lost interest in discussing Nordic costs. The CBHSSJB’s partially completed exercise to determine Nordic costs was abandoned. The CBHSSJB had expended considerable energy but ended up with another arbitrary and unscientific round sum ostensibly for Nordic costs: \$1.9M in 1996/97 along with clear signals that further discussion of Nordic costs would serve little purpose.

Discussions about Section 14 obligations and the repatriation of the Cree Region’s Public Health Department also came to nothing. While the Board’s staff were busy trying to influence the budget provided by the MSSSQ, Minister Rochon in February 1996 verbally agreed to establish a special bilateral working group to review the implementation of the s.14 obligations of Quebec. This was very encouraging but, despite much exchange of correspondence over ensuing months, the Minister’s Office ceased to be interested. During the period when the signs were still encouraging, the MSSSQ proposed the creation of a Public Health Department for the Cree Region. The Crees felt that this offer, while a welcome sign of flexibility, came two decades too late. In any event the offer included little additional funding and the MSSSQ would not consider the legislative change needed for the CBHSSJB to “own” a Public Health Department. Therefore, public health continued for the time to be administered by “long distance” from Montreal.

In April 1997 Minister Rochon issued a lengthy demand for a CBHSSJB plan to “modernise the whole of its administrative and support infrastructure” within three months. Implicit in this demand was that secondary services would be reduced in order to meet savings targets. This demand included receiving an assurance from the Board that no clients would be denied services.

The CBHSSJB rejected this new demand as impossible to achieve. The Board felt that the funding base was grossly and chronically below minimum requirements. Part of the problem was that the costs of transportation and accommodation greatly exceeded the budget lines attributed to them, with the consequence that their continued viability meant - increasingly - drawing on funding meant for other core services. A further challenge was that the organisation’s outmoded management and accounting systems

made any sort of programme modernisation impossible unless fundamental changes occurred first in the support services. The organisation was incapable of making these changes without major outside assistance which, at the time, was not forthcoming.

1997-1998: Attempts to Move Negotiations to the Political Level

The assistance of the Grand Council had been requested several years previously. Little had come of this, however, in part because the Ministry refused to negotiate with officials of the Crees' political arm. Indeed, it seems that the Board tended to content itself when occasional demands for political negotiations triggered resumption of negotiations between health officials. By now, however, the Board was serious in its plea to the new Cree chiefs. In December 1997 it formally requested the Grand Council to take over health and social funding and related Section 14 negotiations.⁸⁸ The chiefs accepted this request. For the first time, a clear mandate was given to enter into functional and results-oriented negotiations with Quebec on the following:

- the nature, quantity, and quality of health services and facilities;
- provision to the Board of adequate financial resources;
- a scientific, realistic formula for an annually adjusted funding base for all health and social programmes and services; and
- organisational and administrative changes as required for the delivery of services.

The Board wanted discussions with Quebec to be broad enough to include review and mitigation of long-standing structural and systemic problems; it was not prepared to accept a quick cash fix. Rather, the Board wanted negotiations to lead to a stable and adequate financial basis and end its cyclical financial crises. It was now willing to consider changes in R.S.Q. c. S-5 if necessary. The difficulty now was how to bring the provincial government to the negotiating table.

In 1998 a Quebec Superior Court decision sent shock waves through provincial and federal departments regarding JBNQA obligations. In a case dealing with Cree School Board funding (the Cree School Board v. Canada and Quebec case), Judge Croteau concluded, amongst other things, that federal and provincial responsibilities under the JBNQA are enforceable by the courts, rather than being a form of non-binding contract subject to parliamentary discretion.

This decision (which went to appeal) set an important interpretation regarding the programme and funding responsibilities of Quebec and Canada with respect to education, and possibly with respect to other areas as a matter of precedent. The Crees felt that the decision bolstered their view that the CBHSSJB is a "board plus" and that Cree health and social benefits are guaranteed under the JBNQA as a constitutionally protected treaty.

In April 1998 Minister Rochon demonstrated an apparent change of heart. He wrote that he would be pleased to work with the Grand Council to develop formal Terms of Reference for a joint process to resolve a wide range of Section 14 issues. This specifically included funding, but also broader Section 14 implementation issues including possible amendment to the JBNQA. Minister Rochon furthermore added to the list of negotiable items the organisation and administration of health services and social services, and the repatriation to Cree territory of Public Health and its legal framework. This suggested to the

⁸⁸ This transfer of responsibility for negotiations allowed the CBHSSJB to focus on immediate and pressing problems. A serious shortage of nurses was now making itself felt. The MSSSQ was informed, but felt that it was the responsibility of the CBHSSJB to solve the problem. It was originally hoped by the Crees to dispose of this matter amicably through the planned negotiations. However, since this table took a long time in coming about, the nursing shortage issue had to be painfully worked out through the collective negotiations process.

Crees that the Government of Quebec was ready to engage in the desired high-level political dialogue, even though a toxic litigation environment had put an end to productive dialogue in most other areas of Cree-provincial interest. The Crees had by now assembled most of a Section 14 negotiations team with the expectation that serious negotiations would commence. This group, with members from the GCC(EI) and the CBHSSJB, took over discussions with MSSSQ officials on establishing a negotiations table. By December 1998, these discussions resulted in a mutually agreeable Terms of Reference document that was ready for signing. Then a provincial election intervened and the document was put on hold.

January - April 1999: The climate sours

By February 1999 it was becoming apparent that the new Health Minister, Pauline Marois, was not interested in signing the negotiations framework that her predecessor had supported. Indeed, Cree-Quebec relations on all fronts were now approaching a level of utter stagnation.

The paths followed by the Crees and Quebec, regarding the further development of regional health and social services, began to diverge markedly. In February 1999, the Grand Council hosted a Special General Assembly on Cree Health and Social Services. This was organised in order to determine what the Crees as a collectivity – and not just as a Health Board – saw wrong with the status quo. The special assembly resulted in clear direction to attempt to negotiate a final solution to the historic Section 14 implementation problems, or else consider the full range of options up to and including termination of all or part of the JBNQA.⁸⁹

Several other factors combined to poison the negotiating environment during this period. First, in February 1999 the *Ministère des affaires autochtones* of Minister Guy Chevrette indicated that Quebec would not discuss forestry issues unless the Crees dropped their Mario Lord forestry litigation. This alarmed the Crees because negotiations have often proceeded “without prejudice” to matters before the courts. It was furthermore deeply alarming as unofficial reports suggested that health and social negotiations likewise would not proceed unless the forestry litigation was dropped. In April 1999, when the MSSSQ Minister informed the Chief of Waswanipi that previously approved plans for constructing a dispensary and six apartments were on hold, the Crees interpreted this as conclusive evidence that health was being held hostage to the forestry dispute.

A second complicating factor was that, between February and April 1999, Quebec tabled several bills that the Crees felt could potentially have an impact on JBNQA Section 14 and related Quebec legislation. These were again tabled without the degree and manner of political consultation that the Crees felt entitled to under the JBNQA. The offending bills of that time were: Bill 26, *An Act Respecting Childcare Centres and Childcare Services*; Bill 27, *An Act to Amend the Act Respecting Health Services and Social Services as Regards to User Records*; and Bill 28, the *Midwives Act*.

The Crees Compel the Ministry to Negotiate

In May 1999 the Crees decided to compel health negotiations by making a public issue of the diabetes situation. Their immediate lever was data from diabetes surveillance documenting the extremely high rates of Type 2 diabetes, including high rates of gestational diabetes.⁶⁵⁶ A year earlier, in May 1998, the CBHSSJB had informed the MSSSQ of a serious diabetes situation which it felt was going to overwhelm

⁸⁹ It also resulted in a Cree national vision for health and healing, which was used in subsequent initiatives of the CBHSSJB including its Strategic Regional Plan exercise during 2002/03.

the resources available. This did not elicit a response. The MSSSQ was providing no diabetes-specific funding and the CBHSSJB was running the Cree Diabetes Registry from general operating funds.

The Grand Council had proven itself a master at affecting public opinion through the skilful use of the media. Its May 1999 diabetes press releases included reference to the alleged hostage situation between Section 14 and the cessation of litigation, and also the disinclination of the MSSSQ to provide funding for a diabetes programme. The press coverage and the questions raised in the National Assembly were negative for the MSSSQ. Under pressure to show that the door to dialogue really was open, the Minister rapidly responded with an offer to establish a table.

Yet the Ministry was still disinclined to negotiate with Cree political representatives. In June 1999 the Cree chiefs met with Minister Marois. The Minister offered the type of administrative discussion process that the Ministry had previously favoured. The offer was essentially what other boards in Quebec were receiving: a write-off of debts, and a little new money, in exchange for accepting the health priorities of Quebec as well as compliance clauses. This was unacceptable to the Crees partially because there were large differences between the provincial health priorities and those of the Cree Region. The chiefs reiterated that the Grand Council is the point of contact for Quebec for all negotiations relating to the implementation - or non-implementation - of the JBNQA; that an administrative rather than political solution was unacceptable and would not be discussed; and that urgent issues required a process that went beyond health and social funding. The meeting began unproductively but, towards the end, the Minister displayed a degree of openness. The chiefs and Minister Marois agreed that the new Section 14 Negotiator of the Crees, Abel Bosum, would meet with Assistant Deputy Minister Veilleaux in an attempt to reach an understanding about negotiations.

The following month (July 1999) the full Cree and MSSSQ negotiations teams met for the first time and reached verbal agreement on terms of reference for negotiations.⁹⁰ The proposed Section 14 discussion process would, by mutual understanding, be modelled on the successful dialogue between the Cree School Board and the Ministry of Education.

1999-2001: Tangible Progress on Many Fronts

In November 1999 Minister Marois and CBHSSJB Chairman Bertie Wapachee⁹¹ signed a Section 14 protocol document, with the full understanding that the Crees' negotiator would be a representative of the GCC(EI). Proof of a degree of good will on the part of the Ministry was a visit to Chisasibi, in January 2000, of MSSSQ negotiator Louise Montreuil and her entire team. Following two days of tours and briefings, it was acknowledged that the CBHSSJB did have some desperate needs that required immediate attention. Directions were subsequently given to provide as much assistance as possible through existing funding sources. The Ministry's team also learned about the chronic non-insured services situation during their January visit. In March 2000, the Crees' negotiating team submitted a proposal for an NIHB funding regime, which the provincial officials found most interesting.

By July 2000, after six months of progress since the visit of the MSSSQ team to Chisasibi, the following new projects were in hand or else committed:

- Full funding for a new Waswanipi clinic, ahead of the original schedule;

⁹⁰ This happened despite the collapse of the high-profile forestry talks at the same time. The GCC(EI) planned forestry injunctions. It also commenced lobbying the American softwood lumber industry to impose sanctions on wood imports from Quebec. However, on health matters, there was sufficient political will so negotiations could proceed.

⁹¹ The Minister's Office opposed a political document, and so it would not recommend that the Minister sign with the Grand Chief.

- A 20-unit staff housing complex for Chisasibi;
- Modest promised (or already received) increases in crisis areas such as X-ray, laboratory services and dialysis;
- An unconditional write-off of most of the accumulated deficit, without the CBHSSJB having to sign a highly conditional management agreement;
- Two single family dwellings for the use of doctors in Chisasibi; and
- Technical expertise to install telemedicine equipment in the near future.

In November 2000 it was agreed to strike a Cree/MSSSQ Public Health Working Group as a side-table to the main Section 14 table. The objective was to report on public health conditions and to recommend a process for implementing a Cree Region Public Health Department. It was also agreed to strike a Cree/MSSSQ Diabetes Working Group to report on the diabetes situation and service needs, and to make concrete recommendations. The Ministry was particularly eager to achieve progress in diabetes-related services.

On 11 December a verbal agreement was reached on non-insured services, which took effect the following month. Henceforth almost a quarter of the budget of the CBHSSJB (i.e., for non-insured services) would be protected by funding rules which reimbursed 100% of the costs, provided the conditions were met. This, and a recurrent cash injection of \$4M into core operations, provided real financial relief as well as improvements in services.

In February 2001 the Cree/MSSSQ Diabetes Working Group presented its interim report. Along with new data showing continuously increasing prevalence rates, it also included a tentative list of major gaps in prevention and treatment services in the Cree Region. Personnel (and staff housing) gaps were described. Later, people on the Cree side were told this report influenced the MSSSQ's budget process, which was then underway, in a favourable manner. In the same month the Cree/MSSSQ Public Health Working Group presented its interim report, and this too was considered during the budget exercise.

In March 2001 the Crees' Section 14 team presented a detailed elderly and disabled needs assessment to the MSSSQ's negotiating team. This led to an informal joint working group to develop a detailed capital and operations and maintenance (O&M) plan based on the needs assessment. It was understood that this would factor into discussions for building service centres for the elderly and disabled. The Crees already had a \$20M commitment on such facilities, which followed from a 1995 Cree-Quebec Memorandum of Understanding (MOU) on various issues. This Crees and Québec were locked in dispute over how this MOU should be implemented; however, it proved possible to deal with the \$20M elderly and disabled component through non-political, needs-based health discussions.

Also in March 2001, the Crees received, for their review, the Cree Region chapter of the report of Parliamentary Commissioner André Lebon into youth protection services. Monsieur Lebon insightfully described the serious deficiencies and problems in this area. He also indicated that the existing legislation should be changed so as to accommodate Cree values. The Crees considered this as a validation of their complaints about serious deficiencies in regional social services. However, the priorities of the Government changed in the following months, and the Lebon report was shelved without any programme of investments anywhere in Quebec.

In May 2001 the CBHSSJB and the Cree chiefs meeting in Val d'Or marked a new high point in co-operation on common health and social issues that both the CBHSSJB as an organisation, and the various band councils deal with. In June 2001 the Cree/MSSSQ Public Health Working Group presented its final report to the negotiating teams. The MSSSQ immediately offered a transfer of the Cree Region Public

Health budget from Montreal, plus \$1.2M in new recurrent funding, with a view to implementing a substantial Public Health unit on Cree soil. This was immediately accepted with the understanding that \$500K would be contingent upon being able to negotiate a public health legislative amendment in the coming months. The MSSSQ and the Crees subsequently agreed to amend the old law under which the CBHSSJB operated (S-5) rather than to bring the Crees Public Health Department under the new law (S-4.2). This legal agreement marked another milestone. It had been a quarter century since provincial health legislation respecting the Crees had first been tabled.

Although the negotiations had thus borne substantial fruit, a crisis in the supply of doctors to the region had also made it apparent that not all issues could be resolved at the negotiating table. By December 2000 the supply of permanent doctors in the region was heading towards an historic low. This level was reached in July 2001, when only 1.5 of the 13 authorised resident doctors remained - and none were at Chisasibi Hospital. Anticipating this, in December 2000 the Board resolved that the shortage was a "A public health crisis." An emergency operations plan was put into effect which offered a basic level of service by: (a) utilising fly-in replacement doctors who typically came for 2-3 weeks; (b) sending more patients out for treatment elsewhere; and (c) intensifying diagnosis and treatment efforts by already overworked nursing staff. Try as they might, the Cree and MSSSQ negotiators were unable to solve this supply problem because the underlying issues involved the RAMQ, the physicians' union, and the provincial treasury. However, the supply situation began to normalise in the months following the announcement of a more generous, province-wide benefits package for doctors working in the north.

The Paix des Braves Agreement and Increased Regional Planning

Further agreements followed from late 2001 onwards. In November 2001, the report of the Cree/MSSSQ Diabetes Working Group was tabled. Again this report was taken seriously. Agreement was immediately reached on creating a significantly funded (\$2,200,000 in new money) Cree Diabetes Programme with strong connections to the Cree Public Health Department. Also in November 2001 the Crees' Elderly and Disabled needs assessment, and a construction scenario to build Elderly and Disabled day service centres in each community, was presented to the MSSSQ. Soon afterwards, the MSSSQ confirmed that \$10M was immediately available and the remaining \$10M needed would be forthcoming. Ultimately, there were delays but the full \$20M was committed in 2002. In August 2003 agreement was reached on a funding scenario for 50 staff houses that, for the first time, considered Nordic cost factors. An additional 50 units were promised for 2004/2005.

By November 2001 it was apparent that the inability of the CBHSSJB to hire new staff in a timely manner was causing slow-downs at the negotiations table. The MSSSQ was now questioning the point in making further investments if new funded positions sometimes went for months without being posted, and then months again before staff were chosen and started work. This was, for the CBHSSJB, a strange situation of receiving funding for several dozen new positions at a rate greater than its ability to hire. Deficiencies in the Human Resources Department were partially to blame, but so too was a severe shortage of staff housing. Another complication was a counter-productive Housing Policy which assigned units based on seniority. The effect of this was that the few vacant units that existed could not be reserved for staff in any particular programme area. Already there were Public Health positions that could not be filled for this reason.

In October 2001 the CBHSSJB held a joint meeting with the chiefs at the Sheraton Hotel in Montreal. This dealt with:

- Memorandum of Understanding on Elderly and Disabled construction priorities;
- Public Health Department implementation issues;
- civil disaster planning;

- the Cree response to the diabetes epidemic, and the need for community support;
- concern by the chiefs over service levels and service quality; and
- legislative issues relating to Section 14.

After two decades of often-acrimonious relations over the quality and nature of services provided by the CBHSSJB, the CBHSSJB and the communities reached a level of constructive dialogue on major common issues.

Negotiator Abel Bosum was conspicuous by his absence at this key meeting. Unbeknownst to most participants, these were the last two days of the negotiations that finalised the Agreement-in-Principle for the Cree-Quebec New Relationship, better known as the *Paix des Braves* Agreement. As the Health Board representatives filed out of the meeting room, their business done, the Crees' negotiator appeared and the doors were closed. The chiefs now had to contemplate the final offer for a new relationship with Quebec. They quickly agreed in principle to the deal.

In February 2002 the Cree population ratified the Agreement-in-Principle. Immediately, the *Paix des Braves* agreement took effect. This Agreement mainly concerns economic development. It does, however, contain provisions that established an improved climate for Section 14 negotiations. Firstly, the Crees agreed to suspend, until 31 March 2005, litigation respecting health and social services that dated as far back as 1980. This created a favourable window in which to intensify negotiations. Secondly, the existing Cree/MSSSQ table was designated under the new Agreement as the venue to attempt to resolve all Section 14 issues. Other tables were established, including a Section 18 justice table, and also a dispute resolution mechanism. These would have inter-relationships with the Section 14 table.

Planning now began to elevate the Section 14 negotiations to the level needed to resolve the full range of issues. In May 2002, MSSSQ Minister Legault agreed to a range of significant proposals suggested in a meeting by Grand Chief Ted Moses with CBHSSJB Chairman Bertie Wapachee in attendance. This set an agenda for increasing the resources available, settling the Section 14 litigation lodged in the courts, and dealing pro-actively with the impacts of developments on the caseloads and budgets of the CBHSSJB. Now the onus was on the Crees to propose a process to accomplish these things.

Between June and July 2002, the Crees' Section 14 team developed a global approach to settling Section 14 issues. The five components of this global approach, which the MSSSQ received favourably, are:

1. Multi-year formula funding rules for the CBHSSJB, along the lines of those developed for the Cree School Board;
2. Modernised financial administration for the CBHSSJB;
3. A multi-year capital investment plan for the CBHSSJB;
4. A longer-term Social Services process, dealing with issues like youth justice, with an assurance that it will pay off; and
5. Early resolution of certain pressing issues.

In September 2002 an understanding was reached with Minister Legault for a six-month process to reach a Section 14 global agreement. The MSSSQ provided the funding to engage expert advisors and develop a Strategic Regional Plan that the Ministry could support and fund.

Increased Planning Within the Region

Intensive reviews and assessments of the capacities, needs, and priorities of the CBHSSJB followed. This included assessment of Chisasibi Hospital Centre's potential for offering minor surgery. The process involved detailed inventories of all capital facilities, through a partnership between the CBHSSJB and *the*

Corporation d'Hébergement du Québec. These inventories, which identified significant deficiencies along with needs assessments were factored into functional plans for new capital projects that were developed with the assistance of architectural and planning firms.⁹²

By early 2003 a provincial election was on the horizon and the target of 31 March to reach a Section 14 agreement seemed less likely. This target was indeed missed due to the change of government. Despite this, the Ministry's officials supported the draft Strategic Regional Plan on the grounds that it addressed undeniable needs and made practical sense. While waiting to re-establish with the new Government the necessary level of mutual political will, in April 2003 the CBHSSJB approved the Strategic Regional Plan and, as part of it, a ten-year strategic plan for improving hospital services for residents of the region. In June 2003 the substantially complete Plan, including a capital plan, was received by the MSSSQ. During the summer, the Plan was circulated within the MSSSQ for internal review. In August, senior officials responded that it was considered fundamentally sound and was a suitable basis for further negotiation.

The Strategic Regional Plan was also expanded to include modernisation of management systems. In September 2003, a special audit team from the MSSSQ arrived in Chisasibi to investigate the NIHB Programme. Costs in this area had doubled in the several years that the Cree NIHB Programme had been operating. The special auditors left realising that the computer information system of the CBHSSJB was highly deficient and needed replacement. This was a conclusion that the management hoped would be drawn. The auditors recognised - fortunately for the continued existence of the Cree/MSSSQ NIHB Agreement - that the CBHSSJB did have reasonably effective eligibility and entitlement controls in NIHB. In particular, there was no strong reason to doubt the necessity of transporting a very high, and escalating, volume of patients for diagnosis and treatment. It was realised by all concerned that NIHB Programme changes must be part of the management systems modernisation aspect of the Strategic Regional Plan which is expected to span two or three years.

Between June and November 2003, Grand Chief Ted Moses intensified his efforts to build a positive relationship with the new Liberal Government. By November, meetings with the Premier and the new MSSSQ Minister Philippe Couliard re-affirmed the will of Quebec to implement the *Paix des Braves* agreement and to sign a Section 14 Agreement as soon as possible.

Endnotes 13.6. Programmes and Services After 1975

⁶³⁰ Quebec O.I.C. #1213-78, dated 20 April 1978.

⁶³¹ Readers wanting further information on the Cree perspective should consult the public record of court particulars, particularly various statements of claim dating to 1980.

⁶³² Quebec O.I.C. #111-79, dated 17 January 1979.

⁶³³ Quebec O.I.C. #2003-79, dated 11 July 1979.

⁶³⁴ "Compte-rendu d'une reunion tenue au Ministère des affaires sociale à Québec le 12 Mai 1977," by André Lebeuf, Direction de la Santé communautaire.

⁶³⁵ In 1969 the remaining Indian residential schools were taken over by the Department of Indian Affairs and Northern Development.

⁹² The new capital plan also benefited from the lessons of a disastrous experience in 2001, when a Reception Centre for troubled youth in Mistissini suffered repeated management collapses and serious overruns in operating costs. On top of this, while one of the most substantial buildings in the Cree Region, it was not architecturally appropriate for its function as a facility for troubled Cree youth.

⁶³⁶ In 1968 the original Fort George Oblate residential school was modernised. In 1974 an addition was added to accommodate secondary school grades. Pre-kindergarten and kindergarten classes were also opened. At its brief peak, this complex accommodated 125 students mainly from the coastal communities.

⁶³⁷ Federal O.I.C. #701, dated 8 March 1979, "Treasury Board Report of 1 March 1979 - Authorise the Minister of National Health and Welfare to sign an agreement pursuant to the James Bay and Northern Quebec Agreement, with the Province of Quebec and the Cree Board of Health and Social Services of James Bay."

⁶³⁸ Historical correspondence attests to this difference of opinion between provincial and federal governments. The precise documents will not be cited here owing to a desire to avoid contributing to any legal actions that remain active in the courts.

⁶³⁹ Quebec O.I.C. #1021-79, dated 11 April 1979.

⁶⁴⁰ Quebec O.I.C. #2908-79, dated 24 October 1979.

⁶⁴¹ Memorandum to the Cree Regional Authority from Steven Bearskin, dated 14 November 1979, re: Cree Regional Board of Health and Social Services.

⁶⁴² E.g., the *Globe and Mail* of 30 May 1981 contains a prominent article "Ministry disowns Fort Rupert," in the form of a letter from Grand Chief Billy Diamond.

⁶⁴³ Quebec, 1986. "Review of the Application of the James Bay and Northern Quebec Agreement in Cree Territory." Volume 1. P. 66.

⁶⁴⁴ Memorandum to Cabinet from the Minister of Indian Affairs and Northern Development, "James Bay and Northern Quebec Agreement: Review of Federal Implementation." 26 February 1982. s. IV(4).

⁶⁴⁵ Federal O.I.C. #146, dated 22 January 1981 – "To amend Order-in-Council P.C. 1980-2315 which conveyed to the province of Quebec the buildings constituting the health centres, nursing stations, and health stations situated at Povungnituk, Sugluk, Great Whale River, Akulivik, and Inukjuak in the Province of Quebec; P.C. 208, dated 29 January 1981 - Transfer from DNHW to the Province of Quebec the buildings constituting the health centres, nursing stations, and health stations situate at Mistassini, in the Province of Quebec."

⁶⁴⁶ For an overview of the Cree position see: *Minutes of Proceedings and Evidence of the Standing Committee on Indian Affairs*, Issue No. 17, 19 May 1981.

⁶⁴⁷ *Minutes of Proceedings and Evidence of the Standing Committee on Indian Affairs*, Issue No. 18, 26 May 1981. Testimony of the Minister of National Health and Welfare, the Hon. Monique Bégin.

⁶⁴⁸ 1975 - \$812,504; 1976 - \$867,513; 1977 - \$64,074; 1978 - \$953, 831; 1979 - \$648, 950; 1980 - \$629,474. Source: Public Accounts of Canada.

⁶⁴⁹ "Statement from the House of Commons Standing Committee on Indian Affairs and Northern Development to the Ministers of Indian Affairs and National Health and Welfare on the Government's Failure to Implement Major Provisions in the James Bay and Northern Quebec Agreement of 11 November 1975," p. 2-3.

⁶⁵⁰ Department of Indian Affairs and Northern Development, 1982. *James Bay and Northern Quebec Agreement Implementation Review*. p. 57.

⁶⁵¹ Permit #162588899, dated 15 July 1982.

⁶⁵² Source: *Annual Reports* and AS-471 *Audited Financial Statements* of the CBHSSJB. Note: These sources do not always match, usually owing to retroactive adjustments. Minor adjustments have sometimes been made years after the fiscal year in question. The figures used in the graph represent the best interpretation possible and, as a visual tool, the graph nonetheless gives a fair picture of the cyclical trend.

⁶⁵³ The entire address is worth reading. See: Recherches amérindiennes au Québec, 1988. *James Bay and Northern Québec: Ten Years After*. Proceedings of a "Forum on the James Bay and Northern Québec Agreement: Ten Years After."

⁶⁵⁴ Particularised Declaration 500-05-004330-906.

⁶⁵⁵ "Interregional Equity Draft Version, May 1997," CBHSSJB (1997).

⁶⁵⁶ The Cree Diabetes Registry began in 1996 and changed to the Cree Diabetes Information System (CDIS) in 2004.

13.7. Development of Services by Sector

13.7.1. Development of Clinic Services

13.7.1.a. General

In this section, the generic term “clinic” is used to describe the various non-hospital community health facilities, while the federal terms like “health centre” and “nursing station” are used when precision is required.

The first clinic of any sort in the Cree Region was part of the mission hospital at Fort George, which opened in 1930. Twelve years elapsed before any government clinic appeared. This was the federal health centre at Fort George, built in 1942. At the close of World War II, the federal government began a vigorous campaign to improve the health status of Indians nationally. For over a decade the approach focussed on frequent visits by hospital ships and travelling medical teams, as well as flying patients to Moose Factory and Fort George for Hospital diagnosis and treatment. The first clinic outside of Fort George was Rupert House (Waskaganish) in 1950, followed by Mistassini (Mistissini) in 1954. It seems that all or most of the Cree communities then existing received their first nursing station within the decade that followed:

Some description is in order so that the facilities inherited from the federal government can be visualised. By federal definition, a nursing station or *poste de soins infirmiers* (Wemindji and Waskaganish) was an installation of 2-12 beds run by a nurse with a small number of other employees. A Public Health programme operated and curative services were dispensed with the help of visiting personnel such as doctors and dentists. Typically these persons only visited a couple of times a year. At other times the head nurse acted as the doctor or else the patient was sent out. Persons needing hospitalisation for minor reasons, or persons awaiting transportation to a hospital, could be accommodated in the short term. Nursing stations were the standard establishment for isolated populations between 100 to 1,000 with no other medical installation. They sometimes had charge of nearby satellite posts (*postes sanitaire*).

Many of the Cree communities and their clinics are the direct result of relocations and migrations, either before the JBNQA or as a consequence of it. The relocations and therefore the clinics at Chisasibi, Waswanipi, and Nemaska all relate directly to JBNQA provisions for relocation and/or establishment of communities in newly designated areas of federal Category 1 land.⁹³

- The residents of what is now Wemindji formerly lived, since the 1930s, on an island at the mouth of the Old Factory River south of the present locality. This was not a suitable site for a proper settlement, so in 1959 Indian Affairs relocated the village to its present location. The 1960 Wemindji nursing station reflects this relocation.

⁹³ It is difficult to claim that Ouje-Bougoumou and its clinic are the direct result of hydro-related dislocations. However, a community at Ouje-Bougoumou was a ‘loose end’ in 1975 when the JBNQA was signed, which it was understood would be addressed in subsequent JBNQA-based negotiations. The community is presently situated on provincial - not federal - land.

Building Dates for Clinics in the Cree Region, 1930-2004 ⁶⁵⁷			
Clinic	Built	Rebuilt / Replaced	Remarks
Whapmagoostui(Great Whale)	Federal 1962 Provincial ca. 1970	Replaced 1995	Federal nursing station transferred to Inuit under JBNQA; provincial nursing station transferred to the CBHSSJB. In 1995 the CBHSSJB collaborated with Inuit and built the present building to replace earlier clinics. This has an Inuit and a Cree section and the doctor is provided by the CBHSSJB.
Fort George / Chisasibi	1942	Replaced 1981	The 1942 health centre took over most clinic functions from the 1930 Fort George mission hospital. Federal health centre on Island (1942) was closed when clinic in Chisasibi Hospital Centre opened.
Paint Hills (Wemindji)	1960	-	Original Nursing Station building remains in use.
Eastmain	1963	Replaced 1973 Replaced 1984	1973 Health Centre replaced earlier Nursing Station building. Present clinic dates from 1984.
Rupert House (Waskaganish)	1950	Replaced 1971 Replaced 2002	
Nemaska	1981	-	Built simultaneous with construction of community. No predecessor or successor.
Ouje-Bougoumou	1994	-	Built simultaneous with construction of community. No predecessor or successor.
Mistassini (Mistissini)	1954	Replaced 1962 Replaced 1984	
Waswanipi	See Remarks	Replaced 1980 Replaced 2002	Present 1980 clinic was built simultaneous with the new community. It seems to have replaced two minor federal dispensaries nearby at Matagami and Miquelon. These might not have had a full-time nurse. The present building dates from 2002.

- Waswanipi was not listed on the JBNQA schedule of facilities to be transferred from Canada. The building dates of federal installations near Waswanipi are unknown with precision. However, federal records indicate that in 1978 there were minor health offices (*dispensaires*) south (Miquelon) and west (Matagami) of the geographic settlement of Waswanipi. Medical Services Branch built a basic type of nursing station (*infirmerie*) at Waswanipi in 1980, when the present community was being built and this was promptly taken over by the CBHSSJB. The other, earlier dispensaries which served the Waswanipi population when it was dispersed, before

the community re-united at the present community site probably closed following the building of Waswanipi.

- In 1975, the present community of Nemaska had not yet been built. The 1981 clinic was provincially built and immediately taken over by the CBHSSJB.
- The Ouje-Bougoumou clinic was built and designed by the CBHSSJB in connection with the building of that community in the early 1990s.
- The existence of Chisasibi is particularly tied to environmental impacts of the La Grande project. Correctly speaking, the island called Fort George by the HBC has always been known as “Chisasibi” to the local people. Today, Chisasibi refers to the new settlement on the mainland that resulted from the relocation of infrastructure and inhabitants from Fort George during 1980. The relocation was negotiated as a JBNQA complementary agreement as a result of changing water levels connected with the La Grande complexes. Only about ten families chose to remain on the island.

13.7.1.b. Clinic Programmes

The section *Federal Programmes and Services in 1975* describes the programmes delivered locally through the federal clinics, and also the programmes delivered with the support of visiting staff from the regional office of MSB. The delivery of this programming, in the five federal clinics extant in 1975, was organised in a manner substantially different than what was offered through a provincial clinic under the CLSC system. Programmes in the new clinics at Waswanipi, Nemaska, and Chisasibi (in the new hospital) were from the outset organised along provincial lines. Thus, for a while two programme modalities operated. Common ground had to be reached quickly.

The CBHSSJB’s clinics all had to be multi-purpose facilities because of an absence of, or distance to, the supporting agencies found elsewhere in the Quebec system. For example, the clinics had to accommodate visiting or resident social workers and their clientele. Space had to be found for an increasing number of contracted or staff specialists who visited with increasing frequency: e.g., ophthalmologists; optometrists; community health nurses (first hired in 1983); dental hygienists (first hired in 1983); home care workers; and Mercury Programme personnel. The older clinics had to be renovated to free up space while the new clinics did not fully reflect the space actually required. An urgent programme of constructing staff housing - including transit facilities - took place between 1983 and 1986. The clinics offered a range of services:

- At first the local head nurses were responsible for all local supervision including that of the maintenance staff. This became an impossible burden so local co-ordinators were hired to manage operations and maintenance, to allocate accommodation, and to interface with the community.
- The Community Health Representatives (CHR) programme, first begun under MSB administration, was rapidly expanded under CBHSSJB management in the mid-1980s. The CHRs continue to perform a variety of nurse-assistant functions including: translation, administrative assistance, and health counselling. Today the CHRs have their own responsibilities in addition to assisting the nurses, but their levels of medical competency vary as a reflection of their unsystematic training, an individual’s length of employment and the continuing confusion over their precise job definition.
- The clinics continue to operate an Outpatient Programme, which is arguably the cornerstone of clinic operations. Each clinic has at least one patient bed (which until staff accommodation improved, was often occupied by visiting personnel). Today these beds are used mainly for their intended purposes:

1. Observation - especially of children - pending a decision to release or transport for further diagnosis or treatment;
 2. temporary isolation; and
 3. holding patients until emergency transportation arrives. This can be 24 hours or more depending on the weather.
- Improvements in Cree Patient Services, in the late 1980s, eliminated most of the clinics' responsibilities for making transportation arrangements. Today the clinics normally telephone CPS who makes all the arrangements except when closed on weekends. However, the clinics have a role in identifying and instructing patient escorts in cases of elective transports. The clinics are responsible for dispatching their ambulances as required.⁹⁴ They also receive calls for bush medivacs and sometimes make the administrative arrangements. They also must usually supply nurses for medivacs. This can leave clinics short-handed and require urgent temporary, and costly replacements.
 - The bush kit programme, started under federal administration, was by 1984 well established following adjustments as a result of evaluations. A reasonably adequate pool of medical kits, with a radio to contact a nurse for assistance, was by then available. This programme reduces the need for bush medivacs and makes leading a land-based lifestyle more practical for the remaining families who choose to do so.
 - Since Federal times, a Maternal and Infantile Health Programme has been a high priority for the clinics. A minimal Nutrition (i.e., breastfeeding) Programme continues to operate on paper although it has never had appropriate programme resources.
 - Each clinic has a nurse-run dispensary for insured and non-insured medications and medical supplies. These dispensaries issue medications and medical supplies which elsewhere one would be able to get from private, non-prescription suppliers. Only Chisasibi and Mistissini have pharmacies with a resident pharmacist.

Staff shortages have an effect on clinic operations. The clinics continue to periodically experience nursing shortages, and in general a high nursing turnover rate persists. These problems often necessitate Headquarters arranging for agency nurses who are at times insufficiently trained or experienced, and always very expensive. The supply of nurses has never been considered adequate at the best of times. Schnarch (2001:80) observed that:

Staffing levels for nurses were 50% lower for the Cree Region than for Quebec as a whole on a per capita basis. This is despite extensive travel time and additional tasks related to the lack of infrastructure required of nurses in a remote location. In the Cree Region in 1998-99, there were 6.0 equivalent-to-full-time nurses per 1,000 persons compared to 9.0 for the Province as whole.

Fluctuations in the supply of physicians also have an impact on clinic operations. For example, in 2001 the supply fell to 1.5 full-time equivalents (located in Whapmagoostui and Mistissini) with a precarious supply of mostly new short-term fly-in replacements mainly from the south. When the supply of nurses and physicians declines, there is a strong tendency to send patients out for diagnosis and treatment, and even for a second medical opinion. There is no evidence, yet, that the gradual introduction of

⁹⁴ All of the clinics have ambulances today. Except for the one at Chisasibi Hospital these are operated under contract with the local band. Some clinics have vehicles; e.g., Mistissini has a van principally for shuttling dialysis patients to Chibougamau.

telemedicine is reducing this tendency to transport. However, telemedicine and improved accommodation are considered vital ingredients towards attracting and retaining clinic staff, especially nurses.

The organisation of programmes delivered through the clinics has evolved since the early 1980s. The clinics remain the multi-purpose locus of health administration but some of their initial responsibilities have devolved. Perhaps the most striking difference has been that most of the social services personnel have been moved into separate quarters.

A more profound re-orientation is occurring today as a result of the SRP and plans for new multi-service centres. During 2004, under a \$20M construction project, the CBHSSJB is taking delivery of a “Multi-Services Centre” (MSC) in each community. Under a separate roof, these centres will provide services to support and maintain physically and mentally dependant people in the community. They will relieve the clinics of the elderly and disabled chronic caseloads, although some of the clinic staff will have a dual role in working in these facilities. Physiotherapists, occupational therapists, home care workers, and others who specialise in chronic care will be based in the new facilities – some permanently, and others assigned from the regional level. .

These facilities will open according to a schedule that reflects the new O&M funding plan. It is expected that this funding will begin flowing during 2004/05. Phase 2 of this project would involve the construction of chronic care residential facilities in all of the Cree communities. Presently, Chisasibi Hospital has around 7 chronic patients in permanent residence and a chronic facility is nearing completion in Waswanipi.

The basic capital and functional planning for the MSCs was completed before the SRP exercise began. The physical and administrative isolation of the MSCs and the clinics therefore had to be re-evaluated in light of the SRP’s new emphasis on effective local co-ordination of all services. Section 5.2 of the Strategic Regional Plan is re-organising local delivery around a single-window delivery point called a *Cree Integrated Health and Social Services Centre*. This would integrate delivery of health and social services in the Cree communities, taking into account the special requirements of each, with the following services grouped under a local management unit:

- First line services usually available in a CLSC;
- Emergency services and acute health care;
- Preventative services relating to *the Programme national de santé publique 2002-2012*;
- Services planned for the Multi-Service Centre initiative, Phases I and II;
- Services for Youth and Families (readaptation, young offender, youth protection, adoption);
- Services provided with traditional approaches; and
- Outpatient rehabilitation services (hospital and private-service types); and
- Pre-hospital services (ambulance services, first responders).

Regional programmes or services that cannot or should not be decentralised will be maintained at a regional level of delivery. This would encompass, for instance: group homes for youth, reception centre, and a regional hospital.

To implement the single-window delivery model, the first priority will be on administrative changes. Practical considerations, such as the existence of usable buildings, mean that years will elapse before all of the functions of the Cree Integrated Health and Social Services Centres can be brought under a single roof. This model will first be implemented in Wemindji where the clinic has been altered to reflect this

single-window responsibility. This plan is to be the prototype for further constructions and rebuilding. It is expected that a large clinic will be built within the next two years in Mistissini. It is planned that this will have some light hospital functions including dialysis, laboratory, and radiology. Discussions are underway on the feasibility of having a small 8-bed ward for the treatment of low-risk cases such as persons requiring intravenous (IV) fluids for infections.

Access to clinic services would be improved by gradually extending regular opening hours from under 40 hours a week to a maximum of up to 80 hours a week depending upon need and resources. In addition to this, an emergency mechanism (i.e. staff on call) would provide services around the clock in each community. This improved access will have a great impact on the staffing levels of the clinics.

13.7.1.c. Three Clinic Case Studies : Mistissini, Nemaska, and Waswanipi

General

It is instructive to examine in detail the establishment, and then take-over by the CBHSSJB, of clinics at Mistissini, Nemaska, and Waswanipi. These three were chosen as case studies for the following reasons:

- The early records are particularly well-documented;
- Two (Waswanipi and Nemaska) illustrate some of the conditions associated with building and operating a clinic under circumstances of community relocation;
- They provide descriptive insight into the prevailing health conditions; and
- One (Mistissini) illustrates the challenges associated with the withdrawal of federal health responsibilities.

The focus is on the first year or two of CBHSSJB administration of these clinics.

Mistissini Clinic

The formerly-named Mistassini clinic was, during the latter part of federal administration at least, was a federal installation that operated on a contractual basis with Chibougamau hospital. Mistissini clinic was transferred to Quebec, and then immediately to the CBHSSJB, only one month after the CBHSSJB had emerged from trusteeship. The CBHSSJB inherited the contractual arrangement and had to make the most of it until new arrangements could be made.

The facility that the CBHSSJB took over from MSB was built in 1962 when the community's population was about 1,000. The establishment initially consisted of a one story wooden building, to a standard federal northern design, with live-in accommodation for nurses. The basement proved prone to minor flooding each year. A trailer was later provided to supplement the transit accommodation that was available in government housing. In 1981 the service population was around 1800 including non-Aboriginal residents and people in the immediate vicinity. The nurses were medically responsible for about 850 people on trap lines during the winter. Bush kits had been introduced as a federal initiative in 1980 along with first aid training. In this manner the CBHSSJB inherited the federal bush kit programme. Medivacs by aircraft were sometimes necessary for things such as pneumonia and convulsions.

In March 1981 there were 2 Registered Nurses (RNs), one full-time secretary, one full-time interpreter, a part-time secretary and interpreter who was called in as needed, and a part-time cleaner. The nurses spent weekends in Chibougamau and returned in time for the Monday afternoon clinic. Supplies such as bed linen, medicines, food and sterilised equipment were collected from Chibougamau Hospital and brought with them each Monday. No weekend service was available in Mistissini at all, and patients had to make their way down the long gravel road to Chibougamau.

The daily caseload varied from 15-35 patients per nurse, sometimes reaching 42 or higher. This left little or no time for home visits, health education, or school visits. Immediately upon the transfer of the clinic, all the regional programmes of MSB ceased to apply:

- Dental Health Programme
- Maternal Health Programme
- Community Health Representative (CHR) Programme
- Health Education Programme
- Sanitary Health Programme
- Mental Health Programme
- Nutrition Programme
- Struggle Against Transmissible Diseases Programme
- Environmental Contamination Programme
- National Native Alcohol and Drug Awareness Programme (NNADAP).

The CBHSSJB, whose headquarters was effectively in Chisasibi Hospital Centre, was too geographically removed to fill the regional gaps effectively. The DSC at the Montreal General was similarly unable to fill the gap. The central administration of some of these programmes temporarily ceased, fell into disarray, or simply functioned at a lower level. The nurses therefore had to use a great deal of initiative.

Immediately following the transfer, the nurses attempted to organise their services according to the federal programme orientations, but with less support. In 1981 the nurses managed to screen 442 out of the 476 local students for nits and lice. Of them, 219 were infested, 13 had impetigo, 4 had running ears, and 4 needed consultation for scoliosis. Over 350 children under five years were seen periodically for immunisations, but as of January 1980, only 10% were up to date in their schedule. Over the next year the nurses raised this to 85%. In 1981 there had been no routine TB screening since 1976 even though 4 people took active treatment and 43 were taking prophylaxis. Consequently, the nurses organised an X-ray screening in June of that year. A survey of the local elderly population by Eugene Jankowski in July 1980 revealed that most of the local elderly had been hospitalised at least once for pneumonia, liver problems, tuberculosis, or arthritis. The elderly exhibited poor understanding of dosage schedules and of the need for monitoring. The nurses therefore developed, during 1980/81, a chronic care file to track their care. However, there was no regular home visiting or medical assessment of the elderly.

The nurses considered the ex-federal Maternal Health Programme particularly important considering that, at any given time, 39 local women were pregnant. The nurses saw them monthly until the 28th week, then weekly until the delivery. A concerted effort was made to teach maternal health topics to pregnant women. No health education materials had been available for some time, although these were provided in other MSB facilities, along with regional support for the local workers. The pregnant women typically refused to travel to Chibougamau to see a male doctor unless the nurses suspected abnormal medical conditions. The female patients were more inclined to see a visiting doctor, but these visits were so infrequent it was not uncommon for women to enter labour without having seen a doctor at all. Labour cases were normally evacuated to Chibougamau by taxi, but by 1981 Chibougamau Hospital was short of an anaesthetist, so labour cases were sent further, to Roberval. The mother and infant were kept 3-5 days

in hospital unless a complication arose. This was considered too short, particularly because the workload of the clinic nurses usually prevented postnatal visits.

For a few years at least, a paediatrician from Montreal Children's Hospital had been visiting annually. No optometrist had visited since March 1978. It was felt that both were needed for at least a couple of visits annually, although access to an ophthalmologist was best achieved through sending patients to Roberval. There was no ENT rotation. During the 1970s a general practitioner visited for about four days monthly, but by August 1981 this had become infrequent and sporadic, the last visit being three months earlier. Visitations were by then tied to the supply of doctors at Chibougamau Hospital. Therefore, the nurses sent an average of five patients a day to see a doctor in Chibougamau. It was reported that 41 Mistissini people, on average, were admitted each month to Chibougamau Hospital during 1980/81. This gave a hospitalisation rate of one quarter of the inhabitants of Mistissini or close to 2,500 per 10,000 when standardised. However, the Chibougamau count of 495 Indian admissions would also include a few from Waswanipi, and a handful from the town and its environs. Nonetheless the Indian hospitalisation rate was very high.

The nurses at the time had no authority to prescribe antibiotics even though infections dominated the caseload. They had to telephone a physician in Chibougamau for a verbal order. This used up a lot of their time. Referrals were made to Chibougamau, who in turn could refer to Roberval or Chicoutimi depending on the problem. Visiting doctors from Montreal tended to refer patients to the MGH or the Montreal Childrens Hospital (MCH). This resulted in additional charts and made follow-up challenging.

In the summer of 1981 there was one dentist in Chibougamau who was also the mayor of the town. Visits to the community by federal dentists and dental hygienists had ceased some time before. The workload of the Chibougamau dentist required a rationing system of sorts: Mistissini clinic could send only two patients per weekday. Between February and June 1979 the nurses inspected 300 people for dental problems, and identified an average of 6 caries per person. Infant dental health was considered especially bad, with frequent caries of the incisors as a result of prolonged use of the nursing bottle, sometimes with milk but also with sugary drinks. In August 1981, 135 Mistissini residents were on the dentist waiting list, and 39-40 children under the age of six were awaiting extractions under anaesthesia.

The new Cree owners of the clinics concluded that Mistissini clinic and the others had been run-down during the period between signing the JBNQA and their subsequent transfer. The capital checklists done in connection with the transfers do show that the clinics were transferred with less equipment than one would expect. An inventory of Mistissini clinic, in August 1980, showed that, for example, 2 of 3 stethoscopes were not working and neither was one of the two otoscopes.

Recent Developments at Mistissini Clinic. The large caseloads and general poor health of the local population, alone, soon warranted construction of the present brick clinic. This structure, incorporating an ambulance bay and a full-time dental office, was opened in 1984. The federal clinic building became the headquarters for the CLSC and social services.

As of 2004 both of these structures are seriously overloaded for their present uses, even with the addition of several office trailers. The clinic is in crumbling condition and is scheduled for early replacement, as explained earlier in the Development of Clinic Services section. The 1962 building housing the CLSC headquarters has been condemned with mould and staff have squeezed into various CBHSSJB buildings in the community.

As of 2004, Mistissini Clinic was managing 310 cases of diabetes, at least half of whom are exhibiting signs of major complications from the disease.

Nemaska (Nemiscau) Clinic

In 1970 the old village of Nemascau consisted of 15 houses and nine other buildings. However, the closure of the Nemiscau Post of the HBC that year resulted in the rapid abandonment of the village site. The former residents scattered to other communities, but many continued to return periodically for traditional pursuits. The present village of Nemaska results from a JBNQA amendment of 1977 that is, itself, the direct result of hydro developments in the vicinity.

The population when the clinic opened on 1 April 1981 was about 270, up over a hundred from the year before, and growing as other band members returned to new homes. (The population reached 300 in a couple of years.) In 1981 only eight houses had been built with 15 more planned for the summer. Hence, about half the population was living in tents or shacks which often held 8 to 20 people. These were heated by wood stoves, and operated on outhouses (although all had at least an intermittent supply of electricity – a benefit of the hydro project). These unsanitary arrangements created concern amongst Public Health personnel. In fact, the Nemaska clinic was opened about nine months after a summer 1980 gastro-enteritis epidemic that killed at least two children. This was a new construction funded by the MAS and much of it was erected in a hurry during the winter of 1980/81. The clinic had two nurses, a half-time interpreter, and a part-time housekeeper when it opened its doors.

Throughout 1981 and 1982 the clinic services at Nemaska were limited and inadequately organised. There were various deficiencies at first: only one sink worked; certain medical equipment was missing; there was no storage space; the basement awaited finishing; and there were no reference books for professional use. Food, medications, and medical supplies were periodically sent from Chisasibi, which at the time had its own supply problems. Transit accommodation had not been built along with the clinic, so a visiting professional had to sleep on the bed designated for observing and holding patients before transport.

The service population at first enjoyed no schedule of doctor visits and no regular rotation of specialists. A monthly GP rotation was requested, but for a few years it was a challenge to manage even a quarterly visit. Less frequent schedules for paediatrician, ENT, ophthalmologist, and optometrist visits took another five years to implement on a reliable basis. The first record of a visit by a dental hygienist is in 1983. The first dentist visit was earlier, in mid-1981, although his portable equipment did not arrive until later during his stay. This illustrates a problem common to all of the clinics at the time: shortages or absences of pre-positioned dental equipment that led to increased waiting lists and a greater need to transport dental patients out of the community for basic treatments.

The immunisation status of Nemaska's children, who had been living in various other settlements, was at first uncertain. Such charts as existed were scattered amongst establishments. In the absence of teaching materials, posters, or instruction leaflets it was initially impossible to organise well-baby clinics. The cramped living circumstances in the Crees' houses made TB a present risk. In August 1981, a TB X-ray clinic was organised, but the TB history of patients was fragmentary at best.

These problems of continuity were a pattern in the new health facilities, built in conjunction with relocations that were peripherally connected to hydro developments, and also in the transferred federal facilities.

It took a few years after the new village was founded before an elementary school was constructed. The children initially attended school in other communities, typically returning on weekends. The new clinic therefore did not initially have school health as a responsibility.

At the time it was routine for the MGH to identify nursing staff for the consideration of the CBHSSJB. The first two Nemaska nurses reported that they were hired despite their lack of any previous nursing experience. This seems a common thread in reports of the time - the CBHSSJB seems to have considered itself fortunate to get any nurse, let alone one with experience. Knowledge of English was not a precondition to nursing employment even though those local Cree residents with a second language used English

Nemaska is a particularly isolated community despite being only a few kilometres from a road that was built in connection with the Nemiscau Sub-Station and related hydro works. The community is situated on the side of Champion Lake opposite the main road. Until the mid-80s, road access was possible for only four months of the year, via a winter road that traversed the ice. In summer, in order to reach the community, one had to take an outboard motorboat across a lake that was prone to waves and which had dangerous shallows with submerged rocks. The clinic had no ambulance and no boat.

It was a lengthy process to get a floatplane from a distant base, which in any event would probably not be equipped for medivac, and which might have difficulty landing on the lake. For most medivacs the nurses had to locate a local person ready to convey the casualty. Once across the lake it was 15 minutes by car to the Hydro-Quebec airstrip, where an aircraft could be waiting. In bad weather, when a plane could not land, an urgent casualty could be evacuated by car to Matagami (4 hours) or Chisasibi (6 hours). From Matagami it was another 3.5 hours to the properly equipped hospital at Val d'Or. A portion of the journey was on gravel road that saw little traffic and was apt to cause punctured tyres.

Referrals were to Chisasibi, Matagami, Val d'Or, or Amos hospitals depending on whether the case was urgent or elective. Chisasibi lacked a surgical capacity, so any case involving possible surgery was sent south. Matagami hospital was the nearest, but it had difficulty recruiting and retaining one doctor although the full establishment was three, and its schedule of visiting specialists was very poor. These and other factors meant that when road travel was the only option, patients referred from Nemaska had to travel considerably further south, 7.5 hours to Val d'Or.

The Cree Inland CLSC was assigned responsibility for Nemaska clinic upon its formation. Chibougamau Hospital displaced Chisasibi for hospital support, and almost no referrals have been made to Chisasibi for many years. This reflects both geography and the comparatively limited nature of hospital services in Chisasibi.

Recent Developments at Nemaska Clinic. Over the course of two decades, the community of Nemaska settled into a routine existence as an isolated community near hydro installations. It continued to experience elevated rates of social problems. Most of the jobs came from Cree government entities, including a Cree Regional Authority headquarters complex originally built in the mid-1980s, but which now retains few functions other than the accounting department of the CRA. (The CRA subsequently transferred key functions to Montreal and Ottawa). This too emphasises the remoteness of Nemaska.

However, by mid-2003 reports were being received from the clinic about a rise in social problems and caseloads that were felt to be connected with the EM-1t project road construction. The reports, most of which have been verified, state that:

- There has been a sharp increase in medivacs due to alcohol related problems such as fights, lacerations, and falls.
- There has been a “huge” increase in pregnancies (but no noticeable increase in STIs).

- Many or all of the workers that are injured at work are sent to Nemaska clinic, as the nurse in EM-1 is not qualified to do stitching: this means one or two incidents during the week, excluding the weekend.
- All the Crees working at EM-1-A who come from other communities prefer to come to Nemaska to receive their treatments (prescriptions, refills of medication, etc), which causes a substantial increase of patients. The nurses must also reconstitute the patients' files by calling the other communities, which takes time.
- An increase of calls during the weekend has been observed, with many calls being about alcohol related problems.
- The local population is reported to have increased with the result that local services, and the clinic, are pressured.⁶⁵⁸

There are also reports of increased alcohol in the officially “dry” community, with people drinking more often and having more money to buy liquor. Reports of physical violence at the school have been received.

At first impression, these reports might suggest a repetition of the social conditions that accompanied the construction of Nemaska in the early 1980s. However, it is too early to conclude more than: (1) Nemaska clinic is under new pressures and probably needs more resources; and (2) the caseload and other statistics from Nemaska should be scrutinised on a frequent basis. A capability to monitor caseloads exists today that was absent in the 1980s. Nemaska would now appear to be a good example to systematically evaluate the impacts of development upon a service population and clinic.

Waswanipi Clinic

In 1975, Waswanipi was a new village, needing a health facility. Waswanipi did not owe its origins to the direct impacts of the hydro developments of the time. However, its creation as a recognised Cree community, on an enclave of federal land and subject to Cree administration, came about as a result of provisions under the JBNQA.

In the wake of the 1950s “copper boom” in Chibougamau-Chapais, a railroad and highway was built spurring mineral exploration, mining, logging and sports fishing and hunting activities in the midst of Waswanipi’s traditional hunting territories. Encouraged by new employment opportunities in logging, guiding and mineral exploration the whole population of the old settlement on Waswanipi Island gradually moved to a number of squatter settlements on the peripheries of the new frontier towns that sprung up. By 1964 the Old Post was almost deserted and the HBC closed its store in early June 1965. The last families abandoned the Old Post in 1965.

After many false starts, the present new reserve was set up Waswanipi River. In the intervening years, life in the disorganized squatter settlements with few public services and a lot of itinerant workers produced a range of social problems attended to by no more than sporadic professional help from Indian Affairs or Health services

The first houses of the new village were built during the summer of 1977. Three summers later, 81 modern houses with running water had been built, with 30 more by 1985 when the population approached 700 as people returned when housing was available. The old village site became a fishing camp.

The present provincial clinic was opened in December 1980. Like Nemaska it was, by provincial definition, a so-called dispensary-residence. Two nurses staffed Waswanipi clinic. Their priority tasks

were to organise the patient files from the old clinic, and also to put into use the equipment (which failed to arrive all at once). There was also a part-time secretary / translator but no cleaner: the nurses did the cleaning themselves at first. The clinic was considered to have plenty of space when it opened, although the staff quarters were considered cramped.

The nurses were at first able to do haemoglobin and pregnancy tests. Their equipment was limited to a centrifuge and microscope. They waited about two years before someone from Chisasibi was able to show them how to do white cell counts and urinalysis. Meanwhile it was decided to send most blood and urine samples out to the lab at Lebel-sur-Quevillon, and all cultures went to Val d'Or with a 10-day turnaround being not unusual. Attempts to rely on the lab and pharmacy at Chisasibi did not prove very satisfactory, for various reasons including the inadequacy of air connections and telecommunications. Lebel-sur-Quevillon was also the main referral point for routine investigations and medivacs.

Waswanipi's geographic situation made it the community furthest from the CBHSSJB headquarters and hospital in Chisasibi. It was situated mid-way between two much closer hospitals with a third hospital and two CLSCs also within reach:

Val d'Or	Hospital	1.5 hr
Senneterre	CLSC	1.0 hr
Lebel-sur-Quevillon	Hospital	1.25 hr
Chapais	CLSC	1.5 hr
Chibougamau	Hospital	3.5 hr

Medivacs could be sent by charter aircraft if the doctor-on-call in Lebel-sur-Quevillon consented. Patients could be sent to Chibougamau or Val d'Or depending on which was closer to where the patient was picked up. The quickest way to evacuate a patient in Waswanipi was usually to request dispatch of an ambulance from Lebel-sur-Quevillon. No Bush Kit Programme existed in Waswanipi in 1981 although one was desired. The absence could be attributed to the facility being designed by the MAS, which unlike MSB had no Bush Kit Programme. This gap is a good example of the challenges in reaching common ground in the fusion of federal and provincial administrative modalities throughout the organisation.

In August 1981 it was learned that no immunisations had been given during the preceding year. The only immunisation record was a book that had been taken away by MSB personnel along with other federal files. The dispersed situation regarding patient files was exacerbated by the fact that, until the new village was built, the people had been living in various communities. A GP was considered necessary once a month for 2-3 days; however, often it was possible to obtain one only every 2-3 months from Lebel-sur-Quevillon. Attempts to obtain one from Chisasibi did not work out owing to the 3-4 days of travel time there and back. A paediatrician from Lebel-sur-Quevillon was visiting monthly in 1980 and 1981. There were no records of optometrist, ophthalmologist, or ENT visits. There were no visits of either dentists or dental hygienists until at least 1982. Dental appointments were normally made with the one dentist in Lebel-sur-Quevillon, but people sometimes made their own arrangements for treatment in Chibougamau or Val d'Or.

During 1980 MSB had conducted three TB screenings and a provincial screening had occurred in 1981. The nurses in the new clinic found it difficult to impossible to relate these data to patients' health histories. Records of previous TB tests were either non-existent, distributed amongst different sets of charts, or scattered about in a pile of X-ray reports found on the floor of the old clinic during April 1981. The older children appeared to have had BCG, but for children under one year it was guesswork. Help was requested from Chisasibi Hospital Centre to organise the patient charts according to a common system. However, little help was forthcoming because Chisasibi Hospital lacked a fully trained medical

archivist for part of this time, and in any event the other clinics were also demanding assistance. As proved the case when federal caseloads were inherited elsewhere, the nurses at Waswanipi were largely left to their own devices to reconstruct orderly patient charts using what fragmentary information was available.

In late 1981 the local student population was about 150. No school health promotion or inspection visits had yet occurred. The local health committee identified nits, scabies, and running ears as problems needing investigation. Waswanipi did have an active health committee consisting mostly of band members. Immunisations with BCG were behind schedule and apparently some students lacked initial vaccinations. None of the professional textbooks and journals, with which the clinics were equipped under federal administration, appear to have survived the transition to Cree administration. In 1981 it was hoped that a Cree woman taking a community worker course in Montreal would return the next year to be a community worker.

Recent Developments at Waswanipi Clinic. The most alarming service deficiencies in Waswanipi were gradually addressed throughout the rest of the 1980s. The extreme isolation of Waswanipi from Chisasibi, and its relative isolation from Mistissini (where the Inland CLSC is located), resulted in it developing a particularly strong reliance on Chibougamau and Val d'Or Hospitals. Towards the end of the 1980s, this most southerly Cree community near a main highway found itself in the midst of large-scale commercial forest development. This brought employment opportunities as well as disillusionment when anticipated employment sometimes did not materialise. Eventually, legal battles over alleged environmental contamination, and over control of forest development planning and rights, complicated the economic participation of the community in the larger regional economy. These legal battles were mostly settled – in theory – by the recent *Paix des Braves* agreement, although the full range of economic benefits has not yet been felt.

Waswanipi continues to experience elevated social unrest as well as high rates of chronic conditions, especially diabetes, where one-fifth of the population over the age of 15 has been diagnosed. Increased demand led to a new clinic that opened in 2002.

13.7.2. Development of Hospital Services

13.7.2.a. Development of Hospital Services in the Cree Region

Recall that the Oblate Missionaries opened a hospital in Fort George in 1930. This was succeeded by Chashasipich Hospital, which was created as a public establishment in 1970. Hospitals at Fort George and Moose Factory (est. 1948) handled most of the Cree hospitalisation cases until the early 1980s. Chisasibi Hospital Centre was authorised in 1979 and opened two years later. Chibougamau and Val d'Or have provided services for inland communities.

The Board of Directors initially had difficulty in reconciling its hospital and community clinic roles. Chisasibi Hospital was structured along provincial lines but the inherited clinics followed federal practice. Law S-5 (s. 112) created a Council of Physicians, Dentists, and Pharmacists (CPDP) that was charged with supervising the medical, dental, and pharmaceutical acts of the CBHSSJB. The CPDP was responsible to the Board of Directors, but for a few years there was a to-and-fro struggle over the policy roles of each. Additionally, the formerly federal and provincial staff sometimes had difficulties reaching common ground. The regional leadership role of Chisasibi Hospital, in terms of setting clinic policy, was

unclear at first. This administrative incertitude helped to make it difficult for Chisasibi Hospital Centre to play a true regional hospital role.

The Ministry initially was reluctant to acknowledge non-insured health benefits (i.e., medical supplies, drugs, basic dental care) as a JBNQA right.⁶⁵⁹ The funding provided was below real expenditures, which were based on federal lists of eligible benefits rather than provincial ones. The result for two decades was that core services had to be cannibalised in order to maintain a level of non-insured services equivalent to that available to other Indians in Quebec. At first the budget of Chisasibi Hospital Centre felt the additional cost pressures associated with areas such as non-insured dental treatment and pharmacy benefits. The result was hospital deficits and a degree of under-development of services.

From the outset, the 32-bed Chisasibi Hospital Centre lacked some of the responsibilities associated with a fully functioning hospital. It began operating under the arrangement, dating from 1977 and described earlier, whereby the DSC of Montreal General Hospital performed key regional functions connected with hospitals. This relationship continued for many years to the detriment of the growth of Chisasibi Hospital Centre. From 1978 until the mid-90s, these responsibilities included the co-ordination of much of the patient services activities. These are translation and patient and escort travel services mainly connected to non-insured health benefits, but applicable to transporting all emergency and elective medical cases. This long-distance administration of patient travel favoured a situation in which it seemed easier, and more cost-effective, to ship hospital patients south than to develop hospital services within the Cree Region. Indeed, efforts were made to have an efficient out-transportation system ready for when Chisasibi Hospital Centre opened its doors.

Concurrent with the opening of Chisasibi Hospital Centre, the construction of new hospital facilities in the Inuit Region eliminated any need for Chisasibi to provide hospital services to the Inuit as its predecessor on Fort George Island had done. Also agreeable to the CBHSSJB was that Chisasibi Hospital Centre had no responsibility for satellite clinic services to the Inuit communities. Theoretically the catchment area of Chisasibi Hospital Centre was the entire Cree Region. This technically meant the eight islands of federal land surrounding the Cree communities that were in existence. Before long the Crees began to realise, as MSB and the MAS had evidently done, that there was no geographic centre of gravity for the region; Chisasibi was only well-positioned to service the Cree coastal communities.

Clearly in recognition of this, in 1976 MSB had contracted Chibougamau Hospital to run its Mistissini clinic. The Grand Council agreed to temporarily extend this relationship in the expectation that significant investments in Mistissini would render the Chibougamau connection obsolete. Instead, what developed was a competition, of sorts, for the Cree clientele. In 1980 a dispute began, centring on the perception that proposals for emergency services at the Mistissini clinic would threaten the emergency services of Chibougamau Hospital. Indeed, Chibougamau Hospital was in the midst of one of its own periodic crises, and was having trouble attracting a full complement of staff especially doctors and nurses. Ultimately it was a few years before Mistissini gained an ambulance.

With the establishment of an unofficial Cree Inland CLSC at Mistissini, the Chibougamau, Val d'Or, and other Jamesian hospitals established strong connections with Mistissini, and with the new clinics at Waswanipi and Nemaska. In 1980 Chibougamau Hospital took over pre-hospital services to Mistissini. The fact that the CBHSSJB allowed this situation to develop was a tacit acknowledgement of the fact that Chisasibi was simply too distant to provide most forms of hospital support.

This decision was made reluctantly. The Crees' expectations of massive investments at Chisasibi Hospital Centre had failed to materialise. From about 1977, they had also expected hospitals to be built in Mistissini and Waskaganish. These expectations were set out in court claims that were tabled in 1998.⁶⁶⁰ The Inland CLSC's reliance on Chibougamau continued to grow throughout the 1980s. In 1987

Chibougamau assumed a main role in laboratory services. The total Cree population was included in the service population of Chibougamau Hospital for purposes of setting some funding and establishment levels. In 1990 the MSSSQ began funding Chibougamau \$70,000 recurrent for services specific to Crees. In 1995 the CBHSSJB contracted with Chibougamau Hospital to clarify billing arrangements for various services including: cafeteria, infectious laboratory work, emergency services, and medical imagery.

In January 2001, Chibougamau Hospital opened a haemodialysis unit with special funding from the MSSSQ. The Ministry had recently funded a smaller dialysis unit at Chisasibi, but this dealt almost entirely with the local dialysis caseload. The Chibougamau unit was substantially larger and targeted to meet the dialysis needs of the inland communities and the Chibougamau vicinity. The Crees supported the establishment of this unit although they had been demanding dialysis services in each of the Cree communities.⁹⁵

Chisasibi Hospital Centre has simply never reached a state of being fully functional, either as a district hospital for the coastal communities or for the region as a whole. Its funding level never grew in proportion to the other regional health investments. In particular, funding was never provided for a minor surgical capacity. Radiology, laboratory, and hospital support services went under-funded or un-funded, although some notable improvements were made in the year 2001. An obstetrics unit operated sporadically until it was formally de-activated when the number of full-time doctors in Chisasibi fell from six to zero. Implementing the Crees' Strategic Regional Plan would require the establishment, or re-establishment, of some basic hospital services which are taken for granted elsewhere.

13.7.2.b. Capacities of Chisasibi Hospital Centre (2004)

The medical staff at Chisasibi Hospital is limited to six General Practitioners and a complement of nurses. There are no resident specialists. There is, however, a regular rotation of some specialists; this schedule appears to be much the same as in 1986, in terms of specialisation and frequency. There is no surgical team. Lacking a surgical setting, the visiting specialists can do relatively few procedures beyond certain diagnoses. Even though there is now a full complement of six resident physicians, Chisasibi Hospital Centre has not recovered from a temporary loss of all full-time physicians during 2001. For a while, the absence of resident GPs caused clinic services to be restricted and a higher-than-usual number of patients to be referred to establishments with doctors. The obstetric ward remains closed.

The current potential for district (i.e., coastal) use is mainly:

- Overnight antibiotic treatments, where rigorous but low-risk 1-3 supervised regimens are possible under 24-hour nursing supervision. There is almost no 24-hour capacity in the communities, except to supervise a serious case when transport is delayed. Chisasibi is able to deal with basic lung and skin infections.
- Dental treatment. Chisasibi has a well-equipped dental department, although the waiting lists are currently over 12 months. There is no capacity for dental surgeries requiring anaesthesia.
- Laboratory services for northern communities, where minor and low-risk diagnoses are suspected. The laboratory now does much of the work for the coastal communities and rather less for Nemaska, sometimes with lab results being sent while the patient remains in the community pending the results.

⁹⁵ In fact, the 2003 Strategic Regional Plan calls for this, beginning with a dialysis unit at Mistissini.

(Serious cases are almost always sent directly to a southern hospital by the originating clinic).

- Radiology for some of the northern communities where the risk is assessed as low or moderate. The radiology department in Chisasibi also makes up for the temporary closure of the minor radiology lab in Whapmagoostui. Chisasibi radiology meets all ordinary local radiology needs. It is now being connected with the hospital in Sherbrooke by telemedicine linkage so as to maximise its capabilities. The radiology equipment was recently upgraded. It is useful but arguably under-utilised, despite the closure of the Whapmagoostui radiology service. The same may be said of laboratory services. These diagnostic tools make decisions to *Keep or Send* patients more reliable. When patients must be sent out of the region, they can be sent with most of the diagnostic tests already completed.
- Haemodialysis of local residents.
- Cases of abdominal pain, although chest pain cases are usually sent south.
- Minor treatments that, by and large, are within the capacities of a clinic that is supported by diagnostics, overnight ability, and occasional visitation by some specialists.

The resident physicians have recently indicated a list of minor surgical treatments that they feel should be available locally.⁶⁶¹ These further reinforce the reality that the surgical capacity of Chisasibi Hospital Centre is essentially that of a well-appointed clinic. A surgical suite, with adjoining obstetrics and scrub rooms, was installed in the centre of the building. However, no record has been found to suggest that minor surgeries were ever performed there. No resident surgical team was authorised and it does not seem that a rotating surgical team ever made use of this suite. A report by a biomedical engineer in February 2003⁶⁶² observed that the surgical area had recently been decommissioned and turned into office space. The alterations included physical removal of hospital grade flooring, gas lines, plumbing, lighting and so on. What little surgical equipment was found in storage was obsolete or not working.

The hospital has one ambulance bay with an adjacent emergency intake room (“crash room”). Cramped and unsuitable for anything more than stabilising a patient for transport, this is the sole location for performing any light surgery for which all general practitioners are trained. The number of general and specialised care beds has decreased by five since 1980, to 27. This is because space was needed for dialysis and other central functions. Based on documentation supplied by the hospital itself, in March 2003 the bed situation was thus:

- 9 beds used by chronic patients, who should be in a different facility or be supported at home by the family.
- 3 beds fully occupied by rotating respite care patients.
- 2 beds for obstetrics. As births are no longer performed, these are patients with pre-natal or post-natal complications who need monitoring and possibly transport.
- 5 beds for low-risk paediatrics.

– 8 beds for acute cases such as infections.

Residential (chronic and lodging) patients occupy half (5 out of 10) of the total rooms. The 12 residential cases exceed the official rating of the MSSSQ rating for 7 long-term care places, but there is no other place to put these patients. They also exceed the Ministry guidelines for long-term accommodation, insofar as few of these cases require hospitalisation but rather supervised nursing care. Based on reports from the Hospital's management and a physical inspection, total bed occupation now averages 90-100%, with cases routinely redirected to other facilities.

However, the CBHSSJB officials feel that there is some confusion, on the part of the MSSSQ, over the total number of authorised beds as well as the number of available beds⁶⁶³ because as the table below shows, in 1997/98, the MSSSQ recorded the bed occupancy rate⁶⁶⁴ in Chisasibi as 62.9% compared to 83.3% for Quebec.

Selected Indicators for Short-Term Care ⁶⁶⁵ by Region of Reporting Institution, 1997/98 ⁶⁶⁶				
	Beds	Users	User-Bed days	Occupancy
Cree Region	27	540	6196	62.9%
Nord-du-Quebec	32	1836	8744	74.9%
Nunavik	36	1664	4981	37.9%
All of Quebec	16389	673502	4982403	83.3%

Managers report the occupancy figures of the MSSSQ⁶⁶⁷ under-estimations because the 12 residential beds (including 5 un-rated chronic beds) are constantly occupied. Whether this has anything to do with the way that reporting is done when the position of archivist is not occupied, is not known.

13.7.2.c. Reliance on External Hospitals by Cree Region Residents

The table below shows that the percentage of Crees receiving hospital treatment regionally declined right after the facilities in Fort George were closed, and the Chisasibi Hospital Centre became operational.

Region of Hospitalisation for Cree Region Residents, by Long Term Period (Short Term Physical Care Only, Excluding Newborns), 1982/83 to 1997/98 ⁶⁶⁸				
Treatment region	1982-83	1987-88	1992-93	1997-98
Saguenay-Lac-Saint-Jean	1.0%	0.4%	0.3%	1.2%
Québec	2.7%	1.8%	1.8%	0.3%
Montréal	10.6%	13.6%	13.0%	10.6%
Abitibi-Témiscamingue	7.7%	24.2%	28.9%	25.9%
Nord-du-Québec	41.1%	31.9%	30.8%	34.0%
Other Quebec regions	0.3%	0.3%	0.4%	0.3%

Ontario	5.2%	2.0%	1.1%	1.6%
Other provinces, countries	0%	0%	0.4%	0.1%
Total, outside the Cree Region	68.6%	74.2%	76.7%	74.0%
Cree Region	31.4%	25.7%	23.2%	25.9%
Total⁶⁶⁹	100%	100%	100%	100%

Thus, a pattern of heavy reliance on external hospitals has existed since Chisasibi Hospital Centre opened its doors. This is further shown through a multi-year analysis of medical treatment statistics broken down by hospital and by patient's community of origin. The old federal practice of sending patients to Ontario was rapidly replaced by sending them to hospitals other than Chisasibi but still in Quebec. The last regular transportation of Crees to Moose Factory Hospital occurred around 1983.

The trend towards treatment out-of-region, evident soon after Chisasibi Hospital Centre opened, made it necessary to study whether it was economic to fully activate the various hospital services which the Chisasibi Hospital Centre planners had originally expected would be required. A study by the Montreal General Hospital, in 1986, concluded among other things that:

- Geographic concerns suggested that Chisasibi Hospital Centre would never be accessible to all the Cree population.
- There would not be more than 5,000 potential patients in the coastal community catchment area.
- In terms of air and road access, Abitibi hospital facilities were just as close.
- Generally speaking, it was no cheaper to send to Chisasibi than to Abitibi region.
- Montreal should only be used as a 3rd line (very specialised services). Abitibi should be able to respond to all cases of 2nd line of services.
- Services in the Cree Region should be developed concurrently with services in the Abitibi region. A development plan for health service in the James Bay cannot be elaborated with a matching plan for development of health services in the Abitibi region.
- Certain services offered outside the region (gyn-ob, psychiatry, dental surgery, ENT, echography) could be offered in Chisasibi.
- Certain Montreal services (internal medicine, paediatrics, ophthalmology) should be made available in Abitibi.
- Medivacs to Montreal should be reduced to the advantage of the James Bay region, or at least, Abitibi.⁶⁷⁰

Analyses such as this, at the time, sent contradictory messages that more Cree Regional services could be justified in terms of potential caseload, but also that the then-current economics of transportation patterns did not warrant redirecting patients towards Chisasibi. As a result of research and opinions such as this, a decision was never made to make Chisasibi Hospital Centre fully operational along the lines of, say, Chibougamau Hospital. Instead, efforts were directed at ensuring that each Cree community had a clinic, and that Chibougamau and Val d'Or were better positioned to handle the bulk of hospitalisations.

It is fair to say that the Cree Region's hospital services have declined, over a two-decade period, from a low level to an even lower level:

Percentage of Hospitalisations of Residents of Nunavik and Cree Regions that Occur Within the Region of Residence, 1982/83 to 2000/01. ⁶⁷¹								
No.	Region	1982/83	1987/88	1992/93	1997/98	1998/99	1999/00	2000/01
17	Nunavik	37.7	61.1	66.6	73.1	71.9	71.1	71.7
18	Cree	31.4	25.7	23.2	25.9	26.0	24.5	26.7

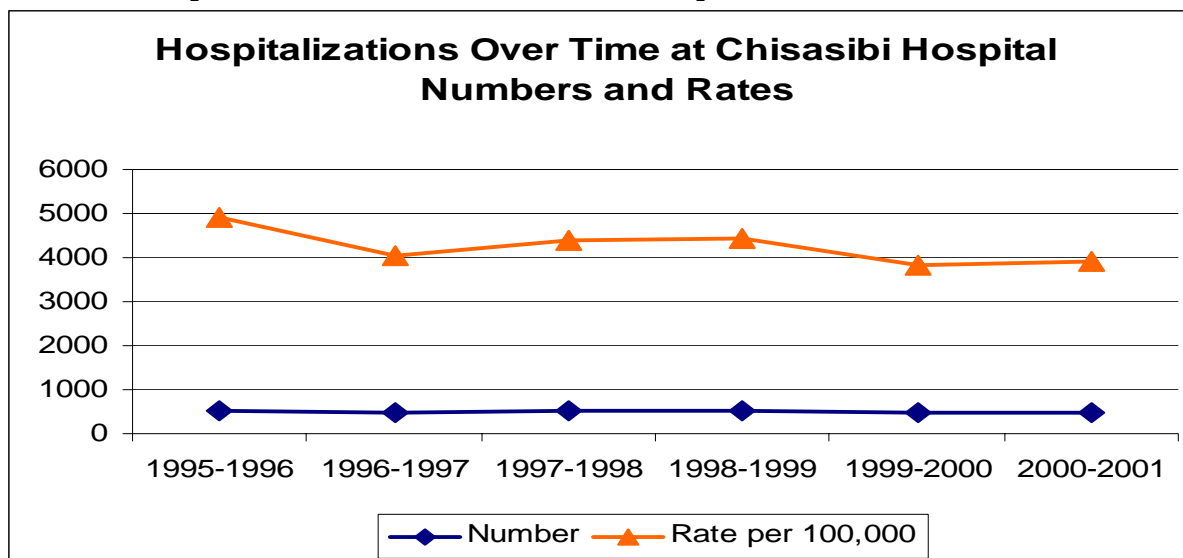
From this we see that, between 1982 and 2001:

- The percentage of in-region hospitalisations in Nunavik *increased* from 37.7% to 71.7%. Put another way, regional hospital utilisation almost doubled.
- Simultaneously, the percentage of in-region hospitalisations in the Cree Region *decreased* from 31.4% to 26.7%.

MED-ECHO data indicate that in 2000/01, Chisasibi Hospital Centre dealt with only 32% of northern district⁶⁷² hospitalisations (488 out of 1518 total). No less than 80% of hospital cases from surrounding communities were sent directly to southern hospitals. Thus, it is best described as a predominantly local facility with a lesser northern district role.

The figure below shows the number of admissions at Chisasibi Hospital Centre, from 1995 to 2001, as total number and as rate per 100,000 population. It would be unwise to draw too many inferences from the trend, because variations can be expected within such a small patient population. The numbers are stable, but more importantly, they are low. A slight downward trend is visible in the per capita usage. While the sample population is relatively small, this trend makes sense because the numbers of patients have little variation, while the population continues to grow at a very high rate.

Hospitalisations Over Time at Chisasibi Hospital B Numbers and Rates.⁶⁷³



In sum, during these past two decades, Chisasibi Hospital Centre not only failed to develop as a fully functioning hospital, but necessary hospital support structures failed to appear, and policies at all levels were oriented towards sending hospital patients out of the region. During the same period, the Inuit region's policies were oriented towards treating as many patients as possible within the region. In 1982 a 25-bed hospital at Kuujuaq became fully operational, and in 1984 a second 25-bed hospital was opened at Povungnituk. Measures were implemented to install a strong minor surgical capacity with adequate supports for specialists beside general surgeons. The impressive improvement of Nunavik's regional capacity actually resulted from a strong desire on the part of the MSSSQ to support the necessary regional improvements and partnerships with southern hospitals. This mirrored the patterns in Northern Ontario. No such vision has been shared by the MSSSQ in respect of the Cree Region even though the CBHSSJB argued for similar investments for years.

13.7.2.d. Access Times and Waiting Lists

First, and contrary to belief in parts of the Cree Region, the Crees have reasonably prompt access to clinic services. Not all of the clinics have resident physicians, the clinics are sometimes not as well equipped as they might be, and the clinic hours are in need of lengthening. Nevertheless, the vast majority of Crees live within a few minutes walk of a clinic that can be opened after hours, usually within minutes of an emergency call being placed.

However, the Crees are not so fortunate in prompt access to definitive care. With the exception of the Central Arctic, which is extremely isolated and hardly inhabited, it is arguable whether there is another organised region in North America where residents must travel so far in order to access basic hospital services. In considering distance between facilities, one should recognise two important points. First, four-fifths of the hospitalisation cases from northern district communities around Chisasibi bypass Chisasibi Hospital Centre altogether. Most go direct to Chibougamau or Val d'Or, which are both lengthy journeys. Second, all southern district cases receive hospitalisation outside of the Cree Region.

A decision to transport can be made very quickly. However, once this is done, there are additional delays resulting from:

- The preparation of travel arrangements, through long-distance communications;
- The waiting time until the scheduled or specially-ordered means of transport arrives for the pickup;
- Time lost travelling to and from an airport; and
- Delays due to bad weather, which can realistically be 24-72 hours during which ground and air travel is impossible.

Access times are further lengthened by the time spent at the sending facility (waiting room time plus medical attention time) as well as waiting room time at the receiving facility. To outpatients and non-ambulance cases found to require hospitalisation, this often amounts to double the waiting room time, and almost double the diagnosis time before the actual treatment begins. There are also, often, delays associated with the relatively small proportion of hospitalisations that do occur at Chisasibi Hospital Centre. Sometimes non-critical patients are sent home, after some stabilisation measure, until a bed is available. Patients needing to see a specialist must wait, on average 4-6 weeks, until the specialist arrives on a rotational basis. Even then the specialist lacks the facilities to do much more than schedule another diagnostic or treatment session in his/her office, far away. All dental surgeries requiring anaesthetic must be sent south, because there is no surgical ward in the region.

The vast majority of Quebeckers reside one hour, or less, away from a hospital that can meet all basic emergency and routine needs. On the other hand, the average access time for Cree Region residents is around six hours, and in some instances longer.

The following observations summarise regional access to hospital services:

- There is no functional district, or regional, hospital within the Cree Region.
- Cree medical facilities are optimised towards stabilising and transporting most hospital cases direct to southern hospitals.
- Val d’Or and Chibougamou are not ideally sited for access by the southern communities, but they are much better sited than Chisasibi.
- For most Cree communities, medivac times can vary from 6 to 48 hours, depending on the weather.
- For most Cree communities, any non-urgent hospital access requires one day of transit and one day to return.
- There is no in-region obstetrics capacity, so all cases are sent out regardless of risk, usually several weeks in advance and at great cost.
- The Crees are by far the most disadvantaged region in Quebec, in terms of timely hospital access to quality hospital services. The Nunavik Region is better provided, with two hospitals of which one is particularly capable.
- Over sixteen thousand medical transports were necessary in 2002/03, an average of more than one transport per resident of the region. Most of these were to access services not available in the Cree clinics or at Chisasibi Hospital Centre.
- The large number of transports cost of almost \$10M in 2002/03, and costs are rising steadily with population growth and with the fast growth in airfares.
- An elaborate network of support staff is necessary in order to run the regional medical travel agency responsible for patient transportation.

13.7.2.e. Hospitalisation Patterns and Economic Development

Hospital Separations by Community of Origin, 2000/01,
Rates per 10,000⁶⁷⁴
(Communities thought by Hydro-Québec to be potentially
subject to impacts from EM-1-A are italicised)

Community	Separations Rate per 10,000
Whapmagoostui	2,397
Chisasibi	2,385
Ouje-Bougoumou	2,306
Wemindji	1,699
<i>Eastmain</i>	1,591
<i>Mistissini</i>	1,877
<i>Nemaska</i>	1,495
<i>Waskaganish</i>	1,335
Waswanipi	1,089
Cree Region	1,939

The CBHSSJB does not collect data that tracks reasons for hospitalisations including diagnosis and treatment, including causes linked to transportation statistics. There is no clear documentary evidence on the causes of this exceptionally high pattern of transport. This is an area urgently requiring analysis. No documentary evidence has been found that suggests that development projects have had a geographic influence on Cree hospitalisation rates. The hospital admission rates by community of origin vary greatly, and can be puzzlingly high, and also that neither proximity to a hospital nor proximity to EM-1-A developments seem a strong explanatory factor:

13.7.3. Development of Patient Transportation and Non-Insured Services

“Insured” services are, essentially, those available throughout Quebec free of charge to anyone holding a valid health card from the RAMQ. Quebec also honours the health cards of other provinces according to federal legislation and inter-provincial agreements, providing free of charge the benefits that Quebec residents would receive. Throughout Canada the provincial health plans insure a comprehensive range of coverage for basic medical diagnosis and treatment.

“Non-insured” services are all services for which the individual – or the individual’s private insurance plan - would have to pay. Examples are dental care, optometrics, prescription drugs, and medically necessary transport. Registered Indians and Recognised Inuit have for many decades received free non-insured health benefits from what is now called Health Canada. A federal Non-Insured Health Benefits (NIHB) Programme annually dispenses over one-half billion dollars in such benefits to Indians and Inuit, whether or not they live on reserves. This NIHB activity existed in 1975 as a set of related policies although it was not collated into a “programme” until the 1980s. The JBNQA transferred fiscal responsibility for Cree NIHB from Canada to Quebec, along with the implication that the Crees would deliver the benefits themselves.

In 1975, MSB provided a range of Non-Insured Health Benefits analogous to what is available today. The provision of federal medical services to individuals was, in theory, contingent upon the patient’s ability to pay, or upon the Province being able or willing to provide or pay for the same service. An illustration of how this worked is as follows:

*The patient must be medically indigent, or so isolated that the costs of transportation associated with procuring necessary treatment would place such care beyond normal economic means...Transportation is exclusively for medical reasons; it must be so justified and preferably authorised by a responsible officer of Medical Services.*⁶⁷⁵

The determination of medical indigency was made by an official of Indian Affairs or by the band. A needs assessment form, indicating the person's ability to pay, was required under the policy. However, in practice medical indigency was assumed in almost all, if not all, instances. During the 1980s the patient's ability to pay was removed from the federal NIHB Programme.

In 2000 the Crees brought to the attention of the MSSSQ the fact that it had been under-funded to deliver NIHB for many years. Essentially, the CBHSSJB had continued to deliver NIHB on the same basis that it was delivered in 1975:

- According to the federal benefits norms, published and occasionally revised by Health Canada;
- Upon receipt of a prescription from an authorised medical officer or recognised dental practitioner; and
- According to overall need, and without a ceiling being placed on NIHB expenditures.

The Board's NIHB expenditures were growing and estimated to be \$7.8M that year, while the *services non-assurés* budget from the MSSSQ had remained at around \$1.3M annually for about a decade. Arguably some of the non-insured transportation was funded under a separate *déplacement des usagers* budget line, but the MSSSQ concurred that under-funding of non-insured services was a long-time source of cannibalisation of other (insured) budgets.

The origins of NIHB under-funding had been forgotten by the Crees and the MSSSQ for many years; the under-funding seemed endemic and everyone was at a loss to explain it. The Crees' negotiation team undertook an historical analysis of the problem, and then proposed that the MSSSQ's long forgotten NIHB Programme guidelines of 1990 be modernised to reflect financial and accounting needs. They submitted a modernised draft that was accepted with little modification by the MSSSQ as an official programme of the Ministry.⁶⁷⁶ Generally speaking, the Crees would establish a discrete NIHB Programme with an account separate from insured core services, and non-insured services would be reimbursed at 100% provided the CBHSSJB followed the federal benefits guidelines. Furthermore, insured (i.e., consumed in a health facility) medications and insured transportation other than ambulance would be considered "non-insured" for purposes of cost-recovery. These additions to the "rectifiable" NIHB envelope recognised that uncontrollable transportation and medications of all types had historically been reasons for deficits. A compromise of \$4M recurrent for re-investment in core programmes accompanied the deal that was struck.⁶⁷⁷

Costs Associated With the Cree NIHB Programme, 2000/01 to 2002/03 ⁶⁷⁸			
NIHB COSTS	2000/01	2001/02	2002/03
Patient Transportation (including escorts)	5,752,548	6,414,624	7,183,774
Pharmacy	3,002,188	3,071,251	3,493,319
Dental Services	844,460	952,573	1,143,846
Vision Care	190,598	202,590	284,728
Repatriation of the deceased	13,818	21,866	33,218

Medical supplies and equipment	96,883	95,601	111,026
Other related costs	26,234	133,065	203,696
NIHB Administration		303,746	364,919
CPS (including community transport)	1,902,043	2,053,819	2,309,395
NIHB Costs Charged to Rectifiable NIHB Fund	11,828,772	13,249,135	15,127,921

Under this arrangement, the CBHSSJB provides NIHB to JBNQA Inuit and to Naskapis within its territory. It charges the costs of this back to the MSSSQ. The costs of NIHB to persons qualifying under the federal NIHB Programme are charged back to Health Canada. The CBHSSJB provides - or arranges for - NIHB to ordinarily resident Crees as well as to non-resident Crees visiting the region. Transportation of staff and social services cases, as well as employee health benefits, are outside of the NIHB Programme. The CBHSSJB manages staff and social services transportation using the separate headquarters unit "Reservation Services."

By making NIHB costs fully cost-recoverable, the funding rules of Cree/MSSSQ Agreement on NIHB provided full cost-protection for one quarter of the CBHSSJB's expenditures. This continues to prevent core services from being drawn-down in order to fund non-insured services and thus it promotes budgetary predictability. However, non-insured costs continue to grow at a steep rate:

By and large, the growth rates compare with the federal programme, except that the main driver - patient transportation including CPS administration - is unusually high.

13.7.3.a. Patient Transportation

"Insured" patient transportation is patient transportation that is not optional in a medical sense. The patient's health will be at risk if he or she is not transported urgently (medivac) or promptly through regularly scheduled means. The MSSSQ will ensure that all health cardholders, who are in serious need to access services, are transported to the nearest suitable facility. For instance, airfare would be covered to transport a non-Aboriginal person hospitalised in Chisasibi to Chibougamau for, say, a broken knee. The rules for reimbursement by the individual are complex. Under some circumstances the non-Aboriginal patient will be sent a bill for all or part of the transport costs. Non-Aboriginals must pay for their own transportation when the situation is "elective" or non-life-threatening. They must pay for their own escorts under all circumstances, but not for medical personnel accompanying them in a medivac. However, no Registered Indians and Recognised Inuit in Quebec pay for any patient or medically necessary escort transportation.

Insured and non-insured patient transportation have long been inexorably linked in the Cree context. Firstly, the Crees have always used the same administrative mechanisms to transport, and account for, each type of transport.⁹⁶ (A similar situation exists in respect of the numerous federal clinics on reserves across Canada.) Secondly, escorts for patients, are an entitlement to Crees who qualify for them. Thus one often sees insured transports accompanied by a non-insured escort whom the NIHB Programme pays for. Thirdly, today most of the CBHSSJB's patient transportation is considered "non-insured" for

⁹⁶ One also observes that patients requiring transportation typically also receive related benefits such as drugs, medical supplies, and orthodontic treatment. Often they are transported to receive benefits that appear on the Health Canada benefits lists but which are not shown on the RAMQ's benefits lists.

purposes of funding; that is to say, “insured” and “non-insured” transportation are funded under the same cost-recovery arrangement with the MSSSQ.

Until Chisasibi Hospital Centre opened, most coastal Crees needing hospitalisation who could not be managed by Fort George Hospital were flown to Moose Factory Indian Hospital in Ontario. Moose Factory was not only well equipped medically, but its system of reception, accommodation, and interpretation services had no equivalent in Quebec. Inland Crees had always been sent to interior Québec hospitals except some cases of tuberculosis were sent to Moose Factory.

In 1977 Montreal General Hospital was assigned all patient transportation responsibilities for the Cree Region, even before the CBHSSJB was officially created. Starting around 1978, with some assistance from the MGH, the CBHSSJB began making use of Chibougamau Hospital. It contributed to the Chibougamau Friendship Centre, which was established in the 1970s, in order to ensure day patients and escorts had accommodation.

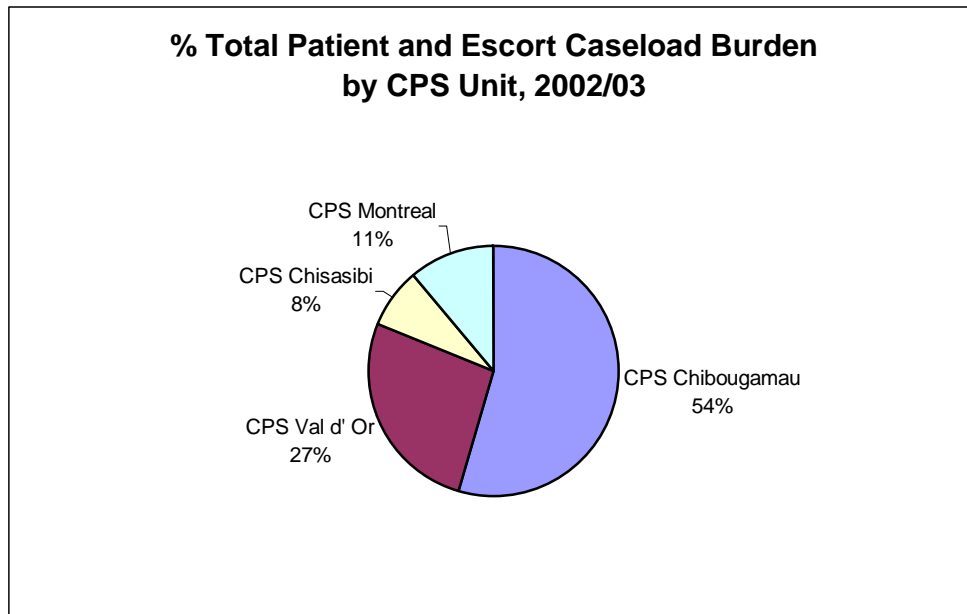
Responsibility for transporting patients within the region - and to and from Chibougamau and Val d’Or - was assumed by the CBHSSJB during the early 1980s. The familiar Cree Patient Services unit was created for this purpose. A main function of this unit remains to overcome cultural and language barriers, and thus ensure that medical diagnosis and treatment proceed normally. With the lack of a surgical capacity at Chisasibi Hospital, and the cessation of Moose Factory as a hospital destination, Val d’Or and Chibougamau began to pick up a larger share of the Cree specialised services caseload. This included patients arriving for outpatient and inpatient procedures. During 1984/85, 3,263 patients and escorts arrived at Val d’Or Patient Services for medical transportation reasons.

Responsibility for patient services to and from Montreal was transferred from Montreal General Hospital to the CBHSSJB during 1994/95. The transfer was complete on 1 April 1995. This transfer was a main factor in the caseload almost tripling during 1995/96 (5,258 more arrivals occurred that year, up from 3,775 to a new level of 9,033). Another principal causal factor is that in January 1994, CPS Chibougamau began providing medical services to the community of Ouje-Bougoumou. This included the NIHB caseload that has been handled by Medical Services Branch of Health Canada. This added about 600 transports annually. It also added to the total number of NIHB recipients by about 450.

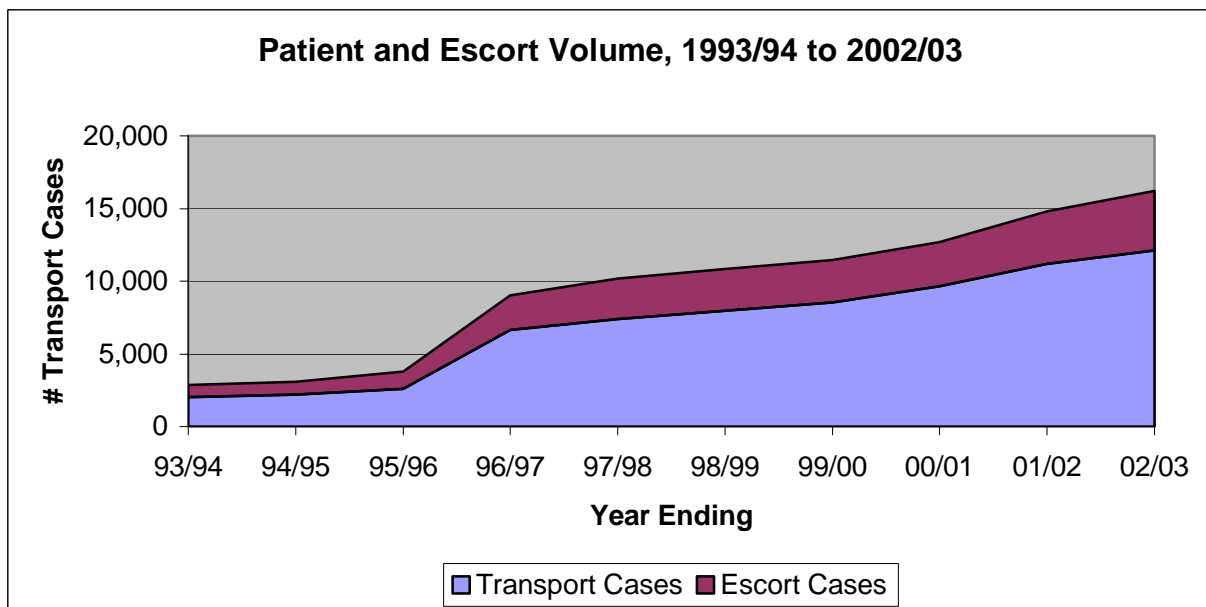
Since 1994 Cree Patient Services has maintained offices at Chisasibi, Chibougamau, and Val d’Or Hospitals, with a headquarters in Montreal. The percentage of the total transport caseload handled by each is an indication of the relative reliance of the Crees on the four main hospitals.

The transport caseloads originating in most Cree communities continued to grow, almost doubling in the decade before 2002/03. Cree Patient Services has evolved into an efficient medical travel agency requiring a tenth of the CBHSSJB’s budget. During 2002/03, 16,193 patients and escorts were transported, mostly to external facilities. The present trend is for 20,000 transports to be reached by the end of 2005/06. There is no compelling reason to think that this trend will not continue, considering that the reliance on external establishments continues to rise contemporaneously with rises in certain medical conditions, co-morbidities, and severity of cases. This is especially so in regards to diabetes, a most serious problem with a discouraging caseload trajectory. However, the volume and trend of this movement are considered unsustainable by the CBHSSJB’s management.

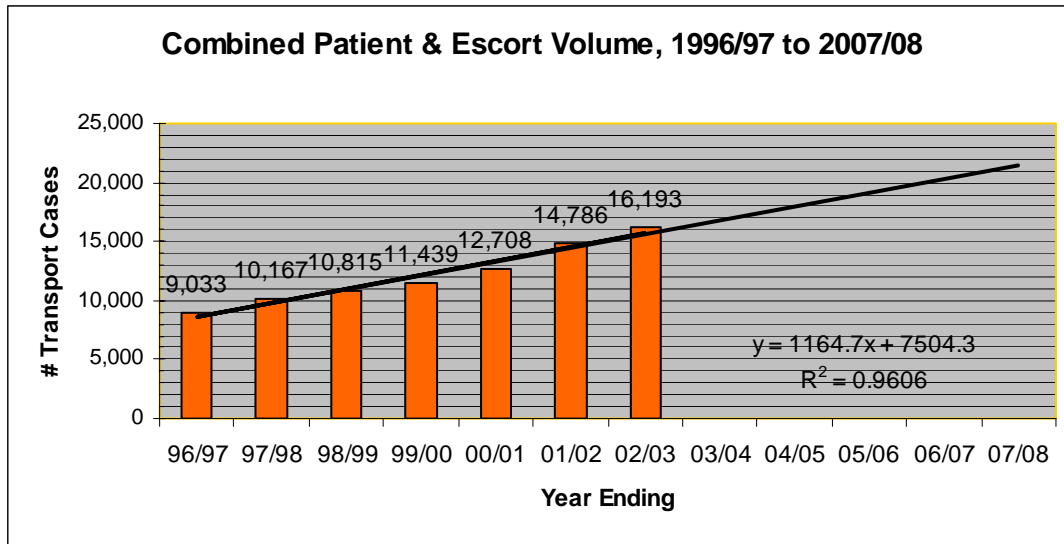
**Importance of Main Hospitals Used by the Crees
as Suggested by Transport Volume at CPS Facilities.⁶⁷⁹**



Total Patients and Escorts Transported by the CBHSSJB, 1993/94 to 2002/03.⁶⁸⁰



**Linear Regression of Total Patient Transport Caseload
Predicting for Years 2003/04 to 2007/08.⁶⁸¹**



13.7.3.b. Non-Insured Benefits Other than Patient Transportation

According to the March 2001 Cree NIHB Programme issued by the MSSSQ, non-insured health benefits, or non-insured services, are defined primarily by the federal norms. The benefits cover services and articles that are not insured by the RAMQ, but which appear on federal (and sometimes provincial) NIHB lists. This includes:

- Prescription drugs.
- Over-The-Counter (OTC) drugs, and proprietary medicines.
- Medical supplies.
- Vision care, including eyeglasses and contact lenses where medically necessary.
- Dental care.
- Hearing aids.
- Reimbursement of dispensing fees.
- Transportation for health reasons, escorts, interpreters, lodging. According to federal norms for non-insured cases, and according to provincial norms for insured cases.
- Mental health services (short-term mental health services). Short-term access to emergency counselling, excepting addictions and marital counselling, according to federal norms.

Prior to the 2001 arrangement on NIHB, the CBHSSJB dispensed benefits other than transportation as best it could, considering the under-funding that prevailed. The federal norms were followed up to the point where they became impossible to finance. For instance, federal orthodontic norms applied except that persons qualifying had to make a 50% contribution to the costs. Not all of the federal drugs and medical supplies were offered. The vision care norms were less-generous provincial social assistance norms dating back a decade. There was no Emergency Mental Health Programme at all. The implementation of the fully funded NIHB Programme resulted in sharp increases in some benefits areas, as the coverage was adjusted upwards to fully reflect what Registered Indians received elsewhere.

13.7.3.c. Impacts of Non-Insured Services on Regional Services Development

Apart from considerations of medical transportation, the NIHB Programme provides the same ‘benefits’ at no cost to the beneficiary population as others in Québec receive from supplementary private or workplace-related insurance. The Cree communities have a very small true, private economic sector with no private health services such as are found in the rest of Québec, for example, dentists, pharmacies, optometrists, and the whole range of alternative practitioners. Through the NIHB programme, some of these services are delivered as part of the public health services of the CBHSSJB.

The high transportation volume within the NIHB Programme is on the one hand a symptom of extreme reliance on external health facilities, while, on the other hand it generates the basic conditions that permits this reliance to continue and to grow. It would be impossible to rely on external facilities to the extent they are currently used without the CPS network that provides reception, accommodation, travel arrangements, supervision, and translation. During 2002/03 the CBHSSJB spent \$9.5 million (63% of its NIHB expenditures) on its patient transportation system. In other words, about one-fifth of the overall budget is devoted to transporting patients, mostly to access services outside the region.

This NIHB transportation budget cannot be analysed apart from consideration of the whole organisation of medical services in the Cree Region, as well as the relationship between the population of the Cree Region and the organisation of medical services in Chibougamau and the Abitibi. The present system is efficient, in part because it has no budget limitations. However, it prevents the Cree Region and the CBHSSJB from implementing the basic tenets of primary care to provide continuity of care (that is integrated services from an organisational and patient point of view) and care close-to-home. While the role of the NIHB programme in maintaining the population’s health has never been assessed, only primary care approaches – and not the type of system supported by the NIHB transportation budget – have been shown to improve population health. This is because the conditions necessary for a primary care approach include preventive and integrated services.

13.7.3.d. Impacts of Economic Development on Non-Insured Services

Consumption statistics for the various types of non-insured benefits are, to some extent, a barometer of the health of the population. The question then could be asked if in a region that relies to such an extent on transportation to external services, could the NIHB consumption statistics be used to determine the impact of new development projects? This question has arisen in relation to the situation at Nemaska which has been discussed in Chapter 3 of Volume 1. This involved some impacts on health services in the community because of work camps for road construction related to hydro development. We can assume little other than the following:

- NIHB does not mirror trends in social caseloads, and social caseloads are “traditionally” considered indicators of impacts of economic development.
- While the diabetes caseload is growing rapidly - as are transportation, drugs and supplies related to diabetes – there is no research, as yet, which is able to positively and empirically connect diabetes with economic development.
- Non-insured costs related to development-related injuries, and even psychological distress, would be reflected in the NIHB Programme. However, this effect cannot be isolated.
- Reports from the clinic at Nemaska indicate increases in patient transportation in presumed connection with the EM-1-A project. However, excepting perhaps injuries, the same demand for

transportation could be expected because of the additional Crees in the vicinity (most of whom have simply moved from other Cree communities).

- Reports from the Nemaska clinic indicate increased local consumption of non-insured drugs and medical supplies. Again, there is no compelling reason to believe that this demand would not have been evident in other clinics had workers and their families not migrated.

In summary, the NIHB Programme would bear some of the medical dollar costs associated with development projects, but these costs cannot be isolated at present, and at least some of these costs would reflect redistribution of existing resources rather than new demands on the programme.

13.7.4. Development of Preventative Health Services

13.7.4.a. Hygiene and Control of Infectious Disease

Given that some of the public health challenges in the Cree Region have deep historical roots, it is instructive to consider the historical application of preventative health services in the region. Preventive practices depend upon context. The problems of environmental contamination in a traditional bush setting with an extended family or two are quite different from the problems encountered in the new communities of the 1980s without sewage disposal, town planning but with stand pipes for water. The Cree had knowledge of preventive practices to keep people healthy and prevent injury within traditional settings. Within new town sites the lessons learned to live successfully in the bush were not sufficient to counter the context of a sedentary population living on one site. For their part, Indian Affairs required the agencies that ran day and residential schools to ensure that Cree students had regular health check-ups, and such vaccination and medical attendance as was necessary. Elementary hygiene and personal care were taught and insisted upon in the schools. As discussed in earlier sections of this chapter, among the general Cree population, curative services, let alone preventive ones, were minimal at best before the 1940s, although Fort George was well serviced. Otherwise, until the Department of National Health and Welfare built its health centre at Fort George in 1942, almost no formal attention was paid to preventative health services.

Health and Welfare's Medical Service Branch assumed full responsibility for overseeing all Indian health services following its creation as a department in 1945. "Prevention" immediately became the dominant policy thrust in Indian health services across Canada. The residential schools retained their supervisory role for the health of children in their care, but otherwise preventative services - including environmental health - were now delivered through the growing system of federal clinics, supported by specialists who visited from Regional Headquarters. From 1930 Fort George had a hospital, and from 1959 there was one in Chibougoumau. The available documentary evidence is not clear, but MSB may have financed these hospitals at certain times to provide some preventive services to Indians. Certainly preventive services were a major focus for the MSB health centre in Fort George after 1942, and subsequently at each of the local clinics established in the communities. Several decades later, in 1976, MSB already had Chibougoumau Hospital on contract to deliver not only acute but also preventive services to Mistissini. Renewed in 1977, this contract ran until 1982.

The withdrawal of federal clinic administration, during the JBNQA implementation period, was accompanied by discontinuities in the preventative activities delivered under the supervision of the clinic nurses. The strong support cadre, at the level of the regional MSB office, also disappeared. Essentially, the Community Health Programme ceased to function fully until alternative measures could be

established under the provincial system. . The discontinuities and gaps in services that resulted took years to fully rectify.

In late 1977, the Département de Santé Communautaire (DSC) of the MGH was assigned to perform certain regional functions including the provision of prevention and promotion services. Note that Law S-5 (*Loi sur les services de santé et les services sociaux pour les autochtones cris*), which legislatively established the CBHSSJB, continues to apply to the Crees up to in 2004.⁹⁷ S-5 could not designate Chisasibi Hospital Centre as being one of the hospitals authorised to have its own Santé Communautaire department, and thus its own regional Public Health Physician, as these were only associated with teaching hospitals. The lack of such designation, and initial lack of capacity when the CBHSSJB was formed, meant that the CBHSSJB was set up with long-distance public health services based in Montreal.

For a variety of reasons, including a low level of funding and the inexperience of Montreal General in long-distance northern operations, several years elapsed before an acceptable minimum level of public health services could be re-established. For the first few years, the DSC had no dedicated public health programme for the Cree Region. The service vacuum created by the withdrawal of federal services was not appreciated until serious, preventable public health problems became evident level in the early 1980s. The last outbreak of tuberculosis in the region in 1980 resulted in rapid improvements in communications with the MGH and especially with the Montreal Children's Hospital. The gastro-enteritis outbreaks in six Cree communities, that same year, drew attention to the diminution of regional public health capacity and to the substandard condition of socio-sanitary infrastructure that the Crees had inherited from Indian Affairs.⁹⁸

The re-emergence of active cases of tuberculosis in 1981, along with the deaths of two young people, was the event that spurred the creation of a regional Public Health Programme for the Cree Region of the DSC during 1981/82. This initiative was the last of the great epidemic control measures in the Cree Region and possibly in Quebec's north. All persons under the age of 35 were placed on prophylaxis to render the germs ineffective. A regional regimen of examinations and chest X-rays was re-introduced, with the effect that 10 new active cases were identified. Time would prove this programme to be quite effective; however, the disease remained latent in some Crees and resurfaces, from time-to-time in individual cases, such as those in 2000 and 2004. Like the other public health activities delivered in the Cree Region by the DSC, this was a programme in the sense of being a set of planned activities with objectives, and also dedicated staff.

In 1984 the incidence of childhood disorders was still high. Therefore the Mother and Infant Health Programme, a continuation of the federal programme of roughly similar name, was considered a cornerstone activity. The programme was run by the clinic nurses, with regular visits from public health and paediatric specialists. By 1984, school health inspections and promotion activities had been re-established. Nonetheless, the monthly recordings of preventable transmissible diseases, for the general population, remained elevated; and records such as the following were reported:

⁹⁷ This law used the term "community health" (santé communautaire) rather than the term "public health" (santé publique). Today, public health designates the regional level activities while community health designates the services actually delivered to clients and the population.

⁹⁸ On a positive note, the storm of controversy surrounding the socio-sanitary deficiencies later resulted in significant improvements as a result of substantial federal investments. The federal government responded with a 5-year, \$61 million funding initiative to improve Cree and Inuit schools, housing, and sanitary facilities including waste disposal and drinking water. Thus, from the early 1980s onwards, improvements in both socio-sanitary infrastructure and preventative programming began to improve public health conditions in the region. Further socio-sanitary improvements followed the acceptance in 1988 by the Crees of \$14M in exchange for dropping a lawsuit alleging federal failure to provide to establish and maintain municipal services. Another \$8.3M flowed over the following five years.

- Diarrhoea (usually connected with food poisoning or bad sanitation): up to 19.
- Gonorrhoea: up to 6.
- Tuberculosis: 1 or 2.
- Others (hepatitis, meningitis, rubella, scarlet fever): 1 or 2.

Additionally, seven new active TB cases emerged in 1984, besides the 38 identified in the three years previous. Protocols for the mandatory notification of infectious diseases, and for the prevention of gastro-enteritis epidemics, were introduced with a sense of urgency that year.

13.7.4.b. Preventative Measures Regarding Mercury and Environmental Contaminants

As explained in sections on the Physical Environment in Chapter 11, human exposure to mercury has been an issue in the Cree Region since the early 1970s. Studies suggest that “background” levels of mercury present in the environment are themselves sufficient to produce moderately high mercury levels in people who frequently eat fish. Onto this background level have been superimposed the possibility of exposure from industrial sources. These include effluent discharged into water, long-range air transport, and increases in mercury levels as a result of hydro-electric development. In the 1980s, fish from the reservoirs of the La Grande hydro-electric complex were found to have four to six times the mercury levels of those in nearby natural lakes. These levels are declining but concentrations in predatory species have not yet returned to background levels.

Disruption of traditional eating patterns because of real or perceived contamination of the traditional food supply has been found in several studies of northern areas. It appears to have had an impact in the Cree Region.⁹⁹ Advisory campaigns in the 1970s issued blanket warnings against any fish consumption. These stimulated a sudden reduction in the activity of subsistence fishing and in the amount of fish in the diet. The Native Harvesting Research Committee estimated that fish harvests in Mistissini and Waswanipi fell by over than 75% in 1975/76.¹⁰⁰ Health professionals serving the region and the region’s residents perceive these changes as some of the reasons for increases in inactivity, obesity and diabetes.

Since the 1970s, mercury levels have been declining in every age group surveyed. This is most likely as a result of the reductions in fish consumption. Nonetheless, in a 2002 health study in Nemaska and Oujé-Bougoumou, one-sixth to one-third of individuals over the age of 40 years (19 people) exceeded the recommended Health Canada mercury hair level of 6 ppm. This puts them in the range that Health Canada characterises as “increasing risk”. Public Health authorities are faced with the dilemma of promoting fish consumption for its health benefits while warning against overexposure to mercury, in a context where international guidelines for mercury exposure are increasingly strict. Any significant increase in the level of mercury contamination in the fish consumed by Crees would only exacerbate an already problematic situation.

The Mercury Agreement (2001) signed between Hydro Québec and the Grand Council of the Crees provides \$22 million to promote fishing activity and fish consumption and \$8 million to study health and environmental impacts until 2011. The effect that this Agreement will have on exposure to mercury in the population is unknown at this time. This is why the Agreement has established funding for surveillance and follow-up.

In 1982 the CBHSSJB began its own mercury programme without dedicated funding. Quebec preferred to support the shoestring mercury programme of Montreal General Hospital’s DSC. This programme

⁹⁹ Wheatley and Wheatley (2000).

¹⁰⁰ NHRC (1976), c.f. Native Harvesting Research Committee, Environmental and Social Impact Review Panel (1978).

operated from 1982 to 1986 on about \$26,000 adjusted for inflation annually. Using scarce general funds, the CBHSSJB began its own occasional monitoring campaigns in 1982, coincidental with construction of the La Grande reservoirs. In 1983 the Crees' monitoring efforts were increased owing to high initial test results. Before long the testing programme included both hair sampling and umbilical cord blood testing.⁶⁸²

In November 1986 a multi-party Mercury Agreement was signed. This had various components including environmental health services, and corrective measures. Under Article 9.3, the CBHSSJB took on the responsibility for the health services components set forth in s. 4.2.1 to 4.2.3:

- to ascertain and monitor human dosages;
- to evaluate and ascertain the toxic effects on Crees, particularly on pregnant Cree women; and
- to determine and carry out measures to prevent or reduce human contamination and its effects.

The Government of Quebec undertook, by Article 10.3, to cover the CBHSSJB's costs over the 10-year period of the Agreement. Because of the high number of Chisasibi Crees observed to have elevated mercury levels, in the recent federal-sponsored report, a special clinic had to be established in 1984 in Chisasibi to look for signs of potential neurological problems. This clinic, a modest affair, was effective in calming local public concerns. No positively identified cases of clinical mercury poisoning were established through the inspections; however, there were some cases of neuro-dysfunction which could have had multiple causes, including or not including methyl mercury. The personnel connected with regional public health struggled to explain the complex issue of real risks to a population that spoke a different language and that had no experience with environmental contaminants. Additionally, since the Crees view the land as sacred; any possibility of contamination is an ecological, cultural, and spiritual affront.

The recorded environmental mercury levels varied from negligible to significant, depending on the location. As one has come to expect with hydro developments, since the initial readings there has been a significant, general decline in measured environmental mercury in the areas directly impacted by dam building. Nonetheless, fish from some areas (e.g., La Grande) are still not considered safe to eat despite declining levels, others can be eaten occasionally, and most others without restriction. Possibly the main output of the Mercury Programme of 1986 was that Public Health authorities became extraordinarily successful in educating people against eating fish. This dietary counselling changed Cree eating patterns sufficiently, it seems, to avoid a greater risk of verifiable poisonings. These efforts very probably avoided the accumulation of elevated mercury levels in the Crees who habitually fished the affected lakes, or simply ate significant quantities of fish from them. Whether the positive aspects of this change in diet outweighed the negative aspects (i.e., a possible shift to less healthy and more sedentary lifestyle) remain matters for research. The Mercury Programme was also instrumental in moderating public alarm over the perceived poisoning threat.

In 2001, the Grand Council of the Crees signed a new Mercury Agreement with Hydro Québec which provides \$18M to promote the fishery and \$8M for public health authorities to protect the population from elevated mercury levels. This has led to a new Mercury Programme within the Public Health Department.

13.7.4.c. Monitoring of Water Quality

In 1983 an agreement between the CRA and the Ministry of the Environment of Quebec (MEQ) began providing MEQ funding for the routine testing of community drinking water. The MEQ agreed to provide training and salary contributions towards water-testing agents in each community employed by

the local administrations. There have been no public health incidents related to public water contamination since the early 1980s. In 2004, the CRA is assisting one local administration with the drafting of a water quality by-law which can then be passed by all local Councils in order to establish the same by-law in each of the communities.

The powers to do this come from the 1984 *Cree-Naskapi Act* which provided the Cree bands with the ability to pass regulations for local public health and sanitation. In essence, the *Cree-Naskapi Act* built upon the by-law powers that had been possible under the long-standing Indian Health provisions of the *Indian Act*. The Minister of Indian Affairs still has to approve each by-law. Upon approval, these would be announced in the Canada Gazette, and then displace any similar provincial public health regulation but strictly in a local context. This displacement occurs because of the constitutional dictate that Canada can legislatively occupy, at its discretion, any area of government activity specifically with respect to Indians. Thus, the Cree bands each acquired public health lawmaking capabilities while the Cree Nation as a collectivity - and the CBHSSJB in particular - have no lawmaking powers in any area of health or social services.

The Cree communities continue to receive small amounts of funding, from Indian Affairs, for public health functions. With this sole source of funding, each community was expected to manage a number of specified activities including ones clearly beyond the capacity of a community to realistically deliver (e.g., the vaccination of animals and certain routine inspections). Some communities opted to use this minimal funding for environmental health activities, and even for things unrelated to any aspect of public health. Some communities hired public health or environmental health officers. Most eventually engaged public safety officers, who concerned themselves mainly with safety matters such as fire prevention and control of loose dogs. Few of these personnel received comprehensive training. Their mandates were not always clear, even to the officers themselves. Questions have recently arisen over responsibility in the event of a major public health crisis. The Public Health Director has the authority under Québec law to protect the population. However, the areas of Québec, federal and local regulatory jurisdiction between environment, municipal infrastructure and public health have not all been clarified. A current example is restaurant inspection.

13.7.4.d. Emergence of Diabetes as a Public Health Problem

The details about rates of diabetes are found in Chapters 11 and 12. The focus here is on the development of diabetes programming.

According to anecdotal reports, in the 1960s physicians working in the Cree region in northern Québec rarely encountered diabetes. However, by 1988 clinic nurses were requesting help to meet the needs of the growing numbers of people with diabetes. The first comprehensive prevalence study took place in 1989⁶⁸³, and was updated internally in 1993. The Public Health Module carried out a diabetes education research project in the early 1990s and afterwards hired the diabetes educator, Mavis Verronneau on a part-time basis. In 1995, the Module encouraged the Chiefs and the CBHSSJB to set up a Diabetes Task Force to coordinate diabetes planning. At the same time the Module obtained research money from the MSSSQ and the CBHSSJB to organise the ‘diabetes registry’ with the Director of Professional Services, Medical and a family doctor working in one of the clinics. The permanent management-surveillance system was set up in 1996-97. In 2000, the validity of the system was assessed against the results from a comprehensive screening for diabetes of residents aged 10 and over in two communities. In 2003 the system was audited and in 2004, revamped as an improved clinical management tool with new web-based software and organised under a new administrative structure. Formally under Archives, it is managed by a programme officer from Public Health under secondment to Archives. In the clinics, the CDIS helps

to promote evidence-based diabetes management. For the region, it produces the popular Annual Diabetes Update and the more technical Annual Diabetes Report.

The CDIS, and its predecessor the Diabetes Registry, have given the region the most advanced tracking and management system for diabetes in the north. The reports in the 1990s convinced Québec to provide financing for special diabetes programming and are seen as a major tool in the high awareness of diabetes in the region and the relatively low levels of undiagnosed cases.

Type 2 diabetes is a disease of a sedentary and overweight population. The direct precursor of most Type 2 diabetes is an imbalance in energy intake and expenditure. Obviously, diabetes can be indirectly linked to developments because with developments come roads, money to purchase vehicles, permanent communities without walking trails, yet more access to poor quality market foods and so forth. Similarly, an indirect link can be argued between measures to protect people from ingesting mercury in fish and resulting changes in fishing practices and diet.

The joint Cree/MSSSQ Diabetes Task Force reported in November 2001. The MSSSQ agreed substantially with the analysis and offered most of the funding that was requested in the report.

Over two years the MSSSQ agreed to provide a total of \$2,200,000 in recurrent new money, to augment other funding, towards a new assigned fund for diabetes. The total recurrent from all sources to be applied to Diabetes activities was to be \$2,686,000. This funding is continuous subject to performance evaluations. About a third of the funding in 2004 was directed towards the public health aspects of the diabetes problem (i.e., surveillance, monitoring, promotion, prevention, and research), administered through the Public Health Department. The remainder was distributed among the various units of the CBHSSJB who deal with diabetes treatment, excepting the haemodialysis service and patient transportation. One of the problems in implementing a full diabetes programme has been lack of housing for personnel and this continues to block the full implementation of this funding.

13.7.4.e. Evolution of Public Health Services in the Region

Throughout the 1990s, the small Public Health team within the MGH was quite successful in supporting the existing community health programs, especially the Mother and Infant Health Program, infectious disease programmes of various types, vaccination programmes, some research and a very basic public health surveillance. It also did health promotion on various topics such as sexual health, tobacco and so forth.

The lapsing of the Mercury Agreement meant no further funding for systematic mercury monitoring and related education. The timing of the cessation of this activity coincided with the Crees' battle with the proponents of the Great Whale hydro project. In 1995, following a vocal public battle with the Crees and environmental groups, and in the context of changing energy demand, the provincial government put the Great Whale project on hold. With relations between the Crees and the Government of Quebec at a very low point, the CBHSSJB made a further attempt to negotiate a Public health department of its own, although the MSSSQ was not at first interested.

In 1995, after responsibility for transportation of Cree patients outside of the region had been taken over by the CBHSSJB, the MGH's functions became solely public health. By then legislation had merged the seven Public Health departments in Montreal hospitals under a new Regional Department de Montréal-Métropolitain (RDPH) and the anomalous Cree public health team had become known as the "Public Health Module Cree Region". Officially under the Montreal RDPH, but administratively tied to the MGH, the team moved into the new GCC/CRA premises on Duke Street in Montreal during 1996. In

practice, this team answered directly to the Cree Board for all routine matters, including planning and managing the small budget, thus continuing the tradition established years before by the MGH.

In July 1997 the Ministry proposed the creation of a Public Health Department within the CBHSSJB. However, the Crees felt that this proposal, as it was advanced, would not respect the unique character and organisation of the CBHSSJB but would require amendments to the JBNQA - considered a sacred treaty - and to Law S-5. Despite its resistance to this particular proposal, the CBHSSJB remained anxious to “repatriate” public health and establish a Public Health Department of its own.

In 1999, the CBHSSJB used other funding to open an office in Chisasibi run part-time by a physician whose salary was paid by the RAMQ. At this time, the legal and final public health authority for the region remained the head of the Montreal RDPH but the operational side was run on a daily basis from the existing physician coordinator at the Montreal offices, Dr. Elizabeth Robinson, and the new physician coordinator in Chisasibi, Dr. Robert Harris. In October 2000, the regional public health budget was only \$367,000⁶⁸⁴, not including the salaries of the physician coordinators.

At this time in Quebec, Public Health played a regional coordinating role with responsibility for health promotion, prevention, protection and public health surveillance. Since the provincial health reforms of 1972, the delivery of direct, client services such as immunisation, health maintenance of preschool children, school health, and dental health and so forth were the responsibility of CLSCs and designated community organisations. This system was organised to the extent possible, given the resources, within the Cree Region.

In most clinics, nurses and CHRs delivered the ‘community health programmes’ along side doing curative care. Without dedicated community health services, except for one clinic, the focus for nursing skills was primarily on curative and only by fortuitous chance on preventive services. This was not helped by the chronic and heavy reliance on agency replacement nurses. Consequently, the desired level of clinic-based promotion and prevention activity was unlikely to be found, although there were exceptions.

13.7.4.f. Creation of a Cree Public Health Department

In April 1999 MSSSQ Minister Rochon signalled an interest to work with the Grand Council towards formal terms of reference for a Section 14 negotiations table. Amongst the Minister’s stated priorities were the establishment in the Cree territory of a public health department with statutory authority. By November a framework agreement was in place and negotiations were underway.

Twelve months later a joint Cree/MSSSQ Diabetes Working Group was struck - as a consequence of the region’s diabetes surveillance reporting - simultaneous with a Public Health Working Group. The latter presented its report in June 2001 to the Cree/MSSSQ negotiating table and the financial plan proposed was substantially accepted the same day that it was presented:

- The arrangement committed \$700,000 in recurrent new funding for seven vital public health functions. This was over three-quarters of the funding that the report called for. A further \$500,000 recurrent would flow when the outstanding Public Health Department legislative questions were resolved.
- The Public Health Module with authority through Montreal Public Health would be replaced with a CBHSSJB Public Health Department in the region. In this regard, the MSSSQ was ready to enter into negotiations about the legislative changes necessary.

Negotiations for mutually agreeable text to amend the “old law” (S-5) were concluded early in 2002, thus continuing the situation where the CBHSSJB does not fall within Law S-4.2 that governs all other public

health and social establishments in Quebec. At the same time, the individual communities continued to be financed through the *Cree-Naskapi Act* for local public health activities apart from the regional Department.

By 2004, the CBHSSJB had a Public Health Department, with greatly increased capacity in all areas, directed by a Public Health Physician who is also an Assistant Executive Director of the CBHSSJB and, as the Public Health Director, also a member of the Board of Directors. Since the CBHSSJB planning unit was still composed of only one person, all statistical and analytical expertise stayed concentrated in the Public Health Department

13.7.5. Development of Social Services

Even before the signing of the JBNQA – beginning in the mid 1930s for Waswanipi people - some social problems were worsening in parallel with the arrival of the changes and pressures connected with resource development. The people associated with different bands were affected at different times and in different ways, depending on what happened within their locale.

However, social services were very new to the region in the 1970s. The Cree extended family was still, to a large extent, the Crees analogue of ‘social services’. The introduction of programmes and services, over a period of decades, displaced, to varying extents, family responsibilities in health and healing. This was not unique to the Cree situation. The introduction and expansion of Southern type social services proved to be both a social impact and a reaction to social impacts.

13.7.5.a. Social Services in the Cree Region During the Early JBNQA Period (1975-1980)

In 1975 the social services infrastructure in the Cree Region was almost non-existent. The first MAS social worker based at Fort George - and the first social worker resident in the territory - appears to have been installed that year. Otherwise, the services available were little more than child protection services delivered by contractual agencies, Chibougamau Hospital and Senneterre CLSC, under contracts with Indian Affairs. Social workers visited the Cree communities monthly or less often, and sometimes only when a problem was reported. In 1975 if not earlier, a Mental Health Programme was theoretically administered through the five federal clinics. Yet there were no mental health staff in the region, and no records of visits by psychologists or counsellors have been found.

The first social service operated by the Crees was the delivery, by the Grand Council, of the National Native Alcohol and Drug Abuse Programme from 1976 until the CBHSSJB was able to take it over in 1978. The GCCQ ran the programme from its office located in Val d’Or. A programme co-ordinator set the plan for each year and relied on a network of local counsellors to educate the population about drug and alcohol abuse.

The Crees NNADAP was designed to target social problems that were a direct consequence of the modernisation occurring in connection with the hydro developments. The project description stated:

It came out clearly that the severity of the alcohol problem was very much related to geographical location. For example, Waswanipi and Mistassini, because of their proximity to non-native communities and therefore easier access to alcohol and drugs, have experienced acute alcoholic problems among [their] people and an increase in alcohol related crimes. The coastal community of Fort George, since the hydro-electric development project began, has a road built to it, and also has regular flights by two air companies providing continuous air service. This road and the air service making travel to southern non-native communities more accessible and

*relatively cheap has increased the flow of alcohol coming into the community. It, like the inland communities, is beginning to experience alcohol problems and alcohol related crime is on the increase. The other coastal communities of Great Whale River, Eastmain, Paint Hills and Rupert House are fairly isolated other than regular air service. The James Bay Agreement allows for roads to these communities...*⁶⁸⁵

The documentary record shows that the Crees and MSB were pleased with the positive effect that NNADAP seemed to be having in the Cree communities. The first activity involved visits to all the communities to assess the social situation. The resulting report was the first systematic account of the social problems, relating to drug and alcohol abuse, in the Cree Region and it suggested that most crimes were alcohol-related, and also described high rates of other problems such as glue-sniffing, drug use, and juvenile delinquency.

The Crees were not the only ones to observe the new social problems. The provincial social worker based in Fort George wrote in 1977:

*If you take into account the high rate of drunkenness, juvenile delinquency, drug abuse, which causes severe social problems, one cannot help but develop a programme which will respond to the needs of this community. The problem of alcoholism in this area is also related to marital problems, beating of wives, abandoning of children, promiscuity and a lack of parental responsibility in general.*⁶⁸⁶

For many years NNADAP was the only source of funding explicitly targeting the amelioration of social impacts of the sort arising from development. The funding under NNADAP was according to a national formula that did not take into account any special circumstances in the Cree Region: the Crees were funded at the same proportionate level as Indian communities who were unaffected by developments. NNADAP was a reactive-type of programme, restricted to counselling, without any mechanism to track or explain social impacts, and without a preventive approach.

Other social services were gradually set up after the NNADAP programme. A Social Service Centre - one of the four classes of establishments to be administered by the CBHSSJB - was created by decree in January 1979. In November 1979, this social services centre located in Fort George provided social services for the coastal communities and to Nemaska. Services to Waswanipi residents were provided through the Amos Social Services Centre under contract with Indian Affairs. Mistissini received its services through a sub-office in Chibougamau of the Roberval Social Service Centre, again under contract with Indian Affairs. The CBHSSJB was expecting to take over the responsibilities of Amos and Roberval as soon as possible.

There was no youth reception centre at first. The CBHSSJB originally planned to develop a regional reception centre in an old building across the lake from the village of Mistissini, where a few summer youth camps had been held, however it was not until the late 1990s that began construction of a proper regional reception centre with 15 beds in Mistissini.

13.7.5.b. Social Services in the Cree Region During the 1980s

Rapid Increases in Social Caseloads.

Prior to 1981, when the CBHSSJB began a statistical reporting system, there was no reporting of social services statistics. The system captured only the most basic caseload statistics, as required by regulations, and for purposes of providing standard-format reports to the Ministry. In the early 1980s it quickly

became apparent that some of the communities resented the collection, and especially the public reporting of, community-specific social statistics. Consequently, the CBHSSJB started a pattern of reporting - and analysing - social statistics on a community-by-community basis only to the minimum required by the MAS. This made it more difficult to make meaningful connections, if such existed, between caseloads and development projects.

Despite the limitations of the data, immediately it was apparent that caseloads were increasing very rapidly: in one year (1981/82 to 1982/83) the average monthly number of children in foster home care rose from 36.8 to 58.4. This did not include a few placements carried out by other social service centres. It also became clear that major geographic variations in social caseloads were occurring. Field reports suggested that Chisasibi's social problems were worsening rapidly, and in fact, the limited youth protection data for that community shows an almost fourfold (13 to 39) caseload increase during the year 1982/83.

CBHSSJB Total Social Cases, March 1983 ⁶⁸⁷			
Community	Popn. 1983	All Active Cases ⁶⁸⁸	All Cases Rate per 10,000
Chisasibi	1,975	96	486.1
Eastmain	337	19	563.8
Mistissini	1,803	143	793.1
Nemaska	265	26	981.1
Waskaganish	1,030	109	1,058.3
Waswanipi	824	31	376.2
Wemindji	726	30	413.2
Whapmagoostui	413	41	992.7
Total	7,373	495	671.4

The table below shows per-10,000 rates for all social cases active at 31 March 1983. The rates of social interventions of all types (including assistance to the elderly) per 10,000 varied from ordinary to extraordinary in terms of provincial norms. The regional unweighted average of 671.4 per 10,000 was high. (Waskaganish ranked a remarkable one intervention of all types per 10 persons in the population.)

In the five years between March 1983 and March 1988, the number of active social files, of all types, almost doubled from 495 to 829; and the Youth Protection caseload tripled (as shown in the table below). The largest growth was 700%, observed in Wemindji. The caseload in the small community of Nemaska increased from 0 to 28. Internal correspondence of the time suggested a rapid increase in family dysfunction. The overall caseload statistics grew almost three times faster than the population and there is no evidence to suggest that data quality issues were behind the overall growth trend of these caseloads.⁶⁸⁹

CBHSSJB Youth Protection Act Active Cases, March 1983 and March 1988 ⁶⁹⁰									
Community	(a)Popn. 1983	(b) Popn. 1988	(c) 1983 Y.P. Cases	(d) 1988 Y.P. Cases	(e) Change in Popn. (b) / (a)	(f) Change in Cases % (d) / (c)	(g) Pop. Change vs Change in Cases 1/(d/e)	(h) 1983 Y.P. Rate per 10,000	(i) 1988 Y.P. Active Cases Rate per 10,000
Chisasibi	1,975	2,331	39	101	118.0%	259.0%	2.2	197.5	433.3
Eastmain	337	377	2	10	111.9%	500.0%	4.5	59.3	265.3
Mistissini	1,803	2,046	27	94	113.5%	348.1%	3.1	149.8	459.4
Nemaska	265	375	0	28	141.5%	-	-	0.0	746.7
Waskaganish	1,030	1,240	28	45	120.4%	160.7%	1.3	271.8	362.9
Waswanipi	824	915	25	83	111.0%	332.0%	3.0	303.4	907.1
Wemindji	726	815	6	42	112.3%	700.0%	6.2	82.6	515.3
Whapmagooosui.	413	458	4	16	110.9%	400.0%	3.6	96.9	349.3
Total	7,373	8,557	131	419	116.1%	319.8%	2.8	177.68	489.7

Establishing the Framework for a Regional Social Services System.

From the early 1980s the Ministry was mindful both of the affordability issue and the justifiability question; the former concerned the funds available for investment, and the second concerned whether or not a disproportionate investment in the Cree Region could be explained to the electorate. The Ministry was, and remains, reliant on funding formulae that are based on per capita expenditures. The Crees found this per capita funding argument difficult to argue against without reliable, time-series per-capita caseload data that went beyond the mandatory data required by the MAS. The paucity of social services data - especially trend data - made it difficult to lever from the MAS the levels of funding requested.¹⁰¹ The ability of the CBHSSJB to lever social services funding was furthermore limited by the fact that its planning service never got the same level of importance and financial support as afforded in other establishments.¹⁰²

For example, the operations of a centre for socially maladjusted youth in Chisasibi opened in September 1984, although the official opening was not until 3 November 1985. Although two homes had been requested, the MAS only funded one. That same year, proposals for elders' group homes were submitted for Chisasibi, Mistissini, and Waskaganish. Each was to be twinned with a day centre providing support services. The Ministry did not fund any of these. A project to identify the service needs of the elderly and handicapped was first begun in 1985. This was abandoned when it became apparent that the Ministry was not ready to provide funding. It was resurrected in a more systemic and credible manner in 1999 when federal research funding was available. This time the Ministry reacted favourably to the well-documented findings, and in 2000 agreement was reached that \$20M would be committed for building nine day services centres, as well as one residential centre for mostly local needs in Waswanipi.

¹⁰¹ In fact, the Cree Health Board's social services tended - and still tend - not to track caseload data farther back than the previous year. Trend data must still be assembled painstakingly from diverse monthly and annual tabulations. These are not always consistent.

¹⁰² See *Development of Administrative Services* for a fuller discussion.

The early 1980s saw the rapid establishment of a core - albeit minimal – service presence. In mid-1981, Mistissini, with one quarter of the Cree population, had one social worker, one community worker, one homecare worker and one secretary. This appears to have been the first permanent social work presence in a Cree community outside of Fort George.

In 1981 about one half of the Cree population came under the jurisdiction of Quebec's Bill 21, the provincial *Youth Protection Act*. Of the approximately 850 Mistissini children under this law, 23 were active cases. This represented a rate of 271 per 10,000 and appeared to be rising. However, because the recently-created Cree School Board was now paying foster-lodging for students whose parents were in the bush at almost double the rate paid by the CBHSSJB it became increasingly difficult to get families to accept foster care children from the social services.

At first, Cree Social Services served only certain communities. For instance, prime responsibility for social services to the inland communities was retained by Chibougamau Hospital until 1982, two years past the five-year implementation period set forth in the JBNQA.¹⁰³ However, by 1982 the new Cree Social Services Centre was operating outlets in all existing Cree communities. It had 22 employees in the areas of: youth protection; family and couple counselling; assistance to elderly persons (including chronic care); home care services; and assistance to adult and community groups. Para-professional community workers performed much of the work, although only accredited social workers had the authority to complete compliance with orders, such as in the case of youth protection activities. Systemic training for community workers commenced on a small scale in 1980.¹⁰⁴

In 1982 a group home for the aged in loss of autonomy was established in Mistissini. Neither well equipped nor well received by the local population it soon closed. In January, 1984, following a proposal submitted three years earlier, a reception module for aged in loss of autonomy was created at Chisasibi Hospital Centre. Until then, all chronic patients with loss of mobility had been sent to Chibougamau and Val d'Or. Once the Chisasibi Centre opened, the demand soon well exceeded the capacity, and within several years the 32-bed Chisasibi Hospital Centre was housing 7-12 chronic and respite cases at the expense of bed space for acute patients. Had physical accommodation been available, a certain proportion of this clientele was sufficiently autonomous to live elsewhere with the assistance of social services. The long-term effect was to institutionalise at least some of these persons unnecessarily to the detriment of the region's hospital bed capacity.

During 1982 the CBHSSJB announced that it would vacate the area of drug and alcohol abuse counselling, primarily due to pressure from the communities for the federal NNADAP funds. A year later this decision was reversed. The Department of National Health and Welfare allocated \$162,044 for research to identify needs and optimal mode of service delivery. Completed in March 1983, this led to a revitalised, more effective central programme with better community support. Reports from the mid-1980s indicate an increasing number of persons requesting admission to drug and alcohol treatment programmes outside of the region and from about 1988 and continuing today, attempts began to secure funding for a regional alcohol and drug treatment centre.

¹⁰³ When the CBHSSJB took over all social work responsibilities in the region, most of the federal records relating to social services to the Crees were not transferred to the CBHSSJB; they remained with the contracting agency or at Indian Affairs' main office. This discontinuity in records created problems in managing cases for a few years at least.

¹⁰⁴ As today, it was easier to recruit and retain community workers than social workers given the educational levels in the region. Despite these challenges, by 1982/83 a small number of community workers had completed university accreditation as social workers. This was possible because of long-distance and part-time study in collaboration with the University of Quebec and other external agencies. Nonetheless, in 1983 it was estimated that local community workers resolved 85% of locally reported social problems. A training program beginning in the late 1990s, through the Université de Québec Abitibi-Temiskaming, increased the number of accredited, Cree speaking social workers.

Along with the new programmes and facilities came some improvement in administrative procedures. In June 1985 a training session was held to familiarise social services staff with a new policies and procedures manual. Prior to this, the policy basis was a confused collection of memos and policy fragments from various sources, including other social services centres and the Indian Affairs Social Development Programme. This policy development did much to establish consistency in service delivery. It was also necessary in order to have service conform to the federal *Young Offenders Act*, which took effect in April 1984. These policy developments of 1985 are strongly reflected in the social services policies extant in 2004.

13.7.5.c. Social Services in the Cree Region Since 1990

The 1990s saw slower growth in Cree social services compared with the 1980s, when the framework of a regional system was established. Like the number of active Youth Protection cases, the number of new Youth Protection cases is an indication of family social cohesion. Between 1982 and 1992, the number of new cases each year approximately doubled to reach 253.⁶⁹¹ However, during the five years 1991/92 to 1995/96, the number doubled again. More correctly, it doubled in the first two years of this period, remaining about the same during the fifth year:

CBHSSJB Youth Protection Cases Opened, 1991/92 to 1995/02 ⁶⁹²					
Community	1991/92	1992/93	1993/94	1994/95	1995/96
Chisasibi	25	94	138	121	109
Eastmain	19	6	21	15	8
Mistissini	64	84	147	98	105
Nemaska	22	28	43	48	55
Ouje-Bougoumou	n.a.	n.a.	n.a.	15	24
Waskaganish	36	53	44	86	68
Waswanipi	52	50	86	84	63
Wemindji	14	38	53	70	37
Whapmagoostui	21	27	38	55	49
Total	253	380	570	592	518

Partially due to the high caseloads and constant complaints by overworked social services personnel, the Crees remained upset over what they considered historical failures to implement a comprehensive social services system in a timely manner. Their claim of December 1998 in the Coon Come court case stated that:

There were no CLSCs in the other Cree communities from approximately 1975 to approximately 1987 when CLSCs were established in Mistissini (inland CLSC) and in Chisasibi (coastal CLSC); there should have been a combined CLSC, social centre and reception centre in each of the Cree communities from 1978;

there should have been extensive social programmes instead of virtually no programmes until 1987 and considerably expanded programmes and services respecting youth protection, group homes, community health, cultural upheaval, home support, day-care, alcohol and drug abuse

and family violence in order to meet the needs and provide the services described in the Particulars respecting Sections 14, 25 and 28 of the JBNQA; and

*there should have been extensive preventative programmes as described in these Particulars respecting Section 14 of the JBNQA.*⁶⁹³

Whatever the legal strength of these claims, they point to the fact that the Crees felt short-changed by the basic services that had evolved from the 1980s.

However, there had been progress in social services during the 1990s. In 1994 in the first geographic expansion in over a decade, Cree Social Services began service delivery to the new community of Oujé-Bougoumou. In 1995 a regional Mental Health Programme was established. While a system of psychological out-referrals had been in place since 1982 under contract with the Royal Victoria Hospital, the new Programme introduced periodic visits by psychologists.

Throughout 1997-2000, there was planning for the construction of a 15-bed reception centre in Mistissini. A secure, regional reception centre for maladapted youth had been desired since the early 1980s. This facility and an associated programme commenced operations in 2000. Unfortunately, due to various problems including inappropriate architecture and unsatisfactory planning, this centre rapidly experienced two management crises. The CBHSSJB is now evaluating its options, including constructing a smaller, more architecturally appropriate reception centre and using the new complex for other social services purposes.

The receipt of federal Home Care Programme seed money, in 2000, allowed work to start on planning a regional home care programme. The services at that time were poorly co-ordinated, and limited to non-medical supports such as assistance in personal hygiene, meal preparation, and domestic assistance. Persons in loss of mobility usually received free assistive medical devices (wheelchairs, lifting devices, etc.) as non-insured health benefits. The most striking deficiencies were in the area of chronic care of a more medical nature.

The Home Care Programme planning exercise accordingly has evolved beyond the ordinary scope of home care services. The CBHSSJB is responsible for the full continuum of loss-of-autonomy services, from support to care-giving families to institutional chronic care. The former tends to be medical social work whilst the latter tends to be nursing and medicine. The federal seed money was allocated to the Cree Social Services Centre, which co-ordinated a region-wide research project to identify the service needs of all persons in loss of autonomy.¹⁰⁵

This assessment, conducted in 2001, identified 587 elderly and other persons with disability or loss of autonomy. This did not include the Eastmain population, nor 30 disabled or dependent persons housed in foster homes, group homes or hospital settings outside the region. This survey was instrumental in leveraging \$20M in capital funding, from the MSSSQ for the building of the nine Multi-Services Centres (MSCs) described earlier in the section on Development of Clinic Services. One residential chronic care facility in Waswanipi is part of this project. There are plans, but no funding yet, for a chronic care residence in each community. These are considered essential considering that the typical elderly client is unable to adjust to life in an external chronic care facility. Many understand little or no English or

¹⁰⁵ Some of the needs examined in this project directly concerned Chisasibi Hospital Centre, which has long operated a respite service for Chisasibi families needing a break from caring for dependent members. Up to several beds may be occupied with respite patients, according to the availability of beds at the time. In the other communities respite service is less organised and, due to limited resources, often left to the band office to arrange. Frequently no respite service can be had at all.

French, and when they are institutionalised far away, their connection with the extended family diminishes or is broken.

In 2002 the federal Home Care Programme began funding the hiring of home care workers in each community. While not meeting all the needs, it significantly increased access to this service. The new home care service will be integrated into the operations of the MSCs.

Although the 1990s saw the introduction of a Mental Health Programme, a Home Care Programme, and planning for MSCs, some concerns remained about the level of social services available in the region. During 2000, a provincially appointed commissioner examining the state of child and family services toured all the regions of Quebec. In 2001, André Lebon released the chapter of his report dealing with a tour of services in the Cree Region.⁶⁹⁴ He found that the services available were inadequate in view of the exceptionally high caseloads. He also noted that the worker-to-client ratio far exceeded the provincial norm, and he pointed out an urgent need for culturally appropriate social work practices. Until 12 community workers completed social work training in 2003, non-natives had typically occupied all the licensed social work positions. While the Cree Board was much encouraged by the Lebon findings, Quebec was not as spending priorities were in other areas. While the Lebon Commission's reports were shelved at the governmental level, the findings respecting the Cree Region were incorporated into the CBHSSJB's Strategic Regional Plan exercise of 2003.

Certainly the Cree population as a whole remains cognizant that systemically high levels of social dysfunction continued after the James Bay development ended. There is a high degree of public and political support, not just for in-region treatment programmes, but also for the integration of traditional and spiritual healing practices into the treatment regime. This represents a challenge for the CBHSSJB, which is one of the directions objectives of the SRP.

13.7.5.d. Current Trends in Social Services Caseloads

Gaps in the statistical record, and changes in the ways that data were recorded, prevent the assembly of a set of continuous social caseload data for 1981 to present. Within these limitations, the most dramatic growth in social caseloads of different types occurred during the years when the James Bay hydro project was under construction. This is also the period when regional social services were introduced. To what extent did the sudden availability of social services, on a regular basis in each community, contribute to the rise in caseloads? Did the local presence of social workers and community workers identify more cases than would otherwise have been identified? Did the social services generate their own caseload to some extent? All that can be determined now is that, in each community, the caseloads grew rapidly immediately after a social services presence was established and the caseloads continued to rise throughout the 1990s when there was no growth in services, albeit at a lower overall rate than in the 1980s.

During the 18 years between 31 March 1983 and 31 March 2001, the number of active social files of all types doubled from 495 to 1,083. While this growth exceeds population growth, it is less dramatic than what was recorded during the first few years of Cree social services. More recently, caseload growth since the early 1990s can be best described as chronically high and rising faster than in the mainstream. When the first hydro-electric project ended, community-specific caseloads did not plummet but their rate of growth slowed.

The balance of causes of observed social problems continues to change. Cree Social Services reported in 2001/02 that:

*In the Youth Protection Sector, the caseload of Young Offenders has increased considerably partly due to the fact that many of our youth have dropped out of school. We still see problems related to violence, substance abuse, vandalism and sexual assault among the youth.*⁶⁹⁵

Perhaps the most salient factor is that, in the Cree Region, the social factors that create social cases have changed greatly in three decades and continue to change. During the years when the first hydro-electric project was under construction, some Cree communities received road access for the first time, and indeed had their first substantial contact with the Government of Quebec and the southern world generally. Alcohol and drugs became available during a short period. The entire population of Fort George relocated to Chisasibi, Nemaska and Waswanipi were constructed, and over a quarter of the Cree population was relocated. The EM-1 and proposed EM-1A projects do not involve dislocations of this type, drugs and alcohol are more readily available, and social services are firmly established. However, the earlier section dealing with the development of clinic services cited recent reports of increased caseloads at Nemaska clinic and negative socio-economic and demographic changes at the community of Nemaska due to proximity to the EM-1 project camps.

13.7.6. Development of Administrative Services

According to the MSSSQ's current definition, an *administration programme* is designated as an ensemble of activities of administrative nature and technique directly related to service programmes.⁶⁹⁶ In the Cree context this refers to a wider than usual range of central functions that directly, or indirectly, support the units of the organisation that deliver services directly to patients and clients. The internal department responsible for the CBHSSJB's central administrative functions has changed in name over the years. This unit has been variously named in connection with "administration" or "finance". At times was called a "service" but today is a "department" which includes the finance unit. For simplicity, throughout the historical discussion we shall we shall call the overall administration unit the *administration department*.

13.7.6.a. Financial Administration

The financial and management problems, which contributed to the imposition of trusteeship of 1980, seem to have begun with deficiencies in the Chashasipich Hospital's financial administration a year or two before the creation of the CBHSSJB. This inherited unit initially formed the nucleus of the financial administration of the CBHSSJB. The small financial cadre of Chashasipich was oriented towards the specific financial needs of a small, remote hospital. This limitation, along with responsibilities for rapid expansion in services, and a shortage of qualified staff including an accountant, made it necessary to redesign an administration department from scratch when the relocation to the mainland was completed. The establishment of a separate, dedicated, and increasingly capable regional administrative unit followed the conditional cessation of trusteeship in early 1981. Henceforth, the new Chisasibi Hospital Centre, and other components of the regional system, relied on this new unit for its non-medical administrative support.

The computerisation of the payroll in 1982 was accomplished quickly through a contract with a consulting firm, who did the actual work elsewhere. This had an immediate and significant effect in terms of rendering the balance of revenues versus expenditures more manageable, and above all, more predictable. The workload of finance personnel was eased, freeing time for them to address other areas of deficiency in financial management. A further contract was signed with the same firm to computerise the accounts payable, general ledger, and financial statements. Soon managers were receiving quarterly

reports, showing the status of their budgets, when previously they usually had received none at all. Detailed financial statements, of the sort required of establishments by the Ministry, also became available for the first time for the year 1983/84. In October 1982, an interim report by external auditors (one of the conditions of the cessation of trusteeship) revealed that the controls established so far were working. Finally the finances were considered to be fundamentally within the control of the Board of Directors. The Board and the MAS were pleased with this progress. As the financial controls improved, the Ministry was more inclined towards further investments in the region.

It soon transpired that the long-distance arrangement was unreliable and labour-intensive. The workload was a factor in the departure of three critical financial personnel near the end of the fiscal year. This delaying and complicated the annual financial statement upon which the next year's funding partially depended. This showed - for the first but not last time - the special vulnerability of the CBHSSJB to the supply of competent financial staff. Partially to reduce this vulnerability, in 1985 a basic computerised accounting system was installed at Headquarters in Chisasibi largely ending . reliance on consulting firms for the processing of transactions while speeding up their processing. However, it did not markedly increase the frequency of routine budget reports to managers, in large measure due to the large volume of paper transactions from all the facilities that needed manual entry and verification. A significant number of these transactions were for payment of non-insured health benefits which were not a feature of other Quebec health boards (other than in the Inuit region), and for the CBHSSJB, and were an expenditure and administrative burden without a funding source.

The Administration Department of the CBHSSJB assumed most responsibility for NIHB financial administration upon its creation, and all of it on 1 April 1994 when the responsibilities of MGH for Cree patient traffic were taken over into Cree Patient Services.

Centralised in Chisasibi, the entire Administration Department has traditionally kept financial control highly centralised. Unlike elsewhere, programme managers do not manage budgets but focus more on activities, because the archaic and limited nature of the financial reporting system makes it extremely difficult for the Head of Finance to extract financial reports more often than quarterly. Even then these reports only reflect the degree to which paper transactions have been manually entered. Fluctuations in staff, and a constant high volume of paperwork, can mean that some accounts are more up-to-date than others. Nearly all transactions start as paper and must be manually keyed-into the right expense line and manually verified. Furthermore, the accounts were set up to meet needs that have changed. It is therefore difficult to extract aggregate information specific to the programmes and activities as they are structured today.

During 2002/03, extensive evaluations of the Administration Department occurred in conjunction with the Strategic Regional Plan exercise. The need for an integrated cost-volume Management Information System (MIS) was clearly identified. Implementing an MIS system is now a priority and a consultant firm is being hired to develop the specifications. This is reflected as a component of a "management systems modernisation" priority under the SRP, with the blessing of the MSSSQ.

By and large, the management tools that are available are old, absent, or very new and imperfectly understood. For instance, relatively few managers had electronic mail until most of the organisation was connected to the MSSSQ's network in 2000/01. Budget preparation was first made an annual collective exercise for managers only as recently as 2002/03. The computer system still did not support providing monthly reports for managers to actually manage their budgets with precision.

13.7.6.b. Capital Management Services

The CBHSSJB operates about 130 buildings, including residential units spread amongst the nine communities. It also rents space in Chibougamau, Val d'Or and Montreal. Appendix F provides a tabular picture of the CBHSSJB's capital facilities other than staff housing.

Most of the existing CBHSSJB facilities, in the Cree Region, need to be repaired or rebuilt. Until recent years all but a few rental locations were owned and maintained by the CBHSSJB. Over the past several years, the Cree communities have begun building units using loan guarantees negotiated from the MSSSQ by the CBHSSJB and the CRA. These are occupied by the CBHSSJB on long-term leases. It is expected that this will be the new norm for capital constructions. However, the MSSSQ does not pay for the costs of providing a serviced lot. Much energy is expended attempting to convince the communities that the costs of providing free lots will be offset by other economic advantages. Of these the construction work and recurrent user fees (analogous to grants in lieu of taxes) are paramount. It has not been uncommon for capital projects to be delayed a year or more until the relevant Cree community decided to cover the costs of providing a serviced lot, or simply agree with the CBHSSJB on a user fee schedule.

In its Strategic Regional Plan, the CBHSSJB acknowledges a need to focus on the core business of delivering health and social services with potential out-sourcing to third parties - such as Cree bands or Cree companies - of effort draining, non-core administrative services which are unique to the northern environment.. The planning, supervision, accounting, and maintenance associated with such a large number of capital facilities are a particular drain upon the collective energies of the organisation.

The CBHSSJB has managed its large capital responsibilities with only a small group of personnel which have never entirely been grouped under one responsibility locus. The responsibilities for planning, purchasing, construction project management and maintenance have at times been moved around in the hierarchy within different units, even though these small groups of people must work closely together on capital issues. Until 2002 when an in-house engineer was hired, the organisation relied entirely upon external consultants and multi-tasked members of the Finance Department for the management of construction projects.

It is anticipated that well over \$100 million will be invested into a multi-year plan to renew existing facilities and to build new ones. Of these, approximately 200 new staff housing units are a high priority in order to cover current deficiencies and to allow projected new positions to be filled in a timely manner. It is recognised that the system - and resources - for implementing, managing, and maintaining all capital facilities will require augmentation and re-organisation although plans to accomplish this have not yet been finalised.

13.7.6.c. Reservation Services

A Reservation Service, in what today is called the Human Resources Department, organises an exceptional amount of staff travel and accommodation in connection with hiring, management, professional development, and long-distance programme delivery. A high turnover of staff - especially nurses - and a constant need to rotate teams and bring in short-term replacements including *dépanneur* physicians, contribute to a large volume of staff movement. This small and busy office is essentially a staff travel agency based at Headquarters in Chisasibi. Its activities are specific to the North, for southern establishments have only a fraction of the travel needs and little if any need for arranging staff accommodation. Reservation Services has been discussed as a candidate for out-sourcing, possibly to a travel agency.

13.7.6.d. Human Resources Services

A Human Resources Department - which has gone by various names including Personnel - manages all aspects of personnel services including: hiring staff, retaining staff, professional development for staff, union dealings, and allocating accommodation for staff. This unit is generally responsible for hiring and retention of personnel except for physicians and dentists, for whom the physician hired as Director of Professional Services (Medical) has some responsibility.

The CBHSSJB recruits mainly from Cree candidates in the communities and from non-Cree candidates in the south. It also recruits internally within CBHSSJB employees who seek mobility within the organisation. This requires a great deal of advertisement in regional, provincial and sometimes national media. Candidates frequently apply from distant locations including outside of Quebec. It is common for the relevant managers, and HR staff, to travel to Chibougamau, Val d'Or, or even Montreal to hold interviews with short-listed candidates. It is hoped that the installation of video-conferencing on the broadband commercial service, now available in Chisasibi and planned for other communities, will significantly reduce the travel costs and time associated with hiring.

Fluctuating but historically elevated turnover rates in many of the job positions, combined with insufficient staff and policies that need streamlining, continue to make it difficult for the Human Resources unit to cope. It is not uncommon for positions to remain vacant for months on account of a backlog. The HR unit is seriously handicapped by an insufficient housing stock in poor general condition. For instance, between 2001/02 and 2002/03 a dozen new Public Health positions remained vacant for over a year because there were no available housing units. And as mentioned before, the potential services that could be financed through the diabetes money from Québec have not been realised because hiring cannot happen without housing. As well, it is not uncommon for candidates to refuse an employment offer because of the condition of the housing they are offered.

13.7.6.e. Planning and Evaluation Services

At first this activity figured prominently in the *Annual Reports* but by 1984/85 it was hardly mentioned at all. Afterwards it assumed and re-assumed prominence in the official order of operations, under different names, but in no instance was it ever fully organised or equipped in comparison with other regional boards. Occasionally it subsumed responsibilities whose direction actually resided elsewhere; e.g., for a while the Mercury Programme was considered a planning matter. As late as March 2004, the CBHSSJB's central planning was on paper in the hands of a single Director with no other responsibilities and no staff.

The skill set needed to prepare the functional plans and statistical reports that are necessary for securing Ministry approval of capital projects particularly, tended to be concentrated in this one person. Furthermore at some point - apparently in the late 1980s - a practice began of hiring so-called planning personnel to work under front-line managers in order to plan specific projects. An example of this is the Elderly and Disabled Needs Assessment project of 1999-2001, which although comprehensive and technically sound, was done in almost complete isolation from the planning office. This approach amounted to the fragmentation of planning into programme-specific activities that did not always work in concert. Under these circumstances, sectoral projects reached the Board of Directors that often began as the initiatives of managers. On various occasions this drew the concern of Board Members.

There is no central repository of statistical data. It is common for managers to present conflicting statistics when asked to report or defend budget demands. Conflicting data periodically also appear in functional plans for capital projects, and in financial requests to the Ministry. The data that are available are minimal. Almost all of the statistical and analytical capability of the organisation is concentrated not in the planning unit, but in the Public Health Department.

In the several years following the trusteeship of 1980/81, the MAS insisted on external evaluations of major projects that were being implemented. Sometimes these evaluations were done by MAS personnel and at other times by contracted consultants. This established a pattern of relying on outside expertise to conduct programme and project evaluations. An in-house evaluation capability did not develop, as a need for routine programme evaluation was not strongly felt. When evaluation occurred it was either as a condition of a new project, or the consequence of the failure of a project. For instance, in 2000 and again in 2002 there were management failures in a large new reception centre in Mississauga which required the assistance of a consultant.

The Strategic Regional Plan of 2003 was the first such plan in twenty years. The earlier plan, begun about 1985/86 when the Board began articulating clear priorities for service delivery and capital improvements, had not been fully implemented during its three-year duration. Priorities were seldom matched with the necessary redistribution of funding. This was especially so in regards to social services, where cuts and even contractions occurred according to the funding needed for the competing priority: core medical services. For most of the CBHSSJB's existence, priorities tended to fluctuate on an annual basis according to what could be significant swings above or below the financial zero-line. Priorities tended to shift annually, or more often, until strategic planning was introduced in late 2002. The years 2002/03 and 2003/04 have seen robust measures to establish spending targets and stick to them. It is fair to say that, with this effort and some flexibility on the part of the Ministry, a corner has been turned in regards to adhering to making realistic spending plans and staying on target.

Endnotes 13.7 Development of Services by Sector

⁶⁵⁷ This table is compiled from: Schedule II of Section 14 of the JBNQA; records of Board of Directors meetings; and recollections of personnel particularly Head of Facilities, Operations & Maintenance Hugo Georgekish.

⁶⁵⁸ The Cree Public Health Department has been systematically tracking these types of reports since Autumn 2003. The potential existence of hydro impacts is a sensitive issue in the community of Nemaska. Consequently, it is thought best not to cite the written reports of CBHSSJB officials in this matter.

⁶⁵⁹ It was not until 2000 that funding for Non-Insured Health Benefits (NIHB) was settled through a Cree/MSSSQ Agreement on NIHB.

⁶⁶⁰ Quebec Superior Court Declaration of Claim 18 December 1998, Revised Schedule A, Section 14.3.13 (c): “capital costs for conversion of existing hospital in Chisasibi to multifunctional chronic care facility and construction of multifunctional health centre with 60 person in-patient capacity - \$ 50,000,000; Section 14.3.17: The funding of the Cree Health Board has been inadequate in that: (a) there is still only one (1) hospital in the Cree communities (in Chisasibi); (b) there should have been hospital centres in Mistissini and Waskaganish from approximately 1977.”

⁶⁶¹ For example: ORL: meringotomie, amygdalectomie, septoplastie, tympanoplastie; Gastro: gastroscopie, ileoscopie, rectoscopie, colonoscopie; Gynecologie: colposcopie; Plastie: excision de kyste, tunnel carpien; Chirurgie générale: exérèse de lipome, exploration et exérèse de masse au sein, de ganglions suspects.

⁶⁶² See Retfalvi (2003).

⁶⁶³ The MSSSQ lists general and specialised beds for the Cree Region as: 1991 - 27; 1992 - 28; 1993 B 28; 1994 B 27; 1995 B 27; 1996 B 27; 1997 B 27; 1998 B 27; 1999 B 27; 2000 B 27. Yet for March 1999, it lists 25 authorised for general and specialised care plus 7 for long-term care. (<http://www.MSSSQ.gouv.qc.ca/f/statistiques/index.htm>).

⁶⁶⁴ Calculated by dividing the number of actual user-days by the number of possible user-days, times 100.

⁶⁶⁵ Equivalent to “soins actifs” from MED-ECHO.

⁶⁶⁶ Source: SAS, MSSSQ, August 1999.

(<http://www.MSSSQ.gouv.qc.ca/fr/statisti/indicat/utiserv/niveau5/index5.htm>)

⁶⁶⁷ See: <http://www.MSSSQ.gouv.qc.ca/f/statistiques/index.htm>.

⁶⁶⁸ Source: MED-ECHO.

⁶⁶⁹ The actual sums may not total 100% due to rounding.

⁶⁷⁰ See: “Hypotheses de développement de l’Hopital de Chisasibi Baie James.”

⁶⁷¹ Source: Info-MED-ECHO, June 2002. Table 24b.

⁶⁷² Coastal communities plus Nemaska, which for some purposes could realistically receive hospital services from Chisasibi. Thus defined, the southern district comprises: Mistissini, Waswanipi, and Ouje-Bougoumou.

⁶⁷³ Source: counts from MED-ECHO; rates calculated from Cree Beneficiaries Registry for April of each year.

⁶⁷⁴ Source: MED-ECHO.

⁶⁷⁵ “Criteria for the Provision of Medical Services to Natives by National Health & Welfare Medical Services Branch,” p. 2. An analysis of entitlement to free medical services to JBNQA Crees prepared by MSB ca. 1974.

⁶⁷⁶ “Programme for Non-Insured Health Benefits (NIHB) as Applicable to Cree Beneficiaries of the JBNQA,” MSSSQ, 1 March 2001.

⁶⁷⁷ The agreed-upon adjustments were indicated by a 4 January 2001 letter from Deputy Minister Pierre Roy to Executive Director James Bobbish.

⁶⁷⁸ Source: Cree NIHB Programme.

⁶⁷⁹ Source: CPS *Annual Report*, 2002/03.

⁶⁸⁰ Source: CPS *Annual Reports* 1993/94 to 2002/03; CPS records.

⁶⁸¹ Source: Regression based on CPS *Annual Reports* 1996/97 to 2002/03.

⁶⁸² The clinical records were transferred to the Crees at the conclusion of the project. However, there has not to date been any follow-up to examine the long-term progression of the individual cases.

⁶⁸³ Brassard (1991).

⁶⁸⁴ \$155,000 recurrent from the MGH; \$87,000 granted to the CBHSSJB annually for AIDS prevention, but officially non-recurrent; \$80,000 received by the CBHSSJB annually for the control of tobacco addiction, again officially is non-recurrent; \$45,000 from the CBHSSJB annually for promotion of physical activity (Kino B Quebec Programme), again officially non-recurrent.

⁶⁸⁵ “Proposal For a Drug and Alcohol Abuse Programme,” dated 4 August 1976. p. 3. This is the proposal prepared by the GCCQ for, and accepted by, MSB.

⁶⁸⁶ Diane Thierrien, Social Worker of Direction Général du Nouveau-Québec to Grand Council of the Crees, dated 3 March 1977.

⁶⁸⁷ Source: Caseload data - CBHSSJB Ann. Rep. 1982/83, p. 26; Population data - Cree Beneficiaries List 1983. Note: rates are unadjusted by age cohort and represent whole population.

⁶⁸⁸ Childhood youth, elderly persons, adults, families and couples, and youth protection.

⁶⁸⁹ The veracity of the community level Youth Protection data has sometimes varied. In recent years it has been found that data have been over-reported by up to about 15%. This is because inactive files were not closed when they should have been. This problem appears to have been going on for years, and somewhat dependant upon the time available to an official from CBHSSJB Headquarters. This person's duties include travelling to the communities to close inactive files that rightly should have been closed by the local social services manager. There is not, however, any reason to think that this local and occasional skewing of local rates has dramatically altered the true overall picture. The pattern of corrections of year-past data shows that this type of over-reporting tends to occur in one or two communities, when it occurs at all. The aggregate over-reporting rate is therefore considerably less than the maximum found in the data specific to any one community. It would be preferable to examine the number of cases opened, versus the number of active cases, as a measure of social integration. The new cases data are uninfluenced by the question of timely closure. However, there are large gaps in the historical data for new cases.

⁶⁹⁰ Source: Caseload data - CBHSSJB *Annual Report* 1982/83, p. 26 and 1988/89, p. 15. Population data - Cree Beneficiaries List 1983 and 1988. Note: rates are unadjusted by age cohort and represent whole population.

⁶⁹¹ Source: CBHSSJB *Annual Reports*, checked against a discontinuous set of reports to Headquarters by the Cree Social Services Centre. The number of new files was not consistently recorded until about 1991; consequently, only a general statement is possible upon extrapolation of the active cases between 31 March of 1981 and 1982. Note also that Ouje-Bougoumou did not exist in the 1980s. Most of the social caseload for residents of this community was formerly recorded at Mistissini or Chibougamau.

⁶⁹² *ibid.*

⁶⁹³ Quebec Superior Court Declaration of Claim dated 18 December 1998, Revised Schedule A, Section 14.3.17 (c), (d) and (e).

⁶⁹⁴ Final draft chapter of report on Youth Protection services in the Cree Region, n.d., presented by André Lebon to the Cree/MSSSQ Section 14 negotiations table and to the Board of Directors, CBHSSJB.

⁶⁹⁵ CBHSSJB *Annual Report* 2001/02, p. 21.

⁶⁹⁶ Transl. from: "Remis à la Table de concertation et de coordination permanente sur l'allocation des ressources" (2003), p. 2.

13.8. Strategic Regional Plans

13.8.1. Strategic Regional Planning

The year 2003/04 was one of stress and uncertainty for the CBHSSJB. The previous year ended with failure to secure the Section 14 agreement that would have made 2003/04 the first of five implementation years for a Strategic Regional Plan. On a positive note, the SRP itself was completed and certain aspects of its implementation were set in motion with the understanding of the Ministry. Major capital constructions, and efforts to improve management systems, proceeded even though not all of the funding was immediately available. Other establishments in Quebec would not consider this prudent planning. However, other establishments do not have political negotiations tables with Quebec, nor could they make peace agreements as the Crees did in 2001.

Agreement on the elusive Section 14 Agreement were reached in early 2005 through a highly intensive negotiations process. The *Paix des Braves* era has, so far, shown unprecedented co-operation between the Cree entities such as the CBHSSJB, Quebec departments such as the MSSSQ, and players in the development sphere such as Hydro-Québec. The CBHSSJB, with the collaboration of the MSSSQ, has embarked on a course of renewal.

13.8.2. Strategic Plans and Changing Conditions

The Strategic Regional Plan of 2003 centres about orienting the CBHSSJB's collective efforts towards achieving ten major objectives. The orientations are:

- | | |
|----------------------|---|
| Orientation 1 | Indicators for health and social wellness for the Cree population should be at least equal to those observed or sought for the general population of Quebec. This dictates urgent catch-up measures. |
| Orientation 2 | Regular access to local health and social services in the Cree communities should be provided at least 80 hours per week. If regular access to local health and social services for the general population of Quebec is extended beyond 80 hours per week, it shall be extended accordingly for the Cree communities. |
| Orientation 3 | Provide the human, material, technological and financial resources necessary to meet the needs of the Cree population, taking into account, among other things, the development delays experienced to date and the special Northern conditions. |
| Orientation 4 | All services should be provided in accordance with the cultural values and realities of the Crees. |
| Orientation 5 | Ensure that the Crees shall exercise jurisdiction and control over the health and social service organisation. To this end, revise, update and amend existing legislation to reflect responsibility, authority and power of the CBHSSJB. |
| Orientation 6 | Develop a model for the integrated delivery of health and social services in the Cree communities, taking into account the special requirements of each. |

- Orientation 7** Consolidate social services of type, quality and quantity responsive to the needs of the Cree population.
- Orientation 8** Provide integration for traditional approaches to medicine and social services (Cree Helping Methods).
- Orientation 9** Prepare the future by training Crees to assume responsibility for the positions of physicians, nurses, social workers, other professionals, technicians, managers and other health and social service employees.
- Orientation 10** Create the incentives necessary to attract and retain the required personnel so that the Cree communities are perceived as attractive places to live and work.

These ten orientations have as their origin, to a significant extent, the vision statement and observations from the February 1999 Special Assembly on Health and Social Services, whose report is entitled “Building a Strong and Healthy Cree Nation.”

The first orientation - *Indicators for health and social wellness for the Cree population should be at least equal to those observed or sought for the general population of Quebec* – implies particularly far-reaching measures. It constitutes a prime objective of results of the CBHSSJB. It is acknowledged that this would take longer to achieve than the five-year duration of the SRP.

A more realistic target is set to secure these objectives within a period of ten years; i.e., from 2003 to 2013.

The financing of such measures requires some new thinking about where services are delivered and where money is invested. The gross expenditures on health and social services for the Cree Region consists of what is spent in the region itself (particularly by the CBHSSJB) and what is spent on services outside of the region. A large portion of the latter consists of hospital core funding and RAMQ charges for diagnostic and curative acts performed on people sent to access services that are unavailable in the Cree Region. The Regional Strategic Plan exercise considered, based on figures provided by the MSSSQ, that the gross expenditure on health for Cree Region residents during 1997 was \$50,320,000 during 1997/98.¹⁰⁶ This amounts to \$20M above the \$32,248,196 provided by the MSSSQ to the CBHSSJB that year. The same year, per capita expenditure on Cree health care worked out to approximately double that of Quebec as a whole (\$4,097 vs. \$2,030).⁶⁹⁷

The Strategic Regional Plan seeks to address the imbalance of investments by making more essential services available within the region, thus reducing the extreme reliance on external facilities. This dependency involves most services including diagnosis and treatment in external clinics, practices, and hospitals. Three-quarters (73.3%) of hospitalisations for Cree Region residents occur outside of the region. The Cree population accounts for almost a third (31%) of hospitalisations in Nord-du-Québec Region 10. The economic importance of this, to the viability of Nord-du-Québec hospitals, is a crucial factor in the funding and re-organisation of the Cree Region’s health services with a view towards improving access to services. It is implicit in the CBHSSJB’s Strategic Regional Plan that the external facilities, which rely so heavily on the Cree caseload for their viability, must be preserved as fully functioning service points.

¹⁰⁶ At the time, 1997/98 was the most recent estimate available.

The Strategic Regional Plan redefines the mission of Chisasibi Hospital Centre as an acute service, non-specialised category general hospital serving the coastal communities including Nemaska, and also to co-ordinate hospital services throughout the region. Chronic services would be provided by chronic care facilities in the various communities. The re-organisation of regional hospital services is specifically meant to reverse the historic two-decade decline in the percentage of regional hospitalisations. Different measures are planned for improving services in the three southernmost communities, where the geographic reality points to bringing some “light hospital services” (e.g. dialysis, light surgery, laboratory) into the communities, improving pre-hospital services, and new partnerships with external hospitals. Thus, the Strategic Regional Plan sets progressive targets for increased in-region hospitalisations:

In 5 years (2008), Chisasibi Hospital Centre will meet 50% of the outpatient and inpatient hospitalisation needs of residents of the northern district. (An increase of 18%, from 32%)

In 10 years (2013), it will meet 70% of the outpatient and inpatient hospitalisation needs of residents of the Northern district. (An increase of 20%, from 50%)

On the assumption that the human, administrative, and financial burden of the southern district status quo is increasingly unaffordable, the SRP also sets targets for reducing the high hospitalisation rates, and high number of medical transports, respecting the three southern district communities:

In 5 years (2008), the three southern district clinics will reduce the number of out-of-district hospitalisation by 10% (a decrease from 100% to 90%).

In 10 years (2013), the three southern district clinics will reduce the number of out-of-district hospitalisation by 20% (a decrease from 90% to 80%).⁶⁹⁸

These targets are to be met through a “Ten-Point Agenda to Improve Access to Hospital Services”:

1. Make a full range of non-specialised hospital services available for residents of the northern district, through a fully functioning Chisasibi Hospital Centre.
2. Create a complete system of supporting infrastructure so that Chisasibi Hospital Centre can accept outpatients and overnight patients from all northern district communities.
3. Under the close supervision of the Board of Directors, Chisasibi Hospital Centre to exercise its existing role as the regional authority on hospital services policy and delivery.
4. Significantly improve access to hospital services by southern district residents by a combination of Clinics that offer enhanced pre-hospital services, as well as certain “light hospital services” that can realistically be delivered locally.
5. Improved services from the external hospitals that we must continue to rely on.
6. Offer regional (rather than just district) hospital services, and provide outreach programmes to the southern district, to the maximum extent possible considering geographical constraints.
7. Design services and related infrastructure (e.g., architecture) so they can evolve according to growth in the service population.
8. Bring hospital services to the patient, whenever possible, rather than bringing the patient to a far-away service.
9. Achieve a separation between clinic and hospital services such that the two are mutually supportive, without duplication of effort and resources, and with a highly integrated management system.
10. Gradually and methodically integrate traditional approaches and Western medicine into an effective, complementary, and holistic hospital system.

The CBHSSJB considers that it has an option to directly, or indirectly, deliver hospital services to all persons on Category 3 lands, including development camps, in order to avoid duplication of infrastructure, competition between establishments for resources, and geographic areas where no other establishment is realistically in a position to serve the clientele.⁶⁹⁹

The Ten-Point Agenda requires replacing the two-CLSC system with one Cree Integrated Services Unit (CISU) in each community. These administrative loci would be responsible, to the maximum extent possible, for all local management. Control would be decentralised from Headquarters and certain top-heavy central functions, not considered core business but necessary to northern operations, could be delivered by new modes such as out-sourcing.

Achieving these objectives – and even achieving efficiencies that the SRP recognises must be made - is more financially complex than obtaining large sums of new money. The basis of the CBHSSJB's funding should reflect the northern reality. Following an intensive audit analysis, an understanding was reached with the MSSSQ that critical services cost at least 1.5 times as much to deliver in the Cree Region as in the south. Recognising this difference, and factoring it into the funding base, would provide a scientific justification for budget growth. Discussions continue with a view to implementing a multi-year formula-funding regime, which ideally would be partially driven by changes in population and caseloads. This is considered an important aspect of a "pro-active approach" to dealing with the effects of hydro development, whereby services should be equipped before caseload impacts are felt, rather than afterwards. However, this pro-active feature of the SRP was based on assessments of current needs and not future needs. The SRP would need to evolve if, and when, impacts of the EM-1-A project and other developments make themselves apparent.

The Strategic Regional Plan calls for a development budget of \$50M spread over five years in increments of about \$10M. Of this, \$40M would be new money. Agreement has now been reached that fiscal year 2004/05 would be the baseline for the additional funding. In 2010, the MSSSQ's funding is expected to grow from \$69M in 2004/05 to over \$110M. This amount does not include investments for new and rebuilt capital facilities, nor the operations and maintenance funding needed to operate facilities. Operations and maintenance costs are contingent upon the functional design of the facility; ergo, they are established when each capital project reaches an advanced stage of planning. Over \$100M is to be invested in capital facilities over a seven-year period. By 2010 there will be an additional 450 personnel, bringing the total to nearly 1700.

The CBHSSJB and the MSSSQ realise that these plans require win/win partnerships with the Nord-du-Québec hospitals. Accordingly, new relationships would have to be negotiated. The SRP also affirms the position of the CBHSSJB that it has the option to deliver, if it chooses, health services in the new and existing hydro camps in the region. This possibility might require overdue administrative clarifications of the service boundaries of the Cree and Nord-du-Québec boards.

Presently, co-operation between the CBHSSJB, Hydro-Quebec and Nord-du-Québec has significantly improved over earlier periods. For example, Chisasibi provides radiology and laboratory services for the Radisson clinic; the CBHSSJB is considering a request to take over certain CSST (workplace safety) administrative functions outside of its boundaries; and Nemaska clinic provides some services to nearby Hydro camp residents. The desirability of the CBHSSJB assuming an enhanced regional role beyond the islands of Category 1 and 2 lands, will depend upon the interests of the stakeholders, but also on the timely implementation of the service augmentations that the CBHSSJB has planned.

Within this movement towards a revitalised regional system, there is a focus on integrating traditional and other alternative medical practices within the curative and preventative services of the CBHSSJB. This would provide clients with choice and more vigorously inject traditional values and a Cree ethos into

services, finally completing the transfer and providing services that reflect the needs of the Crees. The way to go about this is unclear, and there are various, divergent views on what constitutes traditional health and healing.

The matter of traditional medicine grew in importance during the 1990s, especially in connection with social services. Traditional healing settings and therapies have already been experimented with, particularly in connection with youth in conflict with the law. Some of the communities, and the CBHSSJB itself, have paid for or arranged for traditional ceremonies under the auspices of various traditional healers. A 2002 discussion paper recommended open discussion and consultation towards identifying common ground in this area.⁷⁰⁰ In December 2003 the CBHSSJB established a position of Assistant to the Executive Director for Traditional Services to oversee the integration of traditional praxis into all aspects of the organisation's service delivery.

Endnote – 13.8. Strategic Regional Plan

⁶⁹⁷ Estimates c.f. Schnarch (2001:89-90); Revenue figure from CBHSSJB *Annual Report* 1997/98.

⁶⁹⁸ For full details of regional hospital re-organisation, see: "Ten-Year Plan for the Re-organisation of Hospital Services in Eeyou Istchee," CBHSSJB (2003).

⁶⁹⁹ "Strategic Regional Plan of the CBHSSJB" (2003), Chap. 5.

⁷⁰⁰ Torrie et al., 2003.

13.9. Conclusions: Health Services as a Health Determinant, 1975 to 2004

13.9.1. Introduction

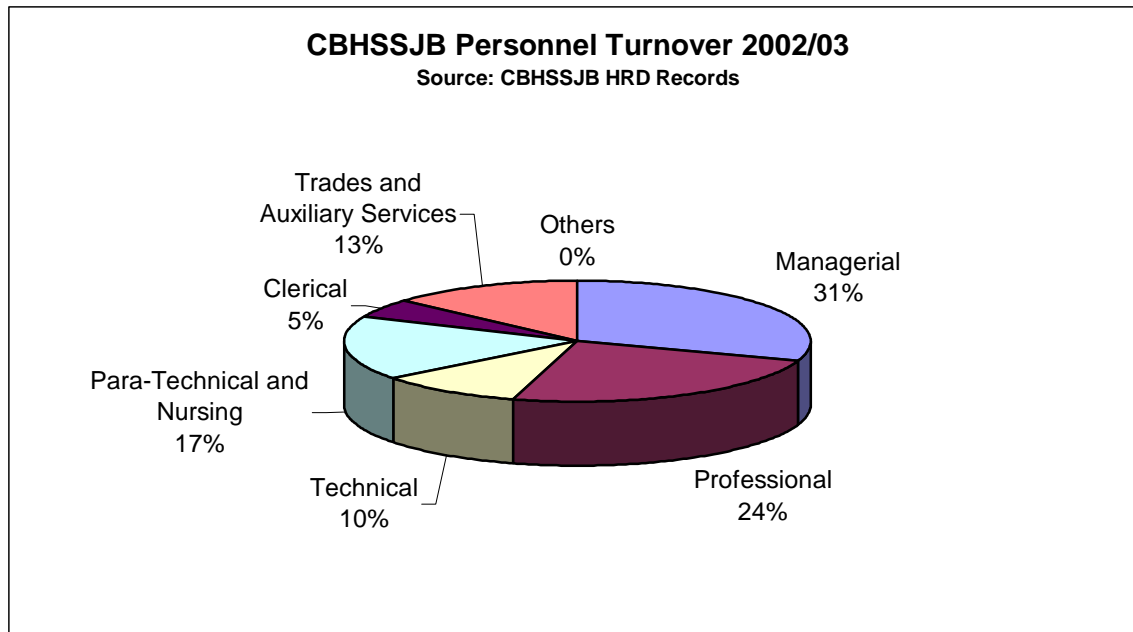
This section examines the adequacy of the Cree Board of Health and Social Services of James Bay (CBHSSJB) as a health services provider during and since the mid-1970s. This analysis, which is partially chronological and descriptive, examines the question of adequacy through the framework of the ten principal research themes, or “benchmarks” developed by the Canadian Health Services Research Foundation⁷⁰¹, following Canada-wide consultations during early 2004. In conclusion, the analysis again considers in retrospect the impact of regional health services on health status.

13.9.2. Analysis of Service Adequacy

13.9.2.a. Benchmark #1: Workforce Planning, Training, and Regulation

The CBHSSJB’s unique workforce has evolved along unique lines and according to no strategic vision. This *ad hoc* evolution continues to present significant workforce challenges in 2004. The highly experimental process of implementing Section 14 of the JBNQA, was imperfectly planned and fraught with difficulties. The “inherited” federal and provincial employees had different work modalities and expectations. Reconciling their remuneration and changed working conditions was difficult. Much of the former regional workforce departed in the period 1976-1981. Medical Services Branch simply abandoned its facilities with few if any transition measures, leaving the inexperienced CBHSSJB to rely on the MGH for assistance in finding replacement staff. At first, Crees without health care credentials were placed in as many management positions as possible, to inject an element of Cree “ownership” into daily operations. When credentials could not be waived, para-professional positions were sometimes created that Crees could fill. This led to a high reliance on non-certified staff who lacked training and tutoring. Over the years a Cree management cadre emerged and, as experience was gained, the local origins of the para-professionals became strong assets. However, the organisation has never capitalised on this experience and turned it into training programs for new Cree employees.

The CBHSSJB still faces chronic personnel shortages that cyclically develop into acute crises. An insufficient pool of potential Cree candidates within a small regional population largely explains these shortages. The low point was in 1984/85 when the following departed: Executive Director (ED), both Assistant Executive Directors (AEDs), four key directors including the Finance Director (twice), critical support staff, and 17% of doctors, dentists, and nurses. This precipitated: a morale crisis; a slowdown in financial transaction processing causing a cash flow problem, which became a deficit problem; and programme management discontinuities. This event affected the sound planning and implementation of various core services then being installed in the region. The root causes were the same as today: exceptional stress levels owing to workload; excessive travel often in bad weather; unsatisfactory working and living environments; and the lure of better conditions with more intrinsic rewards elsewhere. Large investments in staff housing during the 1980s, and remuneration and benefits that gradually became quite generous, reduced the turnover rate in all professions to levels still considered abnormally high. A particular problem is that for years the management turnover rate has fluctuated at around 30%.



A high nursing turnover rate persists and the clinics periodically face nursing shortages. In 2001, nurse staffing was 50% per capita lower than in Quebec as a whole. In 1998/99 there were 6.0 equivalent-to-full-time nurses per 1,000 persons versus 9.0 for Quebec. Fluctuations in physician supply also have an impact on clinic operations; e.g., in 2001 the supply fell to 1.5 full-time equivalents (Whapmagoostui and Mistissini) with a precarious supply of mostly new short-term fly-in replacements mainly from the south. Until about 2002, when limited telemedicine was introduced, new professional incentives offered, and the rate of construction of new housing units increased, the battle to recruit and retain doctors and nurses seemed un-winnable.

Fluctuating but historically elevated turnover rates in many of the job positions, combined with insufficient staff and policies that need streamlining, continue to overwhelm the Human Resources unit. It is not uncommon for positions to remain vacant for months on account of a backlog or due to an insufficient and inadequate housing stock. For instance, between 2001/02 and 2002/03 a dozen new Public Health positions remained vacant for over a year because of lack of housing until they were finally hired from Montreal until housing becomes available. The implementation of entire programmes has been deferred for reasons of limited stock and allocations restrictions: the staffing for the Diabetes Initiative from 2001/02 which is still not resolved by the end of 2004, and the Multi-Services Centres in 2003/04.

Value of Inter-Professional Team Care in Different Settings

The CBHSSJB is struggling to rid itself of an archaic, hierarchical mode of organisation stratified by professional grouping. Personnel usually function well enough in their individual roles but there is no structured teamwork in the modern sense. The full- and part-time physicians and dentists are organised into the legally-required Council of Physicians and Dentists (CPDP) of the sort found elsewhere in Quebec, except its quality assurance committee has never been set up, there are periods when it is not functional and it operates with little requirement to report to the Board of Directors. A Director of Professional Services (Medical) oversees this group. In recent years, the Board has had great difficulty in keeping the position filled. One other physician is appointed Head of Medicine and a non-physician is in

charge of the hospital. The legally-mandated Nurses's Council is only beginning to be organised in 2004. Two CLSC managers have responsibility for the clinics within their geographic zones and the administrative modalities of these CLSCs differ. The licensed social workers, and para-professional community workers, have their own hierarchies. The clinics have a Nurse-in-charge and also a Local Coordinator of support services. The lines of responsibility for results are often overly complex, duplicated, or simply unclear, one can seldom assess the value of inter-professional teams where such teams exist in the organisation.

The management is divided into "professional" and "line" categories. The professional category consists of three separate directors responsible for doctors and dentists, social workers, and nurses. The line category comprises all others. For most of its existence, physicians and dentists were considered the only "professionals" in the organisation. This has been broadened to include personnel other than managers with university certification in their field. Regardless, there are clear status distinctions and inter-professional boundaries between the doctors and dentists, the other "professionals," the managers, the nurses, the para-professionals (e.g., CHRs), and other staff.

Reliance on transient non-Crees, from the south, continues to be high especially in the professional occupations. This helps to perpetuate the divide between the clinic and hospital services run by medical "professionals" and the social and support services run by "para-professionals." Services tend to be organised in terms of programmatic needs rather than client-based needs, lack organised inter-disciplinary team-work and make no overt effort to account for Cree practices, language or traditions. Not only is this counter to what the Crees holistic perspective would seem to call for, but it does not reflect the current approach to services in Québec.

The language situation engenders fragmentation of effort: French has predominated in nursing; English in medicine, dentistry, and administration; and Cree in social services and some support services, although French is now becoming more common in administration as well. Efficiency is furthermore hampered by Nordic factors such as distance, and by the absence, rust-out, or obsolescence of some capital equipment. Making massive investments in services is not alone the remedy. Concurrent improvements in management systems are essential.

Yet the starkest division, in terms of accountability, is that between managers of professional groups, programmes, and installations such as clinics. This distribution of authority, coupled with the fact that few activities are run as programmes with a programme manager, make loci of responsibility unclear and complicate periodic attempts to improve inter-professional team care.

Forecasting Models

Workforce forecasting has been approached in an ad hoc manner. The main reasons are: the fragmentary way in which the workforce was initially assembled; a chronic personnel shortage related to high-to-extreme turnover rates; an inadequate Human Resources capacity; and a culture that reflects the reality of periodic crisis management. The Strategic Regional Plan (SRP) of 2003 is the first attempt to state the need to forecast staffing and training needs. At the time of writing this Plan (which like others of its type evolves during its implementation period), requires the number of non-Régie d'Assurance Médical Québec (RAMQ) personnel to grow from about 473 to over 600. This is mainly in connection with implementing single-window service points in each community that will be open 60, and eventually up to 80, hours per week depending upon local needs and resources.

Emerging Professions and Evolving Roles of “Old” Professions

Unlike most other regions in Québec, ‘alternative’ health care practices are very limited in the region. There is some use of traditional medicines, currently the focus of a large research project, however the range of alternative practitioners that is found in most larger towns of Québec is absent, perhaps in part because of the shortage of office space and the complexities of setting up private businesses on Cree lands. As a result, except for some wellness programmes run by the communities, the principal game in town happens at the CBHSSJB.

The non-Cree personnel - particularly the medical personnel - tend not to last long in Cree employ unless they can adapt to fundamentally different ways of practising their profession. Besides administrative procedures and working conditions that can be alien, unmodified southern approaches to dealing with the clientele can be ineffective or even generate complaints. Recently there has been interest shown in introducing emerging professions such as nurse-practitioners and registered midwives, but these are just in the discussion stage. .

However, a far greater rift exists over the Board’s intention, in its SRP, to devote 2% of its development budget towards providing “increasing space” for “Cree helping methods.” The goal is twofold: first, to offer alternative treatments – which often have a spiritual dimension – so that clients have a choice; and second, to integrate the Cree and western models of service delivery into a culturally appropriate approach. The Crees themselves have divergent views on what this might constitute “ And the CBHSSJB has not yet done planning beyond several lines in the SRP.

13.9.2.b. Benchmark #2: Management of the Healthcare Workplace

How Changing Demographics are Leading to Changing Expectations in the Workplace

Cree demographics have changed to the extent that most people now live full-time in the communities and the population continues to grow. As a result, unlike Québec, the population is young. Employees are critically aware that some facilities and services were installed when the population was half its present size, and are increasingly impatient about alleviating the associated overcrowding and difficult working conditions.

Although the CBHSSJB’s workforce age profile has never been tracked, there is nothing to suggest that it has changed over the years. Internally, it is accepted that new employees today have different expectations than a generation ago. The doctors, occupational therapists, physiotherapists, dentists, X-ray technicians and lab technicians are all from the south; only a handful of nurses are Cree. . The younger ones, especially, are less tolerant of the privations of Nordic life. On one hand they are often attracted by the opportunity to practise a wider range of their specialty. On the other hand, they want to keep close personal connections with the south, and are more wary of losing their portability as a result of practising in an isolated, comparatively obsolescent technical environment. This, and a demand situation in their favour, necessitates unprecedented investments in staff housing, benefits (including travel south), working conditions, and equipment with which to practise. Although major improvements will occur over the next five years, worker expectations will continue to grow in the meantime.

Today’s younger Cree employees expect advancement at a faster rate. After a quarter century of perceived failure to achieve a Cree-dominated workforce, and with no past nor present plans to change this, they are less accepting of the slow rate at which Crees replace non-Crees particularly in the highly skilled professions. New political demands – from the outside as well - are being made for the

displacement of non-Crees by preferential hiring and promotion measures. However, staff morale is also an issue, and some of the special measures being discussed do not mesh with union perspectives. There is already a perception, amongst non-Cree staff, that their upward mobility is constrained by unwritten prerogatives for filling high positions with Crees. Conversely, some of the Cree staff resent hints of preferential measures, and wish to advance strictly through their own merits.

Factors Generating Organisational Commitment and Productivity by Healthcare Professionals

The Cree Board struggles to reconcile the interests of the Cree Nation, the interests of its clients, and the interests of its employees. The political goals of the Crees, which include achieving law-making capability in health and social services as well as replacing non-Cree workers with Crees, if necessary through preferential measures, are not automatically shared by the unions representing employees.

The level of organisational commitment of health professionals varies by ethnicity and profession. The Cree employees are all strongly bound by their extended families, their culture, and a paucity of comparable professional opportunities in the region. The pay and benefits are excellent when the non-taxation advantage is considered and, when a Cree works in a community other than his/her place of origin, a staff house or flat is provided without the multi-year wait that a local band member could expect. Furthermore their portability elsewhere in Quebec's health system is extremely limited, if only by language. The training provided by, or accepted by, the CBHSSJB would not always be recognised as adequate certification elsewhere, even when comparable competency is achieved through workplace experience. While a handful of non-Cree employees also have permanent family commitments that bind them to the region and to the CBHSSJB, most are transients who leave when better opportunities arise elsewhere, or when external factors - such as whether the local school system is adequate for their children - compel a family-interest decision. Those with the least organisational commitment are a majority of the doctors who visit for part-time or 'dépanneur', service. All the doctors and dentists receive fixed salaries by the RAMQ so the CBHSSJB has little economic leverage over them.

The organisation has 1,236 personnel (963 Aboriginal and 273 non-Aboriginal) giving an Aboriginal to non-Aboriginal ratio of 3.5 : 1. However, the Aboriginals dominate the lower-skill and lower-education occupations, while the critical medical and specialised management occupations are still held mainly by non-Crees who mostly have limited commitment. Their departures can come in waves at times of special organisational vulnerability. Occasional employees, almost all Cree, account for 684 of the positions. Most of these are minimal-skill classes such as housekeeping. Ordinarily this large cohort would have low commitment but many of these positions have been effectively full-time for years with union protection and employee benefits.

There are no productivity standards and the productivity expectations upon personnel vary. In the case of the CBHSSJB, individual productivity has not, by and large, been an issue to the organisation as a whole. Low levels of productivity, when they are evident, are tolerated for various reasons including a systemic resignation that personnel are overwhelmed with work. Higher levels of productivity are not often recognised at all. These variations in personal performance - and different ways the organisation has approached these variations - has long been a challenge to managers seeking to maintain morale.

Identification of Leaders in Healthcare

The CBHSSJB has never had a structured programme to identify potential leaders, cultivate their skills, and fast-track them through the management ranks. There are also no programmes to identify potential Cree professionals in secondary school, or to support them through the long process of achieving

certification in an unfamiliar and unforgiving environment outside the region. Many management positions lack a designated deputy or assistant. When one exists, this person is probably not trained to the level of the superior to be replaced. The paucity of trained stand-ins means that the organisation is periodically handicapped by simultaneous management departures. Professional development training is sporadic and inconsistent. However, nurses receive professional development training in the form of annual organised training sessions.

Succession rules exist for the temporary replacement of senior managers, but these are often circumvented when stand-in managers are unequal to the task or else unavailable. Senior managers often take charge of management vacancies that otherwise would be temporarily given to a subordinate manager under supervision. It is not uncommon for the Executive Director and two of the three AEDs to be absent at once, for reasons of holidays or sickness. In such cases the most competent available manager is assigned. It is not unusual for a manager to 'wear several hats' at once. This adds to the workload and stress level, often shortening a manager's tenure.

13.9.2.c. Benchmark #3: Timely Access to Quality Care for All

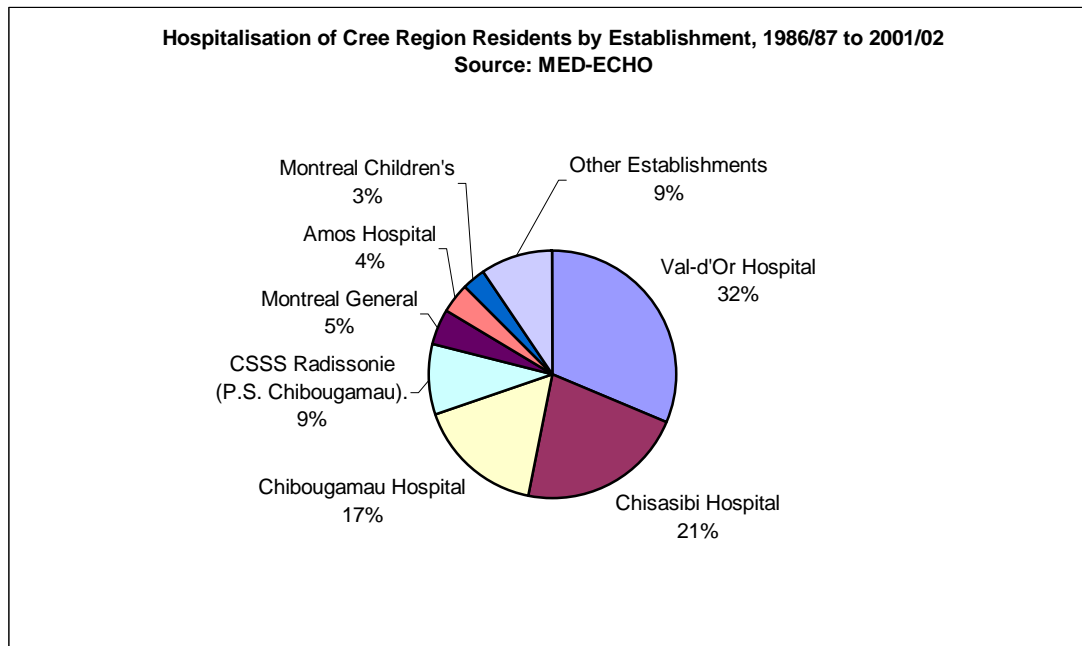
The 1972 provincial legislative reforms (Bill 65⁷⁰²), under which the CBHSSJB was and remains organised, were meant to put most Quebeckers within half an hour of a CLSC and one hour of a hospital centre. Chibougamau Hospital (1959) and Chashasipich Hospital (Fort George, 1970) were the only major health installations in Quebec's far north. A massive building programme, accelerated by the influx of southern hydro workers, soon resulted in a network of major health installations⁷⁰³ in the vicinity of the Cree Region and mostly within the JBNQA settlement area. Because Canada was reluctant to mirror this investment in the Cree Region, gross disparities in access to services developed. These gross disparities persisted for over a decade. The service gaps began to narrow once federal services were withdrawn and significant investments by the MAS were made on an urgent basis.

Further disparities resulted from the five-year JBNQA implementation period (1976-1981), when federal services were withdrawn faster than provincially funded, Cree-run programmes could take their places. Outbreaks of contagious diseases, failures in socio-sanitary monitoring, and lapses in health care continuity and access necessitated urgent remedial measures starting in the early 1980s. This crisis established a pattern of focusing on acute care, and the infectious disease and environmental health aspects of public health, with the result that chronic disease received minimal attention. By the late 1990s, when research began to look at the service implications of a diabetes epidemic, an almost complete lack of chronic disease service capacity became apparent.

Waiting Time Management for Specialised and Diagnostic Services

Excepting the isolated and hardly inhabited Central Arctic, nowhere in North America must patients travel so far in order to access basic hospital services. Most Quebeckers are within one hour of a functioning hospital while in the Cree Region only Mistissini, Waswanipi and Ouje-Bougoumou can usually achieve medivac times less than six hours. Depending on the weather, delays of 72 hours can occur with 8 hours being common.

Community-level diagnostic capabilities have changed little in two decades apart from major, and recent, improvements in radiology and laboratory services at Chisasibi Hospital. A radiology machine was installed at Whapmagoostui but was decommissioned for practical reasons, including problems in providing a technician. Blood and tissue samples are usually sent to Chisasibi Hospital, or the nearest other hospital, according to circumstances. If the delay associated with this poses a significant risk - in light of the minimal capabilities of the isolated clinics - then the patient is sent and the diagnosis and treatment are done on arrival.



The existence of well-equipped hospital centres nearby probably factored into a decision against completing Chisasibi Hospital to the degree of functionality of its predecessor on Fort George Island. The consequence of this included relying on external establishments for essential functions (e.g., patient transportation initially; public health; and even all minor surgery,). In 2002, Chisasibi Hospital was assessed) as not fully functional with deficiencies ranging from insufficient bed space to lack of surgical and obstetric capabilities. In 2000/01 a full 80% of patients from its potential catchment area – the other coastal communities and Nemaska - went directly to southern hospitals.

The section on Development of Hospital Services examined the historical changes in the hospitalisation for Cree Region residents. Between 1983 and 1998, the ability of Chisasibi Hospital to serve the region's needs diminished from 31.4% to 27.9% of hospitalisations, then to 26.7% in 2001/02. Other establishments (particularly Val d'Or Hospital in Abitibi-Témiscamingue) picked up this caseload. There are difficulties in correlating admissions data with patient transportation data. What is certain is that a greater proportion of the region's residents must leave the region in order to receive hospital diagnosis or treatment.

The region's capacity to provide light surgical services - versus minor surgery requiring a surgical ward and surgical team - has not improved measurably over the years. In all Cree communities including Chisasibi, light surgeries that cannot be handled by a general practitioner using clinic-type equipment are performed by external hospitals. So too are all minor and major surgeries. No specialists are permanently stationed in the region. The schedules of specialist visits are little changed from 20 years ago. Excepting specialists such as ophthalmologists and paediatricians, who bring their own equipment or whose requirements are similar to those of a GP, visiting specialists are constrained in the extent they can practise their craft on-the-spot. Chisasibi Hospital's never-used surgical ward has been demolished, leaving a cramped crash room in which to work, and only one clinic (Waswanipi) has a light surgical station. Specialised diagnostic and curative tools, other than those needed for general medicine, are generally absent.

Time to access diagnostic and specialised services is a health determinant. The replacement of Fort George Hospital by a less-functional Chisasibi Hospital lengthened the wait times for hospital patients who formerly would have gone to Fort George Hospital for these services, most of whom live in Chisasibi. Chisasibi is not the geographic centre of gravity for the region: in terms of air connections it is not well connected with each of the other coastal communities, Nemaska requires a change of planes, and the southern communities are far closer to external facilities. Moreover, transportation measures were greatly improved to ensure more rapid movement to outside definitive care. Yet despite such improvements, wait time to access definitive care is measured in hours rather than minutes, and even in days when severe weather prevails.

Timely Access to Primary and Community Care

Seldom must an unscheduled walk-in acute patient in a Cree clinic wait longer than 1-2 hours to see a nurse or physician who, most of the time, can deal with what is probably a minor malady, or one which is best addressed by a travel warrant to see an external physician. Not all the clinics have a resident physician. The introduction of limited telemedicine capability is not considered a major factor in reducing the need to ultimately transport; by and large it is a support for clinics rather than a replacement for personal attention by a physician.

The recently escalating chronic medical caseload is another matter. This overburdens the clinics to the extent that special facilities for the elderly in loss of autonomy, and the disabled, are under construction in each community. Moreover, the clinics lack the resources to properly monitor the chronic ambulatory population, with the result that the condition of many patients with Type 2 diabetes, in particular, is worsening unnecessarily or just faster than would be expected. Regional dental resources are similarly overloaded by demand with the result that the non-emergency dental waiting time is one year.

Improving Access for Rural and Remote Communities and for Minority and Vulnerable Groups

In the broad sense this applies to the Crees as a remote minority group within Quebec. At the centre of the SRP's regional services vision are nine greatly augmented community service points where all services are locally co-ordinated in a true inter-disciplinary setting. This is with a view towards reversing patient out-migration in favour of having more services available locally. Reduced transportation costs, and shorter time to access culturally tailored services, are the expected result. While this is the direction, it will be many years until all local services can be physically and administratively 'put under one roof'. In the meantime a plan of progressive administrative concentration, under a local manager with meaningful authority over all local operations, is being implemented.

13.9.2.d. Benchmark #4: Managing for Quality and Safety

Quality of Services

Nordic issues, varying degrees of financial efficiency depending on the activity, and long-term under-funding in some programme areas are among the factors suggesting that the quality of services available to Cree Region residents varies.

Deficiencies in equipment and infrastructure are the most tangible influences on service quality and also safety. Glaring historical capital deficiencies are now being addressed, albeit slowly, but it is projected that these matters will not be rectified until 2010 at least. Like all remote regions, the Cree Region is challenged to attract and retain sufficiently motivated and competent professionals.

Quality questions surround the CBHSSJB's heavy reliance on para-professionals. The roots of this reliance lie in failed attempts to find trained Aboriginals to occupy licensed occupations. This is associated with the low level of school completion in the Cree School Board system and the poor, or non-existent, curricula in sciences and maths. The solution was to create para-professional job categories that could be filled by local people. The prime example is the CHR category that was introduced by MSB in the early 1970s to provide Aboriginal nurse-assistants. The idea was threefold: to reduce the burden on nurses by distributing low-skill tasks; to provide better interpretation and inject community perspectives into the local clinic's operations; and to be a stop-gap until the supply of Aboriginal nurses improved. The supply never reached the levels expected, the federal CHR Programme became permanent, and CHRs gradually received sufficient training for them to do numerous nursing functions other than the more medically specialised. When the CBHSSJB inherited this programme it faced similar nurse recruiting challenges, and for similar reasons it developed the CHR's role even further. A similar situation exists regarding the CBHSSJB's community workers who, today, can do most of the tasks of an accredited social worker apart from those that require professional licensing.

Except for the Bachelor of Social Work programme to train unqualified Cree social service workers in the mid to later 1990s, and the plan to begin training Public Health staff in the summer of 2005, the CBHSSJB has neither planned nor organised specific training for Cree staff as has been envisaged in the *James Bay and Northern Québec Agreement* (1975).

Few quality or service level targets or benchmarks have been established. The CBHSSJB collects few performance indicators, and those that do exist tend to be suspect. This is changing with the implementation of its SRP, but to date it is often impossible to track the effectiveness of managers or the activities they oversee. Periodic programme evaluations rarely occur; rather, proposals are sometime generated for revised or new programmes, which usually do not consider in a systematic manner the successes or failures of previous activities. Evaluation expertise within the organisation is lacking. Outmoded information systems have precluded the linking of cost and volume, or even isolating all of the costs associated with a manager or an activity. In large measure due to this, cost-volume analysis was seldom attempted until the SRP exercise began in 2002 and required the assembly and collation of all known cost and volume data. Often the data were insufficient, insufficiently reliable, or else incapable of being correlated to other data. Despite these challenges, and with the assistance of an audit team from the *Régie Régionale de Montréal*, it was possible to obtain credible approximations of magnitudes and trends in key service areas. The difficulties that this entailed resulted in the conclusion that an integrated cost-volume data system is a vital and early component of SRP implementation.

The concept of "best practices" and working from an "evidence base" is new to the organisation. Obsolete practices have especially persisted in financial administration and in management approaches. Sometimes, similar activities are undertaken by separate staff, in different units, applying different policies. An example concerns Cree Patient Services and the Reservation Services, which while separate units have some similar functions. While there have indeed been success stories, activities have tended to be considered effective and well-run until proven otherwise. Until recent years, chronic shortages of resources engendered a "more of the same" approach: a tendency to apply to any possible funding source to expand the number of personnel in various programmes. Programmes have thus failed completely and sometimes with little warning. Failures range from the problems connected with trusteeship during 1980/81 to two management collapses of the Mistissini Reception Centre within its first several years of operation. Programme failures typically necessitate the importation of external inquirers or evaluators. Changes in business practices often follow these periodic crises.

The impact of services on population health is partially a function of their appropriateness in the socio-cultural context, which is also an aspect of quality. The rapid introduction of many basic services in the early 1980s was predicated more on a need to fill a geographic void than any analysis of statistics. The need could be ‘felt’ by the personnel in the region, but the evidence usually used to plan such services was largely lacking. There are few subsequent instances when either the CBHSSJB, or its funding agencies, have used trend cost and volume data to evaluate or expand existing services or plan for new ones. The problem is partially that key performance indicators remain missing, but also that the CBHSSJB is short of experience and expertise in evidence-based programme development.

Most services have not been implemented or modified as a result of statistical evidence. Useful statistics on service delivery are still in short supply or else questionable; and were absent when core services were introduced or expanded to reach minimum levels of per capita equivalency with other regions in the late 1970s and early 1980s. Lacking statistics, the Ministry felt able to justify only the investments necessary to install the per capita service levels enjoyed elsewhere in Quebec. Trends were not apparent until the late 1980s, by which time it had become clear that the per capita measures sometimes made little sense considering the Nordic context and elevated demands in some areas; yet the costs of further massive investments seemed unaffordable.

The services that appeared rapidly in the 1980s were mirror images of those operating in the south. There was little attempt at, or understanding of, the Nordic and particularly the cultural dimensions. For example, Cree Social Services initially displayed much less sensitivity, than it displays today, in interventions such as apprehensions and placements. Public Health personnel relied on posters and instructional aids in ‘foreign’ languages. Even if they could grasp the words, sometimes the Cree target population could not relate to the message, which was crafted for an urban milieu.

Patient Safety

This is closely related to quality of service. The CBHSSJB management is mindful of patient safety but the subject is not approached in a pan-organisational manner with anyone designated to monitor or report the overall picture. Patient safety statistics are unavailable but the CBHSSJB clearly faces unusual or elevated safety challenges. For instance, it is common for patients to have multiple charts; they often migrate between communities and frequently receive services outside the region. Tracking a patient’s medical history can be difficult and the responsibility centre for supervising the care is not always immediately clear. Personnel shortages and turn-over complicate case management and elevate the risk.

The recognised establishment is 15 full-time physicians (6 GPs in clinical medicine in Chisasibi and 7 in the communities).¹⁰⁷ As the supply of permanent full-time and part-time physicians periodically diminishes (in 2001 as low as 1.5 in the region with none at Chisasibi), more reliance is placed on visiting family practitioners. The obstetrics ward was closed as a result. It has not yet re-opened: the risk is considered unjustifiable, given the lack of surgical facilities, the lack of a critical mass of physicians trained in obstetrics, and the proportion of pregnancies that are considered “high risk” because of obesity and diabetes. The number of weeks when a physician is present in a community varies from 52 to 8. The nurses consequently transport patients to see a doctor whenever the wait becomes a safety issue. Resident physicians usually depart for four months annually because 36 weeks qualifies them for full salary and Nordic benefits. Replacement GPs vary from physicians with a long connection with the region to those seeking a few weeks of one-time adventure. Thus their sensitivities and relevant experiences vary.

The recruiting and retention of all medical professionals is fluid owing to competition from regions that usually can offer more attractive housing, benefits, and lifestyles. Significantly, the nursing establishment

¹⁰⁷ The DSP (Medical) and the Public Health Physician are additional but they do not normally treat patients.

lacks a buffer against sick leave and holidays, and so nurse-supply agencies are relied on for a heavy flow of replacements. Often these nurses lack northern experience. Periodic supply crises remain a threat; the last was during 1997-2001. In 1986/87 the nurse turnover rate was 76.4% in Chisasibi and 61.1% in other communities. More recently, the nurse and para-technical turnover rate has declined to generally under 20% but this is still high. The combined nurse and para-technical turnover during 2002/03 was unusually low at 14.3% and likely to fluctuate upwards.

The physicians and nurses predominantly work in English and French respectively, the social services tend to use Cree, and the administrative services tend to use English. Bilingualism is usually required although this requirement is less rigorously enforced when the alternative is a critical vacancy. Patient files can contain English and French and sometimes professionals seek translation of files by their colleagues. Due to language barriers and outmoded professional relationships that persist in the organisation, the doctors, nurses, medical-technical staff, and social services personnel tend to communicate and socialise in separate professional circles. Very often a Cree employee is needed to interpret between a health professional and a Cree-speaking patient. The CBHSSJB has no formal translation services from Cree to English and/or French. Non-Cree professionals require multiple visits or permanent residence to acquire the cross-cultural skills needed for effective practice. These are all patient safety risk factors.

Concern for patient safety - particularly when nurses-in-charge work understaffed and without a physician - drives the present aggressive initiative to install modern telemedicine systems in the hospital and clinics. However, the risk can actually increase when telemedicine is used in cases where in-person attendance is really required. Risk is also assessed during decisions to transport patients; delays in diagnosis and definitive care always impose some risk, and additionally the transportation process can be risky in bad weather. Because the region has only three trained first-responders, nurses usually respond to the call with an untrained driver operating the ambulances. This, and the frequent requirement for nurses to accompany medivac patients, periodically leaves clinics severely short-handed. In some cases medivacs cannot depart until a nurse-attendant has been brought in from another community.

Capital deficiencies make patient safety harder to ensure than in the south. Many additions to the CBHSSJB's equipment and building inventories have occurred but there is advanced deterioration in the installations built in the early 1980s and earlier. Some buildings, such as Mistissini clinic and the older houses and house-trailers, are structurally deficient to the point that repair appears uneconomic. In 2004, 60 of the CBHSSJB houses were classed as condemned. Sometimes the sources of risk are clear; lack of isolation beds to separate patients with contagious infection from others. The sole psychiatric observation room lacks padding and has a one-way observation window facing the wrong way. Structural assessments of all CBHSSJB facilities were undertaken in December 2002 by the Corporation d'Hebergement du Quebec⁷⁰⁴. Nearly all of the CBHSSJB's 130 buildings were found deficient in some respect. The estimate for bringing them up to current building code and safety standards was \$11.4M. Additional costs were estimated for restoring or implementing absent services; e.g., \$1.2M for restoring Chisasibi Hospital's surgical ward so it can support a rotating surgical team from an external hospital. In a subsequent assessment Chisasibi Hospital failed major safety tests.

13.9.2.e. Benchmark #5: Understanding and Responding to Public Expectations

Impact of Direct-to-consumer Advertising on Care-Seeking, the Provision of Care, and Health Outcomes

The CBHSSJB has never developed a complaints policy for the public and it has never had a functional communications office. Communications happens within the Cree Public Health Department created in

2002 for advertising promotion and prevention messages through a wide range of media. Outside of public health, communications happens in response to specific issues. The CBHSSJB and its public health partners had great success in the early 1970s with their campaign to have people stop eating fish because of fears of elevated mercury levels and more recently they addressed the concerns about health impacts from mining wastes. However, within the organisation that operates across a region half the size of Alberta, there is no regular non-crises communications about the organisation.

The curative and social services have advertised little over the years other than to seek employees. Even posters and signs, inside establishments, tend to be limited to administrative instructions for the processing of patients. The CBHSSJB distributes its *Annual Report* to organisational stakeholders. Annually it makes a presentation to the Cree Annual General Assembly and occasionally the chairman is heard on the radio. However, this reporting is often of an accounting nature and sometimes a response to criticisms. Major announcements appear in the regional weekly news magazine. However, apart from Public Health Department information, there are seldom messages aimed at altering consumer behaviour, informing the population about services, or informing employees about what is happening within the organisation..

Interpersonal, Attitudinal, Cognitive, and Risk-Perception Influences on Patient and Consumer Choice of Health and Related Services

A Chief told the Public Health team in 2004 that in his opinion, his community had not yet come to terms with the ‘epidemic’ of diabetes. While the CBHSSJB has an excellent diabetes management and monitoring system, serious diabetes management capacity in the clinics will only begin with training to begin in 2005. However, it was in 1982 that nurses first complained about their lack of capacity to handle the growing numbers of people with diabetes. The region will soon be facing extreme pressures on the health care system to deal with diabetic complications. Apart from some events, the communities have not yet addressed those factors underlying the growth of obesity and poor nutrition.

In 2004, for the first time, more people with diabetes kept their blood glucose within acceptable limits than did not. Prior to this, there had been no evidence of any impact of change at the levels of secondary and tertiary prevention.

Because the CBHSSJB is the sole service provider, the Crees have little choice regarding where they are served. Thus the CBHSSJB is the locus of their frustration when services are seen as inadequate.

Role of the Media in Influencing Public Attitudes and Public Expectations of Health Services

The role of the media, in the Cree health world, is imbalanced and seldom a source of productive dialogue. Crees are increasingly conscious of services that are not available in the region, but which are available in surrounding regions. Relatively few Crees read newspapers regularly, but most read a bi-weekly news magazine published in the region, and everyone listens to local and regional Cree radio. This media coverage has been predominately critical of regional health services and politically charged. It is not unknown for aggrieved or politically motivated CBHSSJB employees to take their cause direct to the public through such media. Damage control measures are occasionally needed. Representatives of the CBHSSJB regularly find themselves defending their organisation against media-induced criticisms. Almost no debate occurs in the media, and band council meetings tend to be question and answer periods, sometimes also with political statements.

13.9.2.f. Benchmark #6: Sustainable Funding and Ethical Resource Allocation

Obtaining sufficient revenue, even to support existing services, has been the CBHSSJB's preoccupation since its inception. Funding that is adequate to meet Section 14 JBNQA health obligations has, since 1980, been a multi-million dollar litigation issue to the Crees. However, since the *Paix des Braves* agreement imposed a moratorium on this litigation respecting Quebec, health service negotiations have borne fruit. The SRP has the blessing of the MSSSQ and the stage is set for major investments above those made over the past two years.

A development budget of about \$50M, spread over five years, would include around \$40M of new money. Fiscal year 2004/05 would be the baseline for the additional funding so that, in 2010, the MSSSQ's funding would be over \$110M, up from \$69M in 2004/05. This does not include over \$100M over seven years for capital construction nor the maintenance costs associated with these new facilities. By 2010 there will be an additional 450 personnel, bringing the total to nearly 1700. Thus, the organisation is moving from a situation of chronic under-funding to a predicament in which implementing new services, according to a tight schedule, is a serious challenge.

Ethical Framework for Resource Allocation

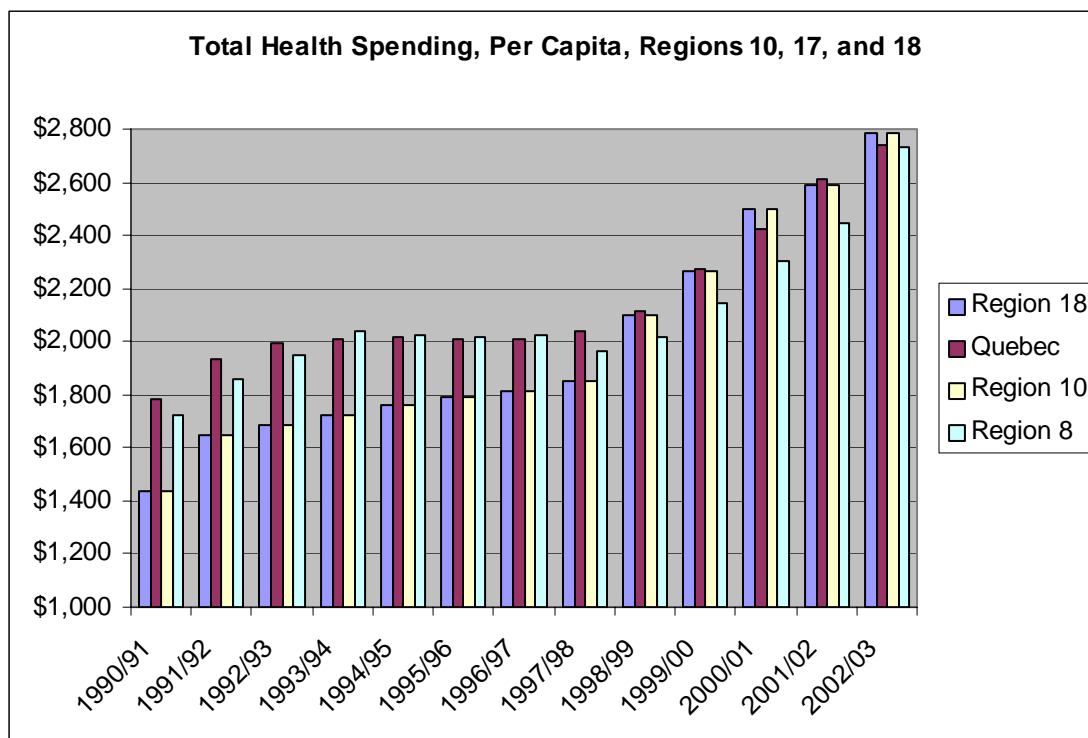
Questions of resource allocation occur at the levels of community, region, and programme. By and large the Cree public has little idea of, or interest in, the Cree Health Board's fiscal priorities. Public engagement has never been sought in the making of tough programme-specific allocation choices. This is ostensibly because the community-appointed board members represent the Cree public's interests. However, the Cree community leadership tends to become animated when questions arise over the location of major capital expenditures, whereupon negotiation over the extent of community participation and the schedule of investments ensues. These decisions are sometimes made with political factors in mind rather than the geographic distribution of the clientele. The result is sometimes a geographic imbalance in service coverage and a need to revisit the overall problem.

The MSSSQ initially faced the costly fact that the 1972 health provincial health reforms were largely unimplemented in the Cree Region a decade later. The hurried installation of a basic, but insufficient in light of circumstances, set of services was followed by difficulties in justifying further major investments. These difficulties stemmed in part from concern about upsetting the politically sensitive allocations model used across the Province. Quebec's health system is ordinary in the sense that it concentrates specialised and super-specialised services in major urban centres. These happen to be where the majority of the provincial clientele resides and where a critical mass of expertise can be drawn. Quebec's per capita regional expenditures strongly support this approach.

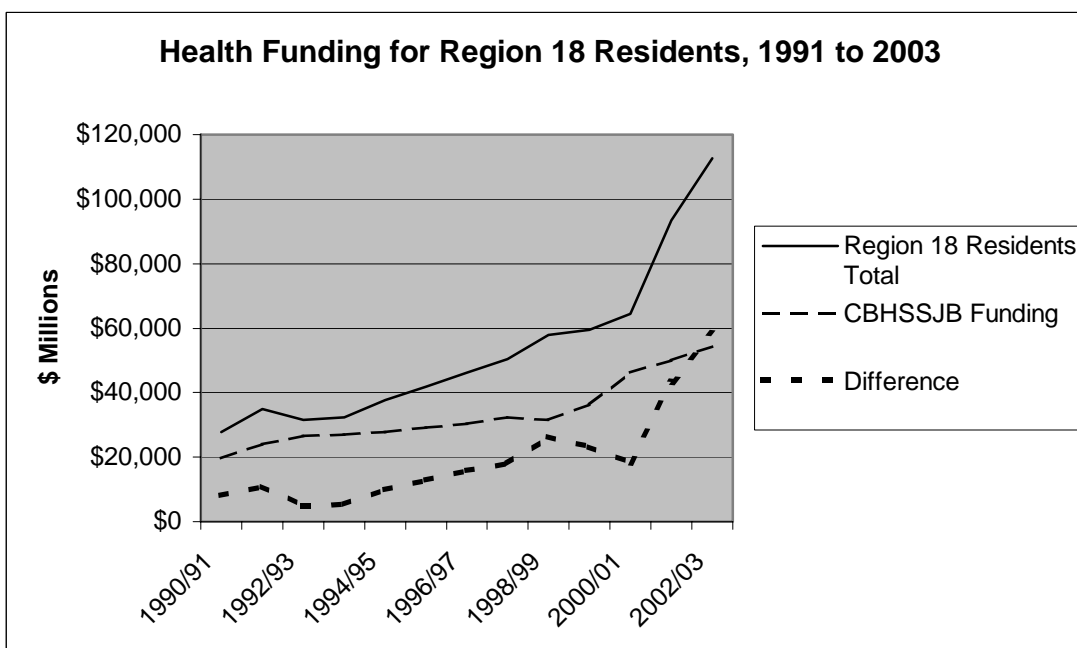
The northern regions providing services to the Crees are: Cree Region (18); Nord-du-Quebec Region (10); and Abitibi-Temiscamingue Region (8). Because of the policy of concentrating specialised pooled services, until very recently the per capita spending in these regions⁷⁰⁵ has been below the provincial norm.

The Crees once attempted to argue, with the few statistics available, that in a per capita sense they were being unethically treated. Their arguments about parity went unheeded largely because the entire provincial network was optimised towards transporting patients to definitive services based in large centres of population. No more so is this more evident than in the Cree Region with its very high volume patient transportation system. Elsewhere this concentration policy tended to mean shorter access times for provincial residents. Recent province-wide measures to reduce access times, by investing in services closer to the patient, have generally brought the remote regions up to the provincial per capita par.

Investments starting in 2003 have begun to raise Region 18's per capita funding to levels that are expected to grow above the other regions shown on the graph above.



In fact, the graph below⁷⁰⁶ shows that the MSSSQ spends larger sums on Cree health than the Crees for many years may have realised:



The total mostly comprises the CBHSSJB's annual allocation, all RAMQ salaries, a proportion of the MSSSQ's central administration costs, subsidies for local delivery agencies (which do not exist in the Cree Region), activities of the Handicapped Persons Office of Quebec, and the health employees' pension plan. The CBHSSJB receives virtually all of the MSSSQ's health funding associated with services actually delivered in the region. Subtracting the CBHSSJB's allocation⁷⁰⁷ from the total shows the difference. In 2002/03, about one-half (\$58,317 million) of the \$112,700 million total is "external" funding. This does not, however, include the costs incurred by external medical establishments in providing services to Crees. While no analysis of the causes of the recent sharp increase in total funding is available, it is clear that health care for the Crees is very expensive and rapidly becoming more so.

The present SRP assumes that substantial investments in regional services – especially clinic-type services – will reduce the need to transport patients. Ergo, eventually savings will be felt in patient transportation and services provided elsewhere, which can be reprofiled as "old money" to offset the costs of Cree Region augmentations. Making Chisasibi Hospital fully functional, and introducing "light hospital services" in some communities, will not however make the installation of some of the more specialised services in the Cree Region a practical proposition. The Crees recognise this and seek only to install a minor surgical capacity and related supports in Chisasibi, and "light hospital" services in Mistissini. Taken together, these measures would make resource allocation more ethical in the sense of investing in projects to reduce wait times and reduce costly patient transport.

Cross-Cutting Efficiency-Oriented Management Initiatives

Questions of efficiency and value-for-money were seldom given attention in the CBHSSJB. This was in part because programme evaluation has been rare and the tools to do it absent. In 2003, in partnership with the MSSSQ, strong efforts began to be made to eliminate unnecessary expenses in conjunction with the promise of large new investments. Previously the Board rejected periodic demands from the Ministry for service compressions and economies. It argued that services levels were too low for anything to be reduced. So far the focus has been on reducing unnecessary expenses rather than increasing service efficiency. This is a necessary first step to other efficiencies. Further efficiency initiatives are unlikely until the management information systems have been profoundly modernised over the next several years.

13.9.2.g. Benchmark #7: Governance and accountability

Quebec. It was set up under the terms of the James Bay and Northern Quebec Agreement, the first modern 'treaty'⁷⁰⁸ signed by both federal and provincial governments. The Crees view the CBHSSJB as a constitutionally protected organ of Cree self-governance as well as a member of the network of health regions and boards in Quebec. The federal and provincial governments view it as legislative creation stemming from an agreement and not a treaty. Unlike some recent treaties, the JBNQA did not provide the Cree Region with any ability to make laws regarding health or social services, although the *Cree-Naskapi Act* (1984) allows the individual Cree bands to pass by-laws respecting some areas of public health. The CBHSSJB thus delivers programmes according to the applicable federal or provincial legislation. Periodically this leads to differences of opinion over to whom the CBHSSJB is ultimately accountable, and to whom employees such as physicians ultimately report.

The Cree Health Board's organisation continues to reflect the provincial legislative model of the early 1970s that was modified to accommodate dictates of the JBNQA (viz., Law S-5, which builds upon Bill 65 of 1972). The Crees have not opted into subsequent legislation (i.e., S-4.2) with the result that legislative reforms implemented elsewhere - particularly those begun in the late 1990s - have made the differences between the Cree and other boards more pronounced. The CBHSSJB is now the only council

responsible, in a large geographic area, for all health and social services through four establishments (hospital centre; social services centre; CLSC; and reception centre). Furthermore, some of its activities still bear signs of their origins as federal programmes.

Geographic and cultural realities, and unique administrative history (i.e., previously federal jurisdiction), further conspire to make comparison with other establishments difficult, and successes and failures difficult to track. One cannot envision the CBHSSJB simply by seeing its organisation chart or reading descriptions of the services it delivers. First, its manner of organisation has been highly fluid, and in 2004 it is undergoing its most significant restructuring yet. At any point in its history its organisation chart is misleading when seen out of context. The 'boxes' continue to vary in name and it is not uncommon for sub-units to be transferred or distributed amongst managers. Other 'boxes', like the planning department, might contain only a director, although several planning staff work in other units and are responsible to other managers. The 'boxes' sometimes have little or no budget associated with them. Results are seldom tracked by responsibility centre, if indeed they are tracked at all.

Second, the CBHSSJB delivers few 'programmes' as such. It emphasises 'strategies' and 'action plans' rather than 'programmes'. Few managers are responsible for results in the conventional programme sectors. Senior management is divided into staff and line directions; there is a division, sometimes awkward, between reporting to a manager representing one's profession and a manager responsible for the unit in which one works. Where 'programmes' are referred to as such, multiple stakeholders often deliver them. This occurs in the mainstream such as in the division of public health responsibilities between CLSC and Public Health Department. However, unique factors in the Cree context result in more delivery-unit fragmentation than elsewhere.

Consequently, funding for specific activities is frequently dispersed amongst more than one delivery unit. For example, the Regional Diabetes Initiative has two diabetes-designated funding sources, and it is operated as a strategy rather than as a programme in the usual sense, while haemodialysis (necessary for some diabetics) has separate funding and is managed like a hospital service. There is no overall Diabetes Manager with overall budget responsibility. There are diabetes-specific staff who answer to different managers from the hospital, the clinics / CLSC, and the Public Health Department. A large committee oversees the overall diabetes strategy but decision-making managers rarely attend meetings. The weakness of this system became apparent in early 2004 when the MSSSQ was reluctant to continue the Diabetes project funding without a clear report on how two years of funding was spent, and an indication of tangible results gained.

Some activities have existed for only a year or two and then disappeared, usually when the funding source dried up. Some 'programmes' have been highly efficient while others have come and gone with no measurable, or at least recorded, impact. Often for reasons of insufficient funding, the existence of a named 'programme' is not a reasonable indication of the level of service being provided. Priorities, and names of activities and delivery units, tend to change significantly and frequently in response to wide fluctuations in funding levels and to health problems that emerge. Such conditions have made programme evaluation rare and challenging, and high-level accountability for results sometimes impossible.

Selection, Role, and Use of Performance Indicators

The MSSSQ monitors the efficacy of the CBHSSJB's operation primarily through the annual AS-471 audit report. This detailed and complex tool does not fully capture the results of a unique entity that in major ways is organised contrary to conventional provincial practice. For instance, the AS-471 does not support adequate reporting of non-insured health benefits. These comprise one fifth of expenditures and

they have no equivalent in provincial programming. The provincial health card number is only requested, within the region, when the patient is non-Cree. Doctors and dentists in the region are paid by salary and there is no shadow-billing system. Thus it is impossible to analyse medical service consumption within the region to the great detail possible elsewhere. However, detailed analysis is possible regarding the many Crees receiving treatment in external facilities because card number and RAMQ service code are associated with these transactions.

A limited range of mandatory programme statistics are required by the MSSSQ. Communicable disease and clinic utilisation statistics are perhaps the most notable. The clinic statistics are considered by the management to be incomplete and otherwise unreliable to the extent that they are not used. This unreliability stems from an absence of standards and policies, different ways of collecting data, over-stressed clinic staff who lack time to complete forms, and a feeling amongst staff that collecting the data is a waste of time whose original purpose is long forgotten.

Current Organisational Frameworks for Using Performance Indicators

The CBHSSJB is a highly hierarchical organisation, which paradoxically, has overlapping responsibilities and lack of clarity over who is responsible for results. It cannot be said that any particular organisational frameworks or model for performance accountability is, or has been, in use. The Cree Nation has no performance indicators, or methodology, to assess the efficacy of the CBHSSJB. The Cree Regional Authority, and each community, monitor the organisation and articulate their views through the representative that each is permitted to appoint to the Board of Directors.

The Link Between Funding and Accountability

It is unclear whether those board members who are part of the professional staff are accountable for their actions to the Cree population, to the Minister, or to their profession. The Cree representatives are accountable to the CRA or to the community that appointed them. None are elected. Some of the Cree Board representatives consider their chief or council their direct superior. Others feel they are responsible to their community's members at large. The band councils can decline to renew an appointment but seldom, if ever, have they recalled a representative. The Cree Nation, through the Grand Council or through the CRA, has no legal ability to impose its will on the CBHSSJB, although it could negotiate changes to Section 14 if the other JBNQA signatories were willing to participate. The Crees are no longer satisfied with the administrative nature of "Cree entities" such as the CBHSSJB and so, led by the Grand Council of the Crees, a "Cree governance" exercise is seeking to develop a new model that can be negotiated. Until such a change can be instituted, the Crees as a nation, the Crees as bands, and the CBHSSJB will continue to joust over issues like accountability.

The CBHSSJB is financially accountable to its funding agencies: the MSSSQ and to a small extent Health Canada. In part because Cree organisations do not fund the CBHSSJB, there is little evidence of interest by the Cree public in how well their Health Board's revenues are spent. The paramount concern is that the amount of money available be sufficient to provide all the services that are expected. The Cree public is, however, vitally concerned over where health investments are spent in the region. The Board is often under pressure to acquiesce to politically motivated proposals, particularly regarding the timing and extent of capital investments. These provide badly needed local construction jobs, ongoing jobs for local people especially in capital maintenance, and recurrent funding in the form of grants in lieu of taxes, which are called "user fees."

Implications of Outside Experiences of Public-Private Partnerships

During its recent SRP exercise the CBHSSJB resolved to focus its efforts on the delivery of core services. It is acknowledged that the CBHSSJB cannot perform core and non-core support functions equally well. For instance, the operation of a large travel and accommodation service for staff, and the maintenance of over 130 dispersed facilities, has long drained the energies of senior management and Board members. The effect has been to divert attention from core health issues. Private-public partnerships have potentially profound implications in an organisation that is heavy with the administrative services necessary to function in a Nordic cross-cultural environment. The SRP leaves open the possibility of devolving support services to the Cree communities and to Cree private companies, to the extent that legislative prohibitions allow. The communities already provide ambulances under contract. They also build staff housing with MSSSQ-backed loan guarantees, which they lease back to the CBHSSJB. Large aspects of central operations could conceivably be “privatised” in the coming years.

13.9.2.h. Benchmark #8: Managing and Adapting to Change

The organisation has been seriously deficient in tools for evidence-based decision-making, such as: information systems, technology assessment, models of risk management, sharing of information and best practices, the development of networks and other research, and knowledge translation mechanisms.

A culture of “catch-up” has prevailed in which the goal is to catch up with the rest of Quebec, usually in terms of reducing per capita social and medical pathologies to provincial levels, but also in offering the same range and quality of services. For most of the organisation’s existence, the manner of delivering these services has been secondary to acquiring the resources in the first place. Many, if not most, significant plans that have been developed have been arrested, postponed, or scaled back due to lack of funding or subsequent realisation that better planning is needed. The most significant changes often occur as a result of a programme failure that draws the special interest of the Board of Directors or the Ministry. Significant change also tends to follow announcements, by the Ministry, that a new project will receive funding. These announcements, which tend to catch the Board by surprise, sometimes occur years after the original submission of the project proposal. Thus, change has tended to be unexpected, often at an inopportune time, and frenetic in its implementation. With the exception of the current SRP implementation process, which is well ordered and assisted by external experts, project implementation has often been last-minute and incompletely developed.

Innovation from within has until recently seldom been encouraged. The organisation relies heavily on consultants when it is necessary to “think outside the box,” including evaluations, negotiations, and planning. Consultants are usually relied on heavily for developing and modernising policies. Sometimes they act as some of the “glue” holding the management system together during times of great pressure and management absenteeism. However, on occasions when consultants have produced plans that the MSSSQ will fund, pressures mount to dismiss the consultants even when the management lacks expertise for implementing the measures. The teams responsible for projects often change, resulting in discontinuities in corporate knowledge, specialised skills, and project vision. This flux involves managers and not just consultants.

Models and Mechanisms of Knowledge Translation

Few organisational structures and processes exist to implement evidence-based change. There are no planning policies and until recently few organisational standards. Planning has been fragmented and not always a team effort with the stakeholders. For years the planning unit has had only one member, a

director. Occasionally planning staff are temporarily hired by other units in order to facilitate specific projects such as the day centres being built for elderly and disabled persons. For nearly two decades, until the SRP of 2003, there was no strategic vision. Deficiencies in data and in planning expertise mean that most services have not been implemented or modified based on statistical evidence. Many, if not most, plans for services have gone nowhere because of inability to secure the funding, or else changing priorities in connection with crisis management. Plans for facilities have gone un-funded for years either because they were orthogonal to the Ministry's policy direction, or because re-submissions of functional and architectural plans repeatedly re-set the Ministry's approval process clock back to zero. Additional delays due to "re-setting the clock," of over five years, have occurred with clinic capital projects.

The lateral movement of knowledge is deficient owing to uncommonly rigid hierarchical communications, professional silos, a separation of "professional" and "line" management, and an emphasis on strategies as opposed to discrete programmes. Many senior managers are concentrated in Chisasibi; consent from Headquarters is needed for more decisions than one expects elsewhere today. Efforts are underway to decentralise routine decision-making to the level of community managers. These measures are still in their infancy.

The decisions and proceedings of Board meetings tend not to be circulated in a timely way or beyond a small senior readership. Rumour and word-of-mouth exchanges supplement the formal channels of communication. This occasionally causes serious misconceptions that require intervention. Managers and staff are often under lobby pressure by the communities – the principal stakeholders – to support certain propositions. Managers also have their own approaches and projects that, until recently, might be tabled for the Board's consideration without having been seen by the relevant senior manager. No communications policies exist although an ethics policy was drafted but never approved.

Until about the year 2000 the number of personal computers in the organisation was well below health sector norms. Today the organisation is fairly well equipped. No regional e-mail system existed until 2000 and only a few managers had e-mail access. The level of computer literacy, of personnel with computers, today varies from no experience at all to highly competent. Even some of the senior managers are unable to use simple spreadsheets or planning software. Minor problems, which an experienced user might rectify, pose an extraordinary demand on an IT cadre that has only existed for a few years. However, the advent of e-mail is proving very effective at improving lateral information sharing over the large distances involved.

Plans are underway to replace the general accounting software and hardware. These are so obsolescent they cannot link cost and volume or generate reports specific to programmes or managers. Almost no volume statistics are captured and few performance indicators can be generated. The finance unit is able to generate quarterly reports only with great effort; for years it was common for managers to see only one report at year-end. Some managers continue, in the interim, to manage their budgets using spreadsheets and a large measure of estimation. This is very weak in a system where multiple managers have signing authority for expense lines, and where budgets can be suddenly re-oriented by senior management in response to crises. Great effort is underway to address these weaknesses, but the "management systems modernisation" aspect of the SRP will take several more years to be fully implemented.

Intra-organisational Management Structures

Lessons remain to be learned from other establishments, and from industry, regarding effective intra-organisational management structures that can break down inter-professional, and inter-organisational, silos and improve organisational effectiveness. The CBHSSJB is progressive in attempting to integrate Cree approaches into its service delivery, yet it is conservative in perpetuating outdated organisational

structures and administrative practices. It is relatively tolerant of professional silos which today would be challenged elsewhere.

The organisation is top-heavy with managers. It is particularly short-handed in the occupations that deal directly with clients. The number of managers has outpaced the number of non-managers since the early 1980s. According to the March 2003 Organisation Chart, the Executive Management comprises one Executive Director, two Assistant Executive Directors (AEDs), and 15 Directors. As well, the Director of Public Health holds AED rank. One AED is in charge of all health and social programmes, another the administrative services, and the third the Public Health Department. There are 25 subordinate senior managers, making a total of 43 (48 when five planned but unfilled subordinate senior positions are implemented). The organisation chart does not show that, within the various units, there are other managers of whom some have the title “Director”; e.g., there are four “directors” under the Director of Public Health. The ratio of the 43 official senior managers to other permanent employees is 43:429 or about 1:10. The ratio of all managers to others appears to be around 1:5.

A range of management committees exists with an Executive Committee (the ED and the three AEDs) at the top. An unwieldy Management Committee of over 40 senior managers also meets occasionally. Until 2003 the Management Committee members had not, as a group, ever been required to develop annual budgets. Rather, budgets were developed and announced by the Executive Committee, who presented them to the Board. Regular staff meetings were not widespread in the organisation until about 2002. Other meetings occur within teams, professional groups, and programmes where programmes exist.

While the CBHSSJB is legally both a regional board and a hospital board, for at least 20 years it has not met as a hospital board. Nor has it regularly allotted hospital issues time on its agenda. In April 2003 a 10-year Hospital Services Re-organisation Plan was approved, in which quarterly meetings as a hospital board were to be held. None have occurred in over a year subsequent and little if any movement has occurred, on the part of organisational stakeholders, to implement this plan. There are a variety of reasons for this and other delays, including the view that the implementation must wait until the Crees and the Ministry sign a formal deal on multi-year funding of the SRP. In the case of Chisasibi Hospital, however, not all of the elements of re-organisation require additional funding.

13.9.2.i. Benchmark #9: Linking Care Across Place, Time, and Settings

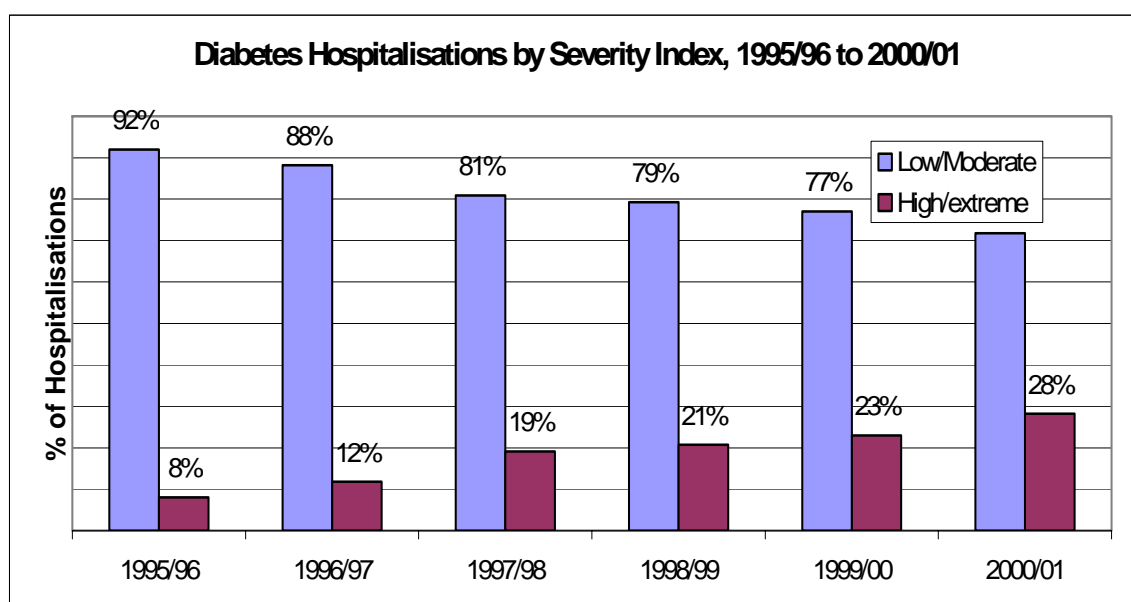
During the early 1980s the regional priority was twofold: arresting communicable diseases and easily preventable maladies, and also improving clinic-type acute curative services. Hospital services were lower priority considering that patients could be sent out. Medical attention focused on acute services until, in the late 1990s, the neglected chronic caseload had grown well beyond capacity. Indeed, while the 30-year trend in health status has been one of general improvement, recent research shows that chronic caseload is becoming markedly more problematic. Dealing with chronic cases often involves specialised personnel, equipment, and facilities which affordability normally dictates are concentrated in larger centres. As this caseload grows, the CBHSSJB is pressured to spend more time attending to it, and pressured to send these patients out increasingly often until their condition no longer allows their return.

Improving Chronic Disease Management

The first step in this regard is taking stock of resources and assessing the changing situation. Medical needs assessments of known elderly and disabled clients were undertaken in 2000 and 2001. An analysis of these convinced the MSSSQ to immediately invest \$20M to build a day-service centre for this clientele in each community. Additional to this is recurrent operations funding estimated at around \$10M p.a. In

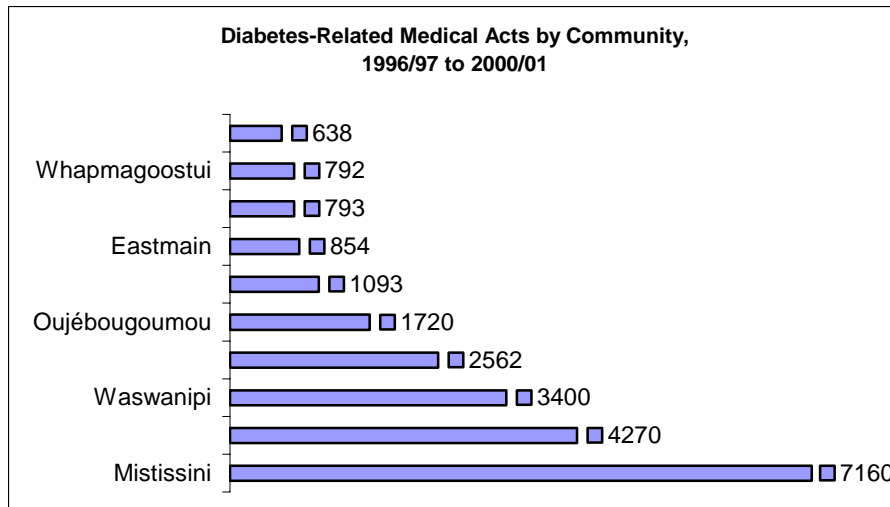
2001 the report of a Cree-MSSSQ working group on diabetes indicated severe deficiencies in capacity to handle the diabetes cohort of the chronic caseload.

A joint project of the INSPQ and the Crees' Public Health Department, conducted in 2003 and 2004, determined that the chronic caseload is growing and worsening faster than expected.⁷⁰⁹ First, linking the diabetes patient files to Québec health care administrative data led to an exercise which cleaned the Cree Diabetes Information System's data, thereby improving quality and reliability. Second, an analysis of linked data for the period 1995/96 to 2000/01 shows a sharp increase in the percentage of diabetes-related hospitalisations classified as "high/extreme" risk versus "low/moderate" risk. The graph below⁷¹⁰ shows percentage of hospitalisations by clinical severity index category from 1995/96 to 2000/01.⁷¹¹ This includes all the cases of Type 1 and 2 DM in the Cree Diabetes Information System. This index has five categories: 0 – indeterminate; 1 – low; 2 – moderate; 3 - High; and 4 - Extreme. The data are a sample of 755 of 1293 case in the Registry. A recognised classification tool was employed.⁷¹²



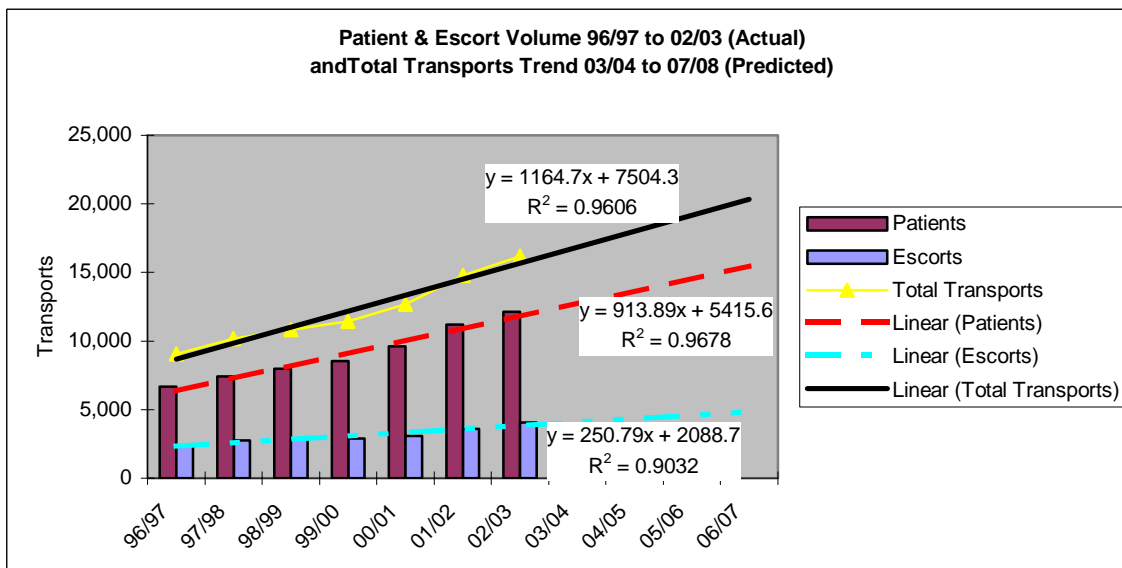
In 2000/01, there was great variation by community in the proportion of high/extreme-type hospitalisations. The lowest had 8% and the highest had 33%. The significance of this great variation is unclear at present. A longer series is needed to consider whether the socio-economic environment or other causes are at play. Nonetheless the wide geographic variation gives compelling reason for the explanations to be found.

The number of diabetes-related medical acts upon Cree Region residents, performed by health care services outside of the Cree Region, has grown from 3,970 in 1996/97 to 6,241 in 2000/01.⁷¹³ The number of diabetes-related medical acts out of the region, per community, varies considerably in approximate relation to the population of each community. Whether variations in per community averages reflect different socio-economic circumstances or administrative and quality control factors is not known. Data internal to the Cree Diabetes Information System show extreme variations between community clinics in their success at helping patients manage their disease according to the standard criteria. These performance variations strongly indicate the need for a uniform and strong-willed organisational approach to managing this disease.



Cree Region residents are being hospitalised for diabetes complications (heart disease, plugged arteries, neuropathy, loss of vision, etc.) an average of 10 years from diagnosis of diabetes. This suggests an exceptional progression of the disease. In general population the rule of thumb is 20 years from diagnosis to beginning of first clinical symptoms of complications.⁷¹⁴ The balance of cases and medical resources means that monitoring and follow-up of diabetes cases is generally deficient. This situation exacerbates the appearance and development of the clinical disease in the population as a whole.

Lacking evidence to believe otherwise, the CBHSSJB expects that the number of transports – most of which are to access external services – will rise from 19,193 in 2002/03 to about 20,000 in 2006/07⁷¹⁵. The number of persons transported annually already exceeds the number of residents in the region, even though the proportion of escorts is decreasing:



The aggregate data, and most of the community-of-origin transport data, suggest that the growth rate moved upwards around the year 2000. This seems consistent with the progression of the chronic caseload and increased reliance on external facilities for dialysis. Note that the vast majority of medical transports

are not connected with a hospital admission. Most are to obtain diagnostic and curative services from outpatient departments, laboratories, clinics, and private practices.

While there has been no explicit analysis to determine the impact of development projects on Cree hospitalisation counts and per-10,000 rates, no documentary evidence in this area has been found in other analyses. The hospital admissions by community of origin vary greatly, and can be puzzlingly high. Proximity to a hospital does not, at first blush, seem a strong explanatory factor. The absence of any pattern is clear when the number of hospitalisations per community, over time, is compared.

From the foregoing, one sees as-yet-inexplicable variations, exceptionally high rates, and sometimes rate increases, in key service utilisation statistics at local and aggregate levels. It is clear that demand for medical services is increasing dramatically - which pressures the services that exist regionally - but the role, if any, of developments in this regard has yet to be answered.

Caregiver Support

Family members with diabetes and other chronic conditions impose, upon the families that care for them, burdens in terms of financial support, personal effort, and emotional stress. It stands to reason, therefore, that the proportional worsening in the health status of the chronic cohort, if only with respect to persons with diabetes, is causing increased societal stresses that adversely impact the health status of a larger portion of Cree society. This situation is considered sufficient to warrant the day centres for medical services to the elderly and disabled which are nearing completion. The building programme includes residential chronic care facilities in each community, but these are unlikely to appear in the immediate future. Meanwhile the day centres and the homecare services will help to lengthen the time during which families can cope with their medically dependant members. Transportation to external chronic care facilities, where language is usually a serious barrier, remains the last resort. These day facilities, along with augmented clinics that are open longer hours, promise to significantly improve the ability of households to look after physically and mentally dependent members.

Barriers to Care

Distance to specialised services is reassuming a critical role as the chronic caseload develops in number and severity. Day centres, clinics open for extended hours, locally available "light hospital services" such as dialysis and laboratory, more visits by specialists, and similar tangible measures are not a substitute for a supportive family care setting. The Cree communities vociferously demand homecare services and chronic care residences where their elders may get constant medical attention. Several decades ago, many would have thought these a diminution of family responsibility and a threat to Cree culture. It is widely believed that Cree families today are, as a whole, less inclined than before to care for dependant members without, at the least, substantial support. All of the Cree communities want chronic care facilities for elders, which they expect the CBHSSJB to provide and operate. Some of the communities have gone ahead with the construction of residential complexes, and even neighbourhoods, specifically for elders who remain autonomous.

Cree families, through their community Board representative and their local band, are increasingly demanding that home care services be expanded or improved. Thirty years ago, direct government assistance of this sort, to the elderly, was scarcely mentioned in Cree circles. The vast majority of elderly were cared for by their families, usually with no assistance other than through visits to the local clinic. This kind of care was considered the normal responsibility of the extended family. The chronic caseload will increase in number and severity before it can be controlled. Whether or not this will exceed the coping point of the collective extended family is a question that must be asked.

13.9.2.j. Benchmark #10: Linking Public Health to Health Services

Surge Capacity: How to Organise Health Services to Cope with Emergencies?

The CBHSSJB currently lacks any surge capacity to speak of. The financial and human resources capacity to respond to emergencies remain generally deficient. A tangible illustration is that Chisasibi Hospital has only two ambulances, one ambulance bay, and sometimes a trained first-responder to drive the ambulance. The emergency room is cramped and there is no surgery. Simultaneous road accidents of a serious nature would overwhelm this capacity. It is periodically a struggle to keep health facilities open 37 hours a week through heavy reliance on sometimes-inexperienced transient medical practitioners.

The SRP has, as a regional goal, the provincial goal of 80 hours per week opening time for all Cree facilities, with robust after-hours on-call service. Plans call for reaching the target of 60 hours by 2009 through a large increase in the funded staff positions, and architectural changes as necessary to accommodate the additional people. The Public Health Department, particularly, is attempting to push for better disaster preparedness planning. The communities, who are key stakeholders and partially responsible for disaster action, move a much slower pace.

The Cost-effectiveness of Disease Prevention and Health Promotion Interventions

It is axiomatic that effective preventative services reduce the incidence of preventable health problems. Preventative services also minimise the consumption of curative services. Prevention was a high priority to Medical Services Branch during the federal administration. There is no question that profound improvement in Cree health occurred as a result of this policy in the two decades following 1945. As late as 1975 the available clinic and central resources (i.e., teams based in Montreal) had a marked orientation towards disease prevention. This system partially collapsed during the period 1976-81 and, upon the cessation of federal involvement in 1981, neither the CBHSSJB nor its public health partner, the Montreal General Hospital, had the resources or experience to completely fill the void. Resurgence in preventable maladies arose and, just as quickly, was mitigated when preventative services were urgently re-instated or augmented. Even though public health was delivered from Montreal on a small budget, until 2001, this modest preventative activity is widely credited with a significant role in the overall improvement of Cree health over two decades.

The resources allocated to prevention are now substantial and further augmentations are scheduled under the SRP. The effect of this in affecting further improvements is unlikely to be as dramatic as before, if only because the state of public health is better and the exceptional service voids of the past do not exist. Until improvements in management information systems and general data collection are in place, it will not be possible to measure public health outcomes in terms of unit cost or tangible impacts on curative services.

13.9.3. In Summation: Health Services as a Health Determinant, 1975-2004

We observe from the longitudinal analysis in this chapter, and from statistics elsewhere in this report, that the overall health of the Crees improved markedly in the years immediately following the Second World War. This improvement is largely explainable by the introduction of penicillin, a rudimentary grid of health services that had until then been largely absent, and by concomitant improvements in socio-

economic conditions. Another dramatic increase in health status occurred following the 1970s. Statistical data for the 1970s are fragmentary, but documentary reports attest to exceptionally poor health conditions in 1975. The Cree population had a health status similar to, and in some respects worse than, the Indian population elsewhere in Quebec. This was poor by Canadian standards. It was poor even by the standards of Quebec, a province that acknowledged having the poorest state of health in Canada, and that was investing vast sums to establish a modern health system. The improvement over subsequent decades in overall Cree health was not, however, a steady one.

The JBNQA was born of hydro impacts, or rather, of a desire to minimise yet-unobserved impacts and make the hydro project beneficial for all concerned. Thus, it was the hydro development that led to the momentous changes in health services that followed. These changes, initially at least, were of a political nature rather than an attempt to mitigate health impacts of development. Research on potential impacts was almost non-existent and data on impacts did not exist. There were almost no caseload statistics and few others. However, it was generally assumed that profound social impacts would follow improvements in communications, greater contact with outsiders, greater availability of alcohol, increased job opportunities and wealth, and so on. The hydro constructions had not reached their peak of intensity so these assumptions were based on limited, and mostly anecdotal, reports of social dislocations in communities closest to the constructions.

The five-year period of transition to the provincial system (1976-1981) was beset by discontinuities in service level and sound administration. This made an unsatisfactory health situation worse. The federal services were already significantly outclassed compared with the restructured services appearing elsewhere in Quebec. The federal health system for the region was, in 1975, already a bare-bones system. Before long, such federal services as existed were being withdrawn faster than provincially funded but Cree-run programmes could take their places. Upon full assumption by the CBHSSJB of the former federal responsibilities, in 1981, it started to become apparent that the health status, in some communities particularly, was worse than expected. Resources for prevention and promotion had diminished or vanished, and federal efforts in these areas had been insufficient. These administrative difficulties came at a most inopportune time. This was when the hydro constructions were reaching their maximum intensity and significant, negative social effects began to be recorded.

Outbreaks of contagious diseases, failures in socio-sanitary monitoring, and lapses in health care continuity and access necessitated urgent remedial measures starting in the early 1980s. None of these health events seems a direct result of economic development projects. However, they were an indirect result in so far as differences of opinion, over implementation of Section 14 of the JBNQA, were behind the causal administrative discontinuities. Over the first several years particularly, aggressive health promotion and disease prevention measures, coupled with the introduction of some core services (e.g., social services), arrested and reversed many of the negative health indicators. It is fair to say that the dislocations in health services that occurred from 1976 to 1981 were a health determinant with impacts measurable in terms of sharp increases in certain preventable maladies. Conversely, the rapid re-introduction or improvement of preventative health services was an even clearer health determinant. These measures clearly reduced these problems to a tolerable nuisance level.

One specific measure – environmental mercury testing and education – appears to have prevented human mercury contamination levels from increasing. The region has a certain background profile of mercury which was greatly elevated in areas affected by hydro electric dams. It is significant, though, that through aggressive public health campaigns, fish consumption reportedly fell sharply. The success of this health service activity in preventing the possibility of any observed clinical effects from mercury, must be balanced by consideration of the overall impact this had on diet quality just prior to the appearance of diabetes in the population.

The crises of the early 1980s established a pattern of focusing on acute care, and the infectious disease and environmental health aspects of public health. As a result, services dealing with chronic disease received minimal attention. By the late 1990s, when research began to reveal a diabetes epidemic with service implications, an almost complete lack of chronic service capacity became apparent.

Sharply increased demand for hospital services accompanied development activity in the areas surrounding the islands of Cree jurisdiction. Northern hospitals like Chibougamau and Val d'Or were upgraded in order to accommodate this need. Chisasibi Hospital had only a local caseload and, in light of available funding, it was not made fully operational as a district or regional acute care hospital for the Crees. Improved patient transportation measures became necessary to permit improved access to diagnostic and curative medical services in well-equipped facilities outside the region. Much of the burden of the prevention and treatment fell on external facilities, so some Cree Regional services (e.g., hospital surgical services) failed to develop fully or at all.

Social service caseloads also rose. Documentary evidence from the 1970s and early 1980s attests to alarming growth in social problems that was related, by observers, to the effects of hydro development. However, these statistics have to be interpreted from the perspective that prior to the hydro-related development, there were practically no social services in the region, and hence no caseload statistics. Although social and economic dislocations were probably the main driver behind the increases in social problems, it is highly probable that some of the caseload growth was attributable to the availability of new services. The records do not allow one to estimate the extent of this impact.

Similar arguments apply regarding medical services. The one- and two-nurse clinics of the 1970s were basic and the state of Cree health was considered poor. The reasons needed by a nurse to transport a patient were stricter, as evidenced by the policies at the time and by far lower transportation rates. Only exceptional cases were transported; the rule was to wait for a visiting physician who typically arrived for a week or two quarterly. Under CBHSSJB administration, large strides were rapidly made in increasing the local availability of physicians. Waits of weeks or months were no longer considered justifiable. An efficient infrastructure was installed to transport patients not just to hospitals but to see general practitioners and dental practitioners. Thus again, statistics for medical service utilisation and patient transport grew rapidly as medical services appeared or improved. It has not proven possible to isolate how much of this growth was caused by development, normal population growth, or medical services themselves.

It is probable that, with the current introduction of local service centres for the elderly and disabled, and the reconfiguration and augmentation of clinic services, more patients will be seen and more will be transported. This suggests that the volume indicators will rise for reasons of service availability alone. This must be interpreted against the fact that without these improvements the chronic cases associated with diabetes, particularly, will tend to develop avoidable complications and co-morbidities.

Compared with elsewhere, the Cree Region's health services have a disproportionately greater role in contributing to the regional economy, and thus to indirectly furthering the population's health status. The CBHSSJB contributes user fees that help to support local governments. Most of the salaries are paid out in the Cree communities, although it is understood that much of this leaks out to external purchase points. Yet the magnitude of the CBHSSJB's economic contribution is most clearly gauged by workforce statistics. The 2001 Census estimated 4,790 people to be in the regional labour force. In March 2003 the CBHSSJB listed 1,236 official employees of whom 764 were "occasional". This suggests that one-quarter of the recorded regional labour force worked full-time or part-time for the CBHSSJB. One can ponder the accuracy of the Census labour force data, but the personnel count for the CBHSSJB is based on actual paid employees.

Of these 1,236 personnel 472 had a permanent or temporary attachment.⁷¹⁶ The 764 remaining occasional employees totalled the equivalent of 207.5 full-time positions. Also connected with the CBHSSJB are a varying number of personnel paid by the RAMQ, as well as consultants who often are former employees. By 2010 the Strategic Regional Plan will have increased the number of all personnel to almost 1,700. The regional, positive economic impact of regional health services will then be even more significant, although this significance will be offset to some degree by growth that the EM-1-A project is expected to bring in the private sector.

Periodically the CBHSSJB has been behind major construction projects which generate considerable local employment; e.g., approximately \$30M has been spent or committed for 9 elderly and disabled centres and 100 staff housing units (equivalent to a quarter of social and private house constructions) between 2002 and 2004. Further capital investments of over \$100M will occur throughout this decade. Again, the economic impact of this will be huge. The climate of mutual co-operation, which is behind Quebec's willingness to invest such sums in regional services, is directly connected with the *Paix des Braves* Agreement. Under this Agreement, the Crees have agreed to the EM-1-A project. It is no stretch of truth to consider these major health investments an impact of the new hydro development.

Despite efficacy that at times has been questionable, since 1975 health services in the Cree Region have had an exceptionally large role in influencing the health of the population, largely due to the lateness and rapidity of the introduction of modern health services on a scale comparable to that in other regions in Quebec. The most intensive phase of this service modernisation occurred during the period of maximum James Bay project development activity, when the Cree population was already feeling profound impacts. This leads one to wonder to what extent regional health services will mitigate any negative health impacts arising from the EM-1-A development project. Unlike in 1975, an extensive regional health system already exists, and augmentations to this system on an unprecedented level will occur during the construction phase. These augmentations include substantial prevention and promotion measures, and a monitoring capacity that used to be absent. By the time EM-1-A reaches completion, the Cree Region's health system will compare very favourably with that of other regional systems in Quebec, although Nordic challenges such as distance will still adversely affect access time.

One quarter of the Cree population migrated to three new communities during the period of construction of the La Grande complexes. To a large extent these migrations were a direct result of the James Bay hydro project. These relocations placed immense strains upon an embryonic regional health system. The strains were felt in terms of building and relocating facilities, and also in terms of skyrocketing social caseloads. The EM-1-A project does not involve migrations of entire populations on such a scale. The roads and other improvements of the 1970s and 1980s, which documentary reports associated with elevated social problems, exist today and the population has largely adjusted to their presence. Further improvements, during the EM-1-A constructions, will add to this existing infrastructure. This implies a lesser social shock effect. This does not, however, discount the possibility that further analysis will confirm significant impacts on caseloads in the more nearby communities, such as Nemaska. Any such caseload impacts are more likely to be observed over the next few years. This is because of the existence of statistical reporting and analytical capabilities that were absent during the James Bay project period.

Today the Crees' society and regional economy are far better prepared to adapt to changes brought on by EM-1-A. This preparedness, and the existence of a regional health system that is rapidly expanding, suggest that the medical and social impacts will be comparatively minimal and, by and large, manageable. This conclusion supposes that a strong link between the diabetes epidemic and economic development will not be verified; or that new economic development will change the conditions within which the epidemic has been happening.. It also supposes that large per capita variations between Cree communities, in diagnostic and curative medical acts, will not be found to have a connection with economic development projects. Unlike in the past, systemic efforts to answer these questions are now

being made, particularly by the CBHSSJB. The answers are likely to help shape the renewal and improvement of regional health services now underway.

Endnotes - 13.9. Health Services

⁷⁰¹ Canadian Health Services Research Foundation, 2004.

⁷⁰² Quebec, Bill 65, *An Act to Organise Health and Social Services*, 2nd Session, 29th Legislature, 1971.

⁷⁰³ Centre Hospitalier de Val d'Or – 1974; CLSC des Grandes Bois (Chapais) – 1974; La Grande Hospital Centre (Radisson) – 1973; Centre Hospitalier la Grande Riviere (La Grande 4) – 1979; Centre Hospitalier la Grande Riviere (Caniapiscau) – 1979; Point de Service de Matagami (Joutel) – 1982; Centre de Sante Isle-Dieu – 1983; Centre Hospitalier la Grande Riviere (Laforge 1) – 1991.

⁷⁰⁴ Corporation d'hébergement du Québec. Inventaire et évaluation technique des immeubles de la région 18. Février 2003.

⁷⁰⁵ Source: Base de données SIFO, 1990-1991 à 2002-2003. c.f. SDI, MSSSQ avril 2004.

⁷⁰⁶ Ibid.

⁷⁰⁷ Source: CBHSSJB *Annual Reports*. These reports sometimes vary up to several hundred thousands of dollars from the final adjusted funding levels.

⁷⁰⁸ The JBNQA uses the term "agreement" but the JBNQA is almost universally referred to outside of Quebec as the first of the modern "treaties." Note also that the Assemblée nationale's resolution of 20 March 1985 states that l'Assemblée nationale recognised the existence of the various Aboriginal Nations in Québec including the Cree Nation., and furthermore the recognised the rights set forth in the JBNQA and considered it to be a treaty (*Ces conventions de la Baie-James et du Nord-Est québécois... ont valeur de traité.*).

⁷⁰⁹ The report of this project is: Légaré (2004).

⁷¹⁰ *ibid.*, p. 33.

⁷¹¹ *ibid.*, p. 30: "A clinical severity indicator was established based on the DRG (Diagnostic Related Group) at the time of each hospitalisation. [The figure] shows that the proportion of hospitalisations rated high or extreme on the index among type 1 and type 2 cases increased steadily over the years, from 8% in 1995-1996 to 29% in 2001-2002."

⁷¹² Computations by Gilles Légaré of the INSPQ for CBHSSJB, October 2003, as reported in Légaré (2004). The clinical severity index (CSI) is calculated with the APR-DRG. The theoretical definition of this index is «Indique la présence de facteurs interactifs importants, comorbidités ou complications (degré de de décompensation physiologique), qui influencent l'intensité des services requis pour les soins prodigués à l'utilisateur.» MSSSQ Description du système MED-ECHO disponible sur base de données Surveillance du réseau RTSSS. The CSI computation -complex and made different steps - is calculated for each hospitalisation and includes the severity of first diagnosis and the severity of secondary diagnoses if not related to the first. Age of the patient can affect its value. For example, hospitalisation for DM with no complications is coded low, DM with an ocular complication is coded moderate, DM with (pneumonia) coded high. Some diagnoses will raise the value of the index (they start at value 2). Also, some treatments not made in a ward like Dialysis can raise the value of the CSI. The data show a rise of the percentage of high/extreme categories of CSI but not an increase in the hospitalisation rate. The number of hospitalisations did not change significantly during the 6-year period although the number of DM cases grew. Explanations for the severity changes are multivariate: worsening of the health status of the patients; administrative reasons, possibly such as the availability of dialysis in Chibougamau or by different coding practices in hospitals.

⁷¹³ Légaré (2004), p. 34, Fig. 7. This shows the number of medical procedures performed in cases from the Cree Diabetes Information System (all types) linked to the FIPA, by type of diabetes, period 1996/97 to 2000/01. Note: The graph in the present report breaks out Type 1 and Type 2, using data from Légaré's draft report from 2003. Légaré's final (2004) report shows them together and does not make any difference.

⁷¹⁴ A genetic marker predisposes some people them to diabetic nephropathy. About 11% in the general diabetic population develop advanced kidney disease compared to over 40% of persons with the marker. It is known that Cree Region residents are being diagnosed with diabetes quite regularly (only 10% were found not diagnosed in the screening project). In general population it is estimated that 40 - 50% may be walking around undiagnosed. It is therefore because people had undiagnosed diabetes for a long while that the time to hospitalisation for a major complication is so short. Also, when one considers the 20-year rule of thumb, hospitalisation data and not but lab test results are the indicator. In the Cree context hospitalisation data are the indicator.

⁷¹⁵ Source: CPS annual tabulations of by-period transportation statistics.

⁷¹⁶ 281 permanent full-time; 152 temporary full-time, 37 permanent part-time, and 2 temporary part-time.

Appendix D – Drinking Water and Waste Water Facilities in the Cree Region

Cree Region Drinking Water Facilities in 2001¹⁰⁸ (1)						
Community	Water source/ concerns	Treatment	Capacity vs. demand	Monitoring	Operating team	Comments/ concerns
Chisasibi	Surface (river); intake not protected.	Sand trap, flash mix, polymer injection, coagulation, flocculation, clarification, sand filtration, chlorination; Reservoir.	Design capacity meets current water demand.	Chlorine residual; Colilert ¹⁰⁹ , bacteriological testing; Turbidity (continuous).	4 operators, none with certification.	No concerns presently regarding the quality of the treated water.
Eastmain	Groundwater, network of surface wells.	Coagulation, flocculation, sand filtration, green sand filters with addition of potassium permanganate, chlorination, reservoir.	Current water demand below design capacity.	Chlorine residual; Colilert, bacteriological testing; Turbidity (continuous); Chemical parameters.	6 operators, one is certified.	Recently constructed to replace well water of poor quality (high salinity). One boil-water advisory during construction period.
Mistissini	Surface (lake)	Chlorination	No information given	Chlorine residual; Colilert, bacteriological testing; Turbidity; Chemical parameters.	3 operators, none with certification.	Coliform bacteria 2 times in 2 years; One boil water advisory once in two years; Turbidity > 1 NTU

¹⁰⁸ Adapted from “Survey of Water and Wastewater Infrastructures, Project M37-01-35, BPR, February 2002

¹⁰⁹ Colilert is the kit for on-site analysis for total coliform and *E. coli*.

Cree Region Drinking Water Facilities in 2001 (2)						
Community	Water source/ concerns	Treatment	Capacity vs. demand	Monitoring	Operating team	Comments/ concerns
Nemaska	Groundwater (1 well)	No treatment; reservoir	Reservoir enables community to meet demand during peak consumption.	Colilert, bacteriological testing;	1 certified operator.	Gas station nearby; aquifer may not be adequately protected; no back-up water supply.
Oujé-Bougoumou	Groundwater (1 well)	No treatment; reservoir	Design capacity meets current water demand.	Colilert, bacteriological testing;	2 operators, neither certified.	No back-up water supply.
Waskaganish	Surface (river)	Clarifier, chemical injection, pH adjustment, pre-chlorination, sand-anthracite filtration, reservoir.	Peak demand exceeds capacity, quality can be compromised; pressure on the distribution system is also lowered.	Chlorine residual; Colilert, bacteriological testing; Turbidity; Chemical parameters.	4 operators, one is certified.	Concerns regarding contamination of water supply source (river); turbidity > 1 NTU twice in a two-yr period.
Waswanipi	Groundwater (1 well)	No treatment; reservoir.	Water demand expected to be met until 2018.	Colilert, bacteriological testing; chemical parameters.	2 operators, both certified.	Coliform bacteria (3 times in the past 2 years); water-related disease outbreak; boil water advisories 3 times in 2-yr period; No back-up water supply.

Cree Region Drinking Water Facilities in 2001 (3)						
Community	Water source/ concerns	Treatment	Capacity vs. demand	Monitoring	Operating team	Comments/ concerns
Wemindji	Groundwater (1 well)	Water softening; reservoir.	Current water demand is met.	Colilert; chemical parameters.	2 operators, neither with experience.	Aquifer may not be adequately protected; no fence around the well building.
Whapmagoostui	Surface (river)	Chlorination; reservoir.	No information	Residual chlorine; Colilert. Chemical parameters once every 2 years.	2 operators, neither with experience.	Salinity problems with high westerly winds. Concerns regarding contamination of water supply source (river).

Cree Region Waste Water Facilities in 2001¹¹⁰ (1)						
Community	Effluent discharge	Treatment	Flow rate	Monitoring	Operating team	Comments/ concerns
Chisasibi	River, via a ditch.	Manual screening system; Aerated lagoons (3).	860 000 l/d	None	2 operators, neither are certified.	Odour complaints by workers at the aerated lagoons.
Eastmain	River, submerged outfall.	Screening system; Primary settling tank with rotating disk; Secondary settling basin; sludge basin.	Design: 500,000 l/d Actual flow: 303,400 l/d	None	2 operators, one is certified.	Odour complaints once, when the wind is coming in from the Bay.
Mistissini	Lake (8 in. pipe)	Aerated lagoons (2) ; 2 new lagoons planned for 2003; addition of alum for phosphorous removal.	Design capacity exceeded (flow rate not given).	None	3 operators, none is certified.	Odour, during construction period.
Nemaska	Small lake that discharges to Champion Lake.	Aerated lagoons (3)	As of report writing, new station not yet in operation.	None, as station not yet operating.	1 operator with certification.	New aerated lagoon system replaces residential septic tanks.
Oujé-Bougoumou	Lake (pipe)	Aerated lagoons (2)	Design: 350 000 l/d	None	2 operators, neither with certification.	Odour complaints from houses near the lift station (pumping station) at high flows.

¹¹⁰ Adapted from “Survey of Water and Wastewater Infrastructures”, Project M37-01-35, BPR, February 2002

Cree Region Waste Water Facilities in 2001 (2)						
Community	Effluent discharge	Treatment	Flow rate	Monitoring	Operating team	Comments/ concerns
Waskaganish	River (pipe to ditch and then to river).	Aerated lagoons (3)	Actual: 1 000 000 l/d Design: 1 798 000 l/d	Parameters monitored: BOD ₅ and COD (biochemical and chemical oxygen demand); TSS (total suspended solids); <i>E. coli</i> .	4 operators, one with certification.	Samples sent to outside laboratory once per month for analysis.
Waswanipi	River (flows to effluent chamber and then to the river).	Aerated lagoons (2)	No flow rates given. System designed for 2400 people; actual population is 1200.	None	2 operators, neither with certification.	No odour complaints reported.
Wemindji	River (via ditch).	Non-aerated lagoons (2)	No information given.	None.	2 operators, neither with certification.	Algae growth in the ditch, indicating poor effluent quality; Odour complaints during sludge pumping operations.
Whapmagoostui	Hudson Bay	None – discharge of raw sewage.	No information given.	None	2 operators, neither with certification.	No treatment, outfall is not submerged.

Appendix E - Historical Tables of Mortality and Hospitalisation Data

Number and Percent of Deaths by ICD-8 Main Chapter Cree, Registered Indians, and Canada total, 1976 ⁷¹⁷						
ICD-8 chapter	Cree Region 1976		Registered Indians and Inuit of Canada 1976		Canada 1974	
	N	%	N	%	N	%
Accidents, poisoning & violence	12	24	667	33	16861	10
Circulatory	10	20	415	21	82162	49
Cancer	9	18	159	8	34065	21
Respiratory	5	10	217	11	10711	6
Mental disorders	3	6	31	2	837	0.5
Nervous system & sense organs	3	6	40	2	1809	1
Congenital anomalies	3	6	33	2	1718	1
Symptoms and ill-defined	3	6	98	5	1592	1
Infectious and parasitic	2	4	48	2	1119	0.7
Digestive	-		93	5	6176	4
Perinatal conditions	-		90	4	2451	2
Endocrine, nutritional, metabolic	-		26	1	3889	2
Genito-urinary	-		19	0.9	1962	1
Musculo-skeletal and connective	-		4	0.2	615	0.4
Blood and blood-forming	-		5	0.3	482	0.3
Skin and subcutaneous	-		1	0.1	110	0.1
Complications of pregnancy, labour	-			-	35	
Unknown causes	-		82	4	-	
Total	50	100%	2028	100%	166594	100%

Cree Mortality (1982-86) Compared to Quebec (1984) By ICD-9 Main Chapter ⁷¹⁸			
ICD Chapter	Number	%	Standardised Mortality Ratio
Infectious and parasitic	5	2.8	4.98*
Tumours	31	17.1	0.80
Endocrine and metabolic	6	3.2	1.58
Blood and blood-forming organisms	1	0.6	1.63
Mental Disorders	1	0.6	0.89
Nervous system and sense organs	7	3.9	2.40
Circulatory system	37	20.4	0.60*

Respiratory system	20	11.1	1.83*
Digestive system	6	3.3	1.08
Genito-urinary system	6	3.3	3.12*
Skin and subcutaneous tissue	1	0.6	8.37
Congenital anomalies	3	1.7	0.85
Conditions originating in perinatal period	2	1.1	0.50
Ill-defined and unknown (incl SIDS)	14 (5)	7.6	3.97*
Injuries	36	19.9	2.01*
Total	181	100%	1.15
Males	96	53%	0.95
Females	85	47%	1.49*

Note: Saint-Pierre subsequently identified some problems with the denominator used by Courteau, which artificially increased the death rates, particularly for children age 1-4. This may slightly affect the SMRs shown in this table.

* Signifies that the difference is statistically significant.

Major Causes of Death Cree Rates Compared to Quebec (1990) Using Standardised Mortality Ratios ⁷¹⁹		
ICD	Cree 1982-86	Cree 1987-92
Infectious & parasitic	2.21	0.60
Circulatory system	0.71*	0.95
Respiratory system	1.70*	1.59*
Genito-urinary system	2.92*	2.66*
Symptoms / ill-defined	3.08	0.95
Injury	2.14*	2.10*

* Figure is significantly different from the Quebec average in 1990.

Standardised Mortality Ratios Quebec Crees Compared to Other Registered Indians in Canada ⁷²⁰			
	M	F	T
Cree 1982-86	0.96	1.61	1.18
Cree 1987-92	1.07	1.42	1.19
Cdn Registered Indians, 1991	1.52	1.75	1.61

Note: SMRs calculated with respect to Quebec figures for 1990.

Crude Mortality Rates in 1982-86 Compared to 1987-92 ⁷²¹ By ICD Main Chapter		
	Rates per 10,000	
ICD-9 chapter	1982-1986	1987-1992

Infectious	1.26	0.35
Cancer	7.83	7.32
Endocrine, nutrition	1.52	0.87
Blood and blood-forming	0.25	0.17
Mental disorders	0.25	0
Nervous system	1.77	1.22
Circulatory	9.35	10.98
Respiratory	5.05	4.18
Digestive	1.52	1.22
Genito-urinary	1.52	1.22
Pregnancy and puerperium	0	0.17
Skin and subcutaneous	0.25	0
Musculoskeletal	0	0.17
Congenital anomalies	0.76	0.7
Perinatal conditions	0.51	1.05
Symptoms and ill-defined	1.26	0.35
Injury and poisoning	9.10	9.06
Note: None of the differences between the two time periods reached statistical significance. The numbers shown for 1982-86 were corrected by St-Pierre to eliminate some problems with the original denominator.		

Age-Adjusted Mortality Rates Compared, Selected Causes, 1993-97 ⁷²²					
Cree Region and Adjacent Regions					
Rates per 100,000					
	Nord-du-Québec	Nunavut	Cree Region	Quebec	Ratio E.I. to Quebec
AIDS (042-044)				6.2	
Cancer (140-208)	262.3	289.8	149.9	217.5	0.7
Stomach cancer (151)	10.6	3.5		8.7	
Colon or rectal cancer (153—154)	19.1	20.6	14.7	26.4	0.6
Trachea, bronchial or lung cancer (162)	121.6	153.5	49.6	64.5	0.8
Leukemia (204-208)	7.8	1.7	4.2	6.7	0.6
Diabetes mellitus	11.6	17.9	42.5	19.2	2.2
Circulatory disease (390-459)	176.9	293.1	236.5	265.3	0.9
Hypertensive disease (401-405)	4.6	8.4		4.3	
Ischemic cardiomyopathy (410-414)	117.8	42.3	100.8	154.6	0.7
Cerebro-vascular disease (430-438)	13.6	114.4	79.2	46.9	1.7
Respiratory disease (460-519)	59.8	222.7	149.9	64.3	2.3
Pneumonia and flu (480-487)	5.2	32.3	57.5	18.3	3.1
Chronic obstructive pulmonary disease (490-496)	49.1	170.5	51.6	37.6	1.4
Gastro-intestinal disease (520-579)	29.3	35.9	54.7	26.5	2.1
Cirrhosis of the liver (571)	6.9	3.5	5.2	7.9	0.7
Congenital anomaly (740-759)	0.9	6.6	3.8	3.3	1.2

Accident, poisoning, trauma (E800-E999)	62.6	210.4	59.3	49.4	1.2
Motor vehicle ((E810-E819)	17.2	29.7	26.7	11.2	2.4
Falls (E880-E888)	8.6	9.5	4.7	7.7	0.6
Suicide (E950-E959)	18.8	81.6	3.2	19.1	0.2
Homicide (E960-E969)	1.9	13.3		1.7	
Alcoholism and cirrhosis of the liver (292; 303; 571)	6.9	10.7	16.8	9.3	1.8
All causes (001-999)	666.4	1203.1	842.0	736.2	1.1
Note: Mortality rates in the Cree Region are believed to be underestimated in these figures. Canadian mortality rates are, on average, lower than those for Quebec.					

Crude Mortality Rates in the Cree Communities 1995-1999 Period ⁷²³				
Community	Total deaths 1995-1999	Annual mean	Population (1997)	Rate per 100,000
Chisasibi	89	17.8	3046	584.4
Eastmain	7	1.4	514	272.4
Mistissini	38	7.6	2491	305.1
Nemaska	8	1.6	509	314.3
Oujé-Bougoumou	11	2.2	513	428.8
Waskaganish	30	6	1576	380.7
Waswanipi	18	3.6	1096	328.5
Wemindji	23	4.6	1014	453.6
Whapmagoostui	17	3.4	651	522.3
4 community group *	83	16.6	5090	326.1
Remaining 5 comms.	158	31.6	6320	500.0
Cree territory	241	48.2	11410	422.4
* The four communities considered by Hydro-Quebec most directly affected by the EM-1-A project (Eastmain, Mistissini, Nemaska, and Waskaganish). Note: that the difference between these four communities and the remaining five is statistically significant at 0.05 level. The difference as compared to the territorial average is not significant.				

Age-standardised Mortality Rates, 1994-1998 Major Causes of Mortality, Cree and Quebec ⁷²⁴ Rates per 100,000		
	Cree territory *	Quebec
Cancer	204	220
Circulatory system	264	258
Respiratory system	178	66
Digestive system	44	26

Unintentional injury	52	27
All causes	937	728
* Caution: High sampling variability for all the Cree figures. None of the differences shown reach statistical significance at 0.05 level. Note: The “unintentional injury” category is not equivalent to the “accidents, poisoning and trauma” category in the preceding table. The distinction is that the numbers in this table include only unintentional injuries, while those in the preceding table include both unintentional injuries and intentional ones such as suicide and homicide.		

Age-standardised Mortality Rates from Diseases of the Digestive System, 1994-1998 ⁷²⁵ Cree Region and Quebec	
	Rate per 100,000
Cree Region *	44
Quebec	26
* Caution: High variability for the Cree Region figure.	

Age-standardised Mortality Rate from Respiratory Conditions, 1994-1998 Cree Region and Quebec ⁷²⁶	
	Rate per 100,000
Cree Region*	178
Quebec	66
* Caution: High variability for the Cree Region figure.	

Cree Region Hospitalisation Rates 1975-77 – Top Causes, and “Preventable” Causes ⁷²⁷ Rates per 10,000 Population				
Top causes	Cree		Quebec	
Pregnancy and delivery	571		196	
Respiratory system illness	568		126	
Digestive system	494		155	
Genito urinary	201		105	
Cardiovascular system	131		124	
Tumours	59		79	
Accidents	239		99	
Preventable conditions	M	F	M	F
Alcoholism	94	8	20	3
Neuroses	40	54	9	20
Chronic bronchitis	22	11	6	3
Diabetes	19	24	10	13

Cree Region Hospital Separations for Diseases of the Digestive System Over Time Number and Crude Rate for Five-year Periods ⁷²⁸						
	Average number of separations per year			Crude rate per 100,000		
	1987-88 1991-92	1992-93 1996-97	1997-98 2001-02	1987-88 1991-92	1992-93 1996-97	1997-98 2001-02
Coastal	142	131	105	4,067	3,074	2,178
Inland	231	215	174	4,274	3,463	2,450
Cree Region	373	347	279	4,193	3,305	2,340

Hospital Separations for Diseases of the Digestive System ⁷²⁹ Cree Region Compared to Other Regions Five-year Periods 1988 - 2002						
	Numbers and age-standardised rates per 100,000					
	1987-1988 to 1991-1992		1992-1993 to 1996-1997		1997-1998 to 2001-2002	
	Average yearly number	Age-std rate	Average yearly number	Age-std rate	Average yearly number	Age-std rate
Inland	142	5,133	131	3,791	105	2,598
Coastal	231	4,551	215	3,555	174	2,764
Cree Region	373	4,762	347	3,641	279	2,694
Nunavik	273	3,337	279	3,759	320	3,838
Nord-du-Québec	508	3,083	478	3,009	315	2,103
Québec	111,135	1,673	123,715	1,738	108,077	1,444

Average Number of Hospital Separations for Tooth Conditions and for Cholelithiasis By Five-Year Periods ⁷³⁰						
	Tooth Problems			Cholelithiasis		
	1987-88 1991-92	1992-93 1996-97	1997-98 2001-02	1987-88 1991-92	1992-93 1996-97	1997-98 2001-02
Coastal	51	32	16	19	28	30
Inland	107	85	40	25	38	43
Cree Region	158	117	56	44	66	73
Dental = ICD code 521, "diseases of hard tissues of teeth." This category includes dental caries and tooth problems such as abrasion. Cholelithiasis = ICD code 574. The category is comprised of various forms of calculus of the gallbladder and bile ducts (i.e., bladder stones).						

Number of Hospital Separations for Tooth Problems, 1986/87 to 2001/02 ⁷³¹	
Year	

86- 87	87- 88	88- 89	89- 90	90- 91	91- 92	92- 93	93- 94	94- 95	95- 96	96- 97	97- 98	98- 99	99- 00	00- 01	01- 02
15 3	13 9	13 9	21 7	15 8	13 9	14 1	12 4	11 8	11 6	85	91	53	54	38	45
ICD code 521, diseases of hard tissues of teeth.															

Hospital Separations for Respiratory Conditions Cree Region and Other Regions Compared ⁷³²									
	1987-1988 to 1991-1992			1992-1993 to 1996-1997			1997-1898 to 2001-2002		
	Avg no. per yr	Crud e rate	Age- std rate	Avg no. per yr	Crud e rate	Age- std rate	Avg no. per yr	Crud e rate	Age- std rate
Inland	83	2,359	2,457	121	2,840	2,973	144	2,987	3,508
Coastal	155	2,867	2,993	174	2,797	3,457	219	3,083	3,434
Cree Region	237	2,667	2,794	295	2,815	3,253	363	3,044	3,451
Nunavik	280	3,972	4,846	352	4,193	4,871	433	4,553	5,596
Nord-du-Québec	464	2,180	2,576	409	2,113	2,534	271	1,528	2,155
Québec	84,75 6	1,221	1,243	97,16 3	1,349	1,352	94,03 2	1,280	1,280

Cree Region Number of Hospital Separations for Pneumonia and Influenza, 1986/87 to 2001/02 ⁷³³															
Year															
86- 87	87- 88	88- 89	89- 90	90- 91	91- 92	92- 93	93- 94	94- 95	95- 96	96- 97	97- 98	98- 99	99- 00	00- 01	01- 02
70	68	32	39	61	71	47	65	10 4	70	88	11 2	15 0	10 8	10 0	16 1

Endnotes – Appendix E

⁷¹⁷ Bernèche (1980), p.16. Original sources: Cree data from a special compilation by MAS, October 1979. Data for Canada from Siggner (1979), p. 26.

⁷¹⁸ Courteau (1989), pp. 51-52.

⁷¹⁹ Saint-Pierre (1995), p. 46.

⁷²⁰ *ibid.*, p. 38.

⁷²¹ *ibid.*, p. 42. Note that she re-calculated Courteau's original rates for the 1982-86 period to resolve some problems with the denominator that Courteau had used.

⁷²² Table from Schnarch (2001). Original data from p. 216 of *Surveillance de la mortalité au Québec: 1976-1997*, Direction générale de la santé publique, Ministère de la Santé et des services sociaux.

⁷²³ Data from MSSSQ mortality data banks.

⁷²⁴ Pageau et al. (2003).

⁷²⁵ *ibid.*

⁷²⁶ *ibid.*

⁷²⁷ Bernèche (1980), pp. 23, 30; Robinson (1985a), p. 37. Percentages rounded. Note that live births have been excluded from the "top causes."

⁷²⁸ MED-ECHO files. The data are for ICD main chapter 8, ICD codes 520 to 579. Coastal communities = Whapmagoostui, Chisasibi, Wemindji, Eastmain, and Waskaganish. Inland communities = Nemaska, Mistissini, Waswanipi, and Ouje-Bougoumou.

⁷²⁹ MED-ECHO files. Population data for the Cree Region from the Beneficiaries List. Population data for other regions are from the MSSSQ population estimates for 1981 to 2021. Data are for ICD chapter 9, codes 520-579. Rates have been age-sex standardised to the corrected population of Quebec in 1996. Note that because the Tullatavik Health Centre in Nunavik did not provide data for 1996-97, the data for Nunavik are based on a four-year period only (1992/93 to 1995/96).

⁷³⁰ MED-ECHO files. Coastal communities = Whapmagoostui, Chisasibi, Wemindji, Eastmain, and Waskaganish. Inland communities = Nemaska, Mistissini, Waswanipi, and Ouje-Bougoumou.

⁷³¹ *ibid.*

⁷³² MED-ECHO files compiled by Pierre Lejeune at the CBHSSJB. The denominator for the crude rates in the Cree Region is the Beneficiaries List of the JBNQA. Rates for the other regions are based on population projections prepared by the *Institut de la statistique du Québec*.

⁷³³ MED-ECHO files.

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