

# Health and what affects it in the Cree Communities of Eeyou Istchee

**A Compilation of Recent Statistics**

July 2001

Compiled by: Brian Schnarch

for

Cree Board of Health and Social  
Services of James Bay

And the

Public Health Module— Cree  
Region of James Bay

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<sup>\*</sup> Public Health Physician, Public Health Module- Cree Region of James Bay

<sup>Δ</sup> Research Officer, Public Health Module- Cree Region of James Bay

<sup>†</sup> Coordinator of Public Health, Cree Board of Health and Social Services of James Bay

<sup>■</sup> Tamarack Consulting

<sup>○</sup> Public Health Department, Regional Board of Health and Social Services—Montreal Centre.

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\* Community icons from Grand Council of the Crees website ([www.gcc.ca](http://www.gcc.ca))

## Map of Eeyou Istchee communities<sup>1</sup>



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

<sup>1</sup> Map from Grand Council of the Crees website (<http://www.gcc.ca>)

<sup>2</sup> Mileage chart is modified from Medicine and the Cree of James Bay. Cree Board of Health and Social Services of James Bay.

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## ***Introduction***

This compilation was prepared for the Cree Board of Health and Social Services of James Bay and the Public Health Module- Cree Region. It is intended to serve as a relatively exhaustive “one stop” source of statistical data on health, health care and related factors for Eeyou Istchee.

The format of this report is intended to facilitate the copying and sharing of single pages or sections. Each part tries to be as “stand alone” as possible. Nonetheless, it is suggested that you keep the notes at the beginning of a section together with the tables in that section.

The data presented here, for the most part, have been previously published or otherwise made available, although not necessarily readily so. The statistics come from various, and sometimes disparate, sources. As these figures are mostly “second hand”, our ability to affirm their accuracy is limited. We have described the limitations and known problems, to the best of our ability and have excluded data that we considered excessively “flawed”.<sup>3</sup>

Some of the data, particularly the survey-based information, may seem old. At the time of writing, the last health survey in Eeyou Istchee was “Santé Québec” in 1991. The last census for which data are available took place in 1996. Preliminary information from the 2001 census should be available in 2002. The age of some figures may be related to the normal delay between data collection and reporting.

As a reference tool, parts of this document may be used:

- As a “report card” on health and health services in Eeyou Istchee
- To support planning and priority setting
- To help justify resource allocation and (re) organization
- To raise awareness of health issues
- To provide a baseline against which change and/or the impact of interventions can be measured.
- To provide directions for research

The contents of this report are based on an extensive review and reworking or reorganizing<sup>4</sup> of printed and digital materials. Sifting through the material required judgement calls on what to include and what to exclude. We deliberately cast quite a

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<sup>3</sup> For example, some rates published in QMHSS documents were calculated on the basis of incorrect population counts. These are either excluded or recalculated here.

<sup>4</sup> The tables presented are generally not precisely duplicated from the original sources. They are reworked and modified for relevance and ease of use. Categories may be collapsed; the number of comparison groups (e.g. 17 other health regions) may be reduced; derived statistics (e.g. rates) may be added etc.

wide net in order to maximize the report's usefulness as a reference tool. Data, for the most part, are presented in tabular form. A more synthesized and user-friendly public release document is under consideration as "part 2" of this project.

Data in the report focuses, of course, on Eeyou Istchee (a.k.a. Quebec Health Region 18: James-Bay-Cree-Region), but comparison figures are also provided for some indicators. Comparisons are frequently provided for Quebec as a whole or Canada. Other comparisons chosen are for the Nord-du-Québec<sup>5</sup>, Nunavik<sup>6</sup> and Canadian First Nations in general.

The report is organized, in a public health framework, into the following sections:

1. General determinants of health
  - 1.1 Population and population growth
  - 1.2 Socio-demographic factors
  - 1.3 Socio-economic factors
2. Specific determinants of health: behaviour, lifestyle, risk and protective factors
3. Health Service Organization
4. Health Service Utilization
5. Health Status

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<sup>5</sup> Nord-du-Québec, sometimes referred to as the "Radissonie", or the "James Bay territory" had about 18,000 people in 1999. Health services are coordinated by the "Centre régional de la santé et des services sociaux de la Baie James." The region's one hospital, in Chibougamou, provides some services to Cree, particularly from the interior. Nord-du-Québec's largest communities are Chapais, Chibougamou, Lebel-sur-Quévillon, Matagami and Radisson. Although regions 10 (Nord-du-Québec), 17 (Nunavik) and 18 (Eeyou Istchee) are separate *health regions*, they are combined into a single *administrative unit* also called "Nord-du-Québec- region 10". When Nord-du-Québec is mentioned in this report, though, it excludes Nunavik and Eeyou Istchee.

<sup>6</sup> The predominantly Inuit region of Nunavik, also known as "Kativik", counts about 9,000 residents. Nunavik has two health centres, each serving 7 communities. There are no road connections between the communities or to the south. The Inuit community of Kuujjuaraapik is in the same physical location as Whapmagoostui. The two communities share some health services.

# **1. *General Determinants of Health***

This section is divided into three subsections:

- 1.1 Population and population growth
- 1.2 Socio-demographic factors
- 1.3 Socio-economic factors

The first looks at basic demography, including historical and projected data. The types of health problems experienced by a population are influenced by its age distribution. More generally, the size, age and growth rate of populations are important to understanding population needs and developing appropriate services.

The second part looks at family structure/size, language and population mobility relying primarily on data from the 1996 census. The indicators are more “cultural” in nature. They have some relationship with health but may be of particular relevance to the development of appropriate regional health care.

The third subsection provides socio-economic statistics. Issues such as education, employment, income and housing covered here are derived primarily from the Canadian census. They are well documented to be fundamental predictors of a wide range of health outcomes.

## 1.1. Population and population growth

### Key points

- Resident Population, Cree and non-Cree (1999): 13,594<sup>7</sup>
- Cree JBNQA Beneficiaries residing in Eeyou Istchee (1999): 11,900
- Percent of residents in Eeyou Istchee who are “Aboriginal” (1996): 95%
- 9 communities (4 inland, 5 coastal) ranging in size from about 500 to over 3000.
- Very young population (34% under 15 compared to 19% for Quebec.)
- Relatively few older people (4% aged 65 and over compared to 12% for Quebec as a whole.)
- Population growth among Cree beneficiaries dropped from an average of around 3.5% per year in the late 1980’s to 2.5% per year in the late 1990’s. If this trend continues (i.e. no changes in migration, birth or death rates or rules for beneficiary status) the population will reach 20,000 by year 2020. It will effectively double between 1999 and 2027.
- The crude birth rate is more than double that for Quebec (23.9 vs. 10.0) but is down from around 29 in the mid 1980’s.

### Data sources and quality

Sources: (1) Beneficiaries List for Cree beneficiaries, (Quebec Ministry of Health and Social Services), (2) Canadian census (3) Institut National de la Statistique du Québec projections, (4) birth records. Also provided for comparison: Canadian census for Quebec, National Indian Register for First Nations (Indian and Northern Affairs Canada.)

- The Beneficiary list includes all registered Cree beneficiaries of the James Bay Northern Quebec Agreement.
- The Canadian census is repeated every 5 years throughout Canada. Participation is mandatory.<sup>8</sup> The “Aboriginal” figures reported here include individuals who self-identified as North American Indian, Inuit or Métis **and/or** reported band membership **and/or** affirmed that they were registered Indians. Inuit, Métis and non-Cree First Nations are thus included in the Eeyou Istchee “Aboriginal” count.

<sup>7</sup> Based on a (revised) projection of the 1996 census (Quebec Ministry of Health and Social Services, 1999)

<sup>8</sup> A number of First Nations communities in other parts of Canada refuse participation in the census. In other communities, a large proportion of residents refuse to participate.

- Indian and Northern Affairs, Canada maintains the Indian Register. Registered or “Status” Indians are identified with a particular band. Oujé-Bougoumou has not been recognized as a band—the residents are affiliated with other communities.
- Due to differing methods and definitions, mixing of census-derived and beneficiary list derived figures is not advised. For example, it may be misleading to divide the beneficiary population by the total population in order to arrive at an estimate of the proportion that are beneficiaries. The nature of each source is described in more detail in the following points.
- The beneficiary list and the Indian Register are administrative in nature, relying on the ongoing registration of individual births, deaths and moves. The completeness, quality and timeliness of the information depend on the vigilance of those responsible for completing the appropriate forms and providing them to the Ministry of Health in Quebec or to Indian Affairs.
- There appears to be some delay inherent in the registration of births and deaths. To illustrate this, consider that in 1996 the Canadian census reported that those under 5 years of age made up 13.6% of the population while, in the same year, the beneficiary list only recorded 12.4% in this age group and the Indian Register showed 11.9%. The census recorded that 3.8% of the population was 65 and up compared with 4.5% according to the beneficiary list and 4.9% in the Indian Register. [Table 1.12]
- The beneficiary list distinguishes place of residence from the community with which an individual is affiliated.
- Similarly, the Indian Register is able to identify individuals living “in their own community” (i.e. on lands set aside for their band), living in other communities/reserves, living off-reserve etc.
- In Eeyou Istchee, the 1991 census is considered to have undercounted the population by about 30%.
- In addition, published derived projections using the 1991 census significantly underestimated the population of Eeyou Istchee (Quebec Ministry of Health and Social Services). At the request of the Public Health Module— Cree Region of James Bay and after release of the 1996 census figures, corrections (based in part on beneficiary list data) were published in February 1998.

- **Quebec Ministry of Health and Social Services documents using population figures prior to this revision are incorrect.** Rates calculated based on the undercounted figures will be inflated. The impact of this error is widespread. Readers are advised to look at the publication date and check the denominators.
- Due to rounding, totals may not be precisely consistent from one table to another.
- The apparent jump in the resident beneficiary population in 1991 is related to the creation of Oujé-Bougoumou. Many of those affiliated with Oujé-Bougoumou in 1990 were considered to be either “outside Aboriginal community”<sup>9</sup> or in Mistissini. The list shows about 400 people “moving” from “outside Aboriginal community” in 1990 to Oujé-Bougoumou in 1991.

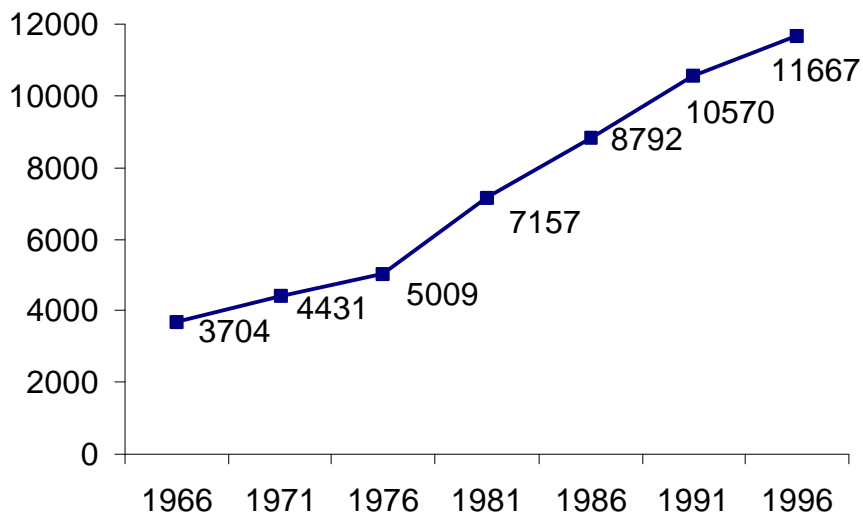
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<sup>9</sup> Individuals associated with Oujé-Bougoumou, those primarily from 4 camps, Chibougamou and a few other places (Personal communication, Louise Shecapio, Oujé-Bougoumou band office.)

TABLE 1.1.1: ESTIMATED RESIDENT POPULATION, CREE AND NON-CREE  
(INSTITUT NATIONAL DE LA STATISTIQUE DU QUEBEC, 1999)

Age	Population
0-4	1,451
5-9	1,634
10-14	1,266
15-19	1,223
20-24	1,435
25-29	1,539
30-34	1,171
35-39	927
40-44	740
45-49	469
50-54	504
55-59	357
60-64	318
65-69	257
70-74	118
75+	185
<b>Total</b>	<b>13,594</b>

CHART 1.1A: POPULATION OF EYYOU ISTCHEE, 1966-1996 (STATISTICS CANADA)



*Figures for 1966-1976 are original census counts. Figures for 1981 to 1996 are corrected for undercounting by L'Institut National de la Statistique du Québec.*

**TABLE 1.1.2: RESIDENT POPULATION BY AGE, COMPARISON OF SOURCES (1996)**

Population	Eeyou Istchee, all (Canadian census)	Eeyou Istchee, Aboriginal (Canadian census)	Eeyou Istchee, Cree beneficiaries of JBNQA (Quebec Min. of Health)	Registered Indians residing in "own community" <sup>10</sup>
0-4	1580	1480	1370	1204
5-9	1306	1260	1304	1215
10-14	1103	1095	1168	1055
15-19	1126	1105	1170	1020
20-24	1308	1200	1267	1154
25-29	1164	995	1052	966
30-34	938	850	877	798
35-39	736	620	669	629
40-44	550	480	492	463
45-49	464	385	397	378
50-54	393	345	366	349
55-59	276	265	248	236
60-64	247	210	211	200
65-69	146	135	157	142
70-74	121	120	133	133
75+	174	190	206	218
<b>Total</b>	<b>11632</b>	<b>10735</b>	<b>11087</b>	<b>10160</b>

<sup>10</sup> Refers to individuals who are Registered Indians residing on lands set aside for their own band. Individuals registered with one band but recorded as living with another are excluded. In other words, only "true locals" are counted. Note also that Oujé-Bougoumou is NOT RECOGNIZED. Residents of Oujé-Bougoumou are excluded as they are considered not to be on their own lands.



TABLE 1.1.3: RESIDENT POPULATION BY COMMUNITY; SOURCES COMPARED (1996)

	All, Canadian census	Aboriginal, Canadian Census	Cree JBNQA Beneficiaries (Quebec Min. of Health)	Registered Indians in "own community" (INAC) <sup>11</sup>
Nemaska	487	465	488	413
Mistissini	2334	2225	2426	2445
Oujé-B.	478	450	527	-
Waswanipi	1085	1035	1054	947
Waskaganish	1548	1480	1527	1494
Eastmain	527	500	485	437
Wemindji	1013	970	997	987
Chisasibi	3251	3025	2951	2849
Whap	626	600	632	588
<b>Total</b>	<b>11349</b>	<b>10750</b>	<b>11087</b>	<b>10160</b>

<sup>11</sup> See previous footnote.

TABLE 1.1.4: CREE RESIDENT BENEFICIARY POPULATION BY COMMUNITY AND YEAR, 1982-2000 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES)

Village/Year	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Nemaska	261	265	275	336	356	359	375	404	427	442	447	443	457	469	488	509	522	540	557
Mistissini	1766	1803	1802	1857	1909	1900	2046	2131	2178	2217	2249	2258	2309	2384	2426	2491	2520	2554	2617
Oujé-B.	NA	NA	NA	NA	NA	NA	NA	NA	NA	456	479	477	491	501	527	513	544	558	581
Waswanipi	784	824	835	884	908	938	915	916	905	897	922	957	982	1017	1054	1096	1122	1138	1195
<b>Inland</b>	<b>2811</b>	<b>2892</b>	<b>2912</b>	<b>3077</b>	<b>3173</b>	<b>3197</b>	<b>3336</b>	<b>3451</b>	<b>3510</b>	<b>4012</b>	<b>4097</b>	<b>4135</b>	<b>4239</b>	<b>4371</b>	<b>4495</b>	<b>4609</b>	<b>4708</b>	<b>4790</b>	<b>4950</b>
Waskaganish	1021	1048	1093	1130	1143	1192	1240	1277	1293	1322	1365	1390	1437	1471	1527	1576	1623	1655	1687
Eastmain	319	337	335	331	350	365	377	393	409	422	438	437	460	476	485	514	543	547	570
Wemindji	699	726	746	765	797	818	815	867	891	913	935	940	943	988	997	1014	1050	1069	1080
Chisasibi	1855	1975	2007	2036	2199	2248	2331	2387	2478	2569	2644	2687	2798	2888	2951	3046	3088	3145	3210
Whapmagoostui	397	413	413	413	446	443	458	481	497	512	516	537	572	586	632	651	680	694	727
<b>Coast</b>	<b>4291</b>	<b>4499</b>	<b>4594</b>	<b>4675</b>	<b>4935</b>	<b>5066</b>	<b>5221</b>	<b>5405</b>	<b>5568</b>	<b>5738</b>	<b>5898</b>	<b>5991</b>	<b>6210</b>	<b>6409</b>	<b>6592</b>	<b>6801</b>	<b>6984</b>	<b>7110</b>	<b>7274</b>
<b>Total</b>	<b>7102</b>	<b>7391</b>	<b>7506</b>	<b>7752</b>	<b>8108</b>	<b>8263</b>	<b>8557</b>	<b>8856</b>	<b>9078</b>	<b>9750</b>	<b>9995</b>	<b>10126</b>	<b>10449</b>	<b>10780</b>	<b>11087</b>	<b>11410</b>	<b>11692</b>	<b>11900</b>	<b>12220</b>

*Note: Excludes non-beneficiaries and beneficiaries living outside of the 9 communities.*

**TABLE 1.1.5: PERCENTAGE CHANGE IN THE CREE BENEFICIARY POPULATION BY COMMUNITY AND PERIOD (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES)**

	% change 1982-99	% change 1982-90	% change 1991-99
Nemaska	+107%*	+64%	+22%
Mistissini	+45%	+23%	+15%
Oujé-B.	N.A.	N.A.	+22%
Waswanipi	+45%	+15%	+27%
Inland	+70%	+25%	+19%
Waskaganish	+62%	+27%	+25%
Eastmain	+71%	+28%	+30%
Wemindji	+53%	+27%	+17%
Chisasibi	+70%	+34%	+22%
Whapmagoostui	+75%	+25%	+36%
Coast	+66%	+30%	+24%
<b>Total</b>	<b>+68%</b>	<b>+28%</b>	<b>+22%</b>

*Note: Growth in Nemaska in the first period may be related to the “re-organization” of the Nemaska band beginning in 1977.*

**TABLE 1.1.6: CREE BENEFICIARIES, COMMUNITY OF AFFILIATION VS. COMMUNITY OF RESIDENCE, JULY 2000 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES).**

Affiliation	Residence										Total affiliated
	Nem.	Mist.	Oujé-B.	Wasw.	Wask.	East.	Wem.	Chis.	Whap.	All other places <sup>12</sup>	
Nemaska	502	10	0	9	1	0	0	14	0	39	<b>575</b>
Mistissini	13	2571	10	36	14	0	7	20	5	197	<b>2873</b>
Oujé-B.	0	4	521	8	2	0	0	1	1	68	<b>605</b>
Waswanipi	9	5	38	1120	6	1	12	10	0	339	<b>1540</b>
Waskaganish	20	8	6	19	1629	10	27	65	0	322	<b>2106</b>
Eastmain	1	2	0	0	2	546	1	6	0	15	<b>573</b>
Wemindji	0	0	5	2	9	4	1026	10	3	85	<b>1144</b>
Chisasibi	11	13	1	1	24	9	5	3080	18	51	<b>3213</b>
Whapmagoostui	1	4	0	0	0	0	2	4	700	8	<b>719</b>
<b>Total residents</b>	<b>557</b>	<b>2617</b>	<b>581</b>	<b>1195</b>	<b>1687</b>	<b>570</b>	<b>1080</b>	<b>3210</b>	<b>727</b>	<b>1124</b>	<b>13348</b>

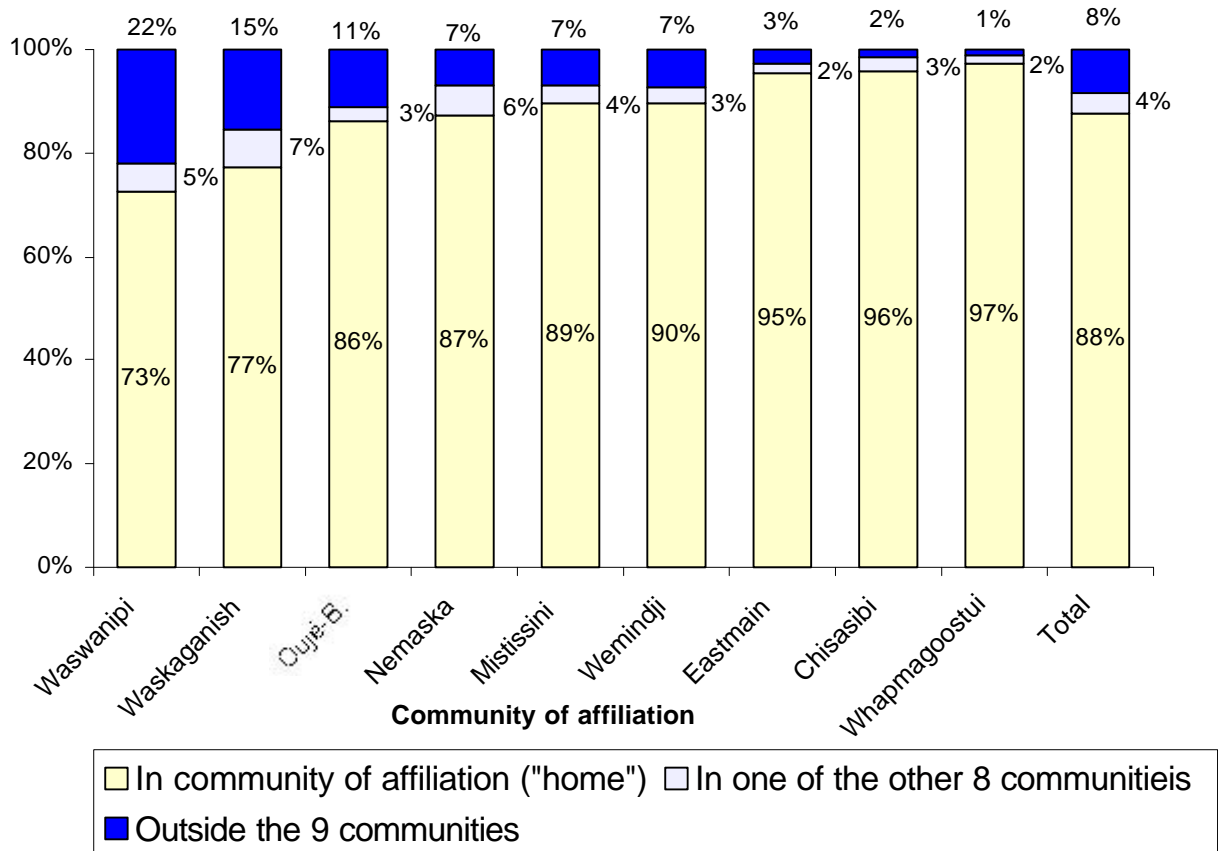
*Note: The accuracy of the place of residence data may vary and may be more or less up to date.*

<sup>12</sup> Includes both “outside Aboriginal community” (hors communautés autochtones) and “out of territory” (hors territoire).

TABLE 1.1.7: CREE BENEFICIARIES, BY PLACE OF RESIDENCE AND PERIOD (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES).

Residence	1994	1996	1998	2000
In 9 communities	10449	11087	11692	12220
All other places	1150	1167	1089	1115
% In other places	11.0%	10.5%	9.3%	9.1%

CHART 1.1B: PLACE OF RESIDENCE OF CREE BENEFICIARIES BY COMMUNITY OF AFFILIATION, JULY 2000 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES)



**TABLE 1.1.8 REGISTERED INDIAN POPULATION RESIDING IN EYYOU ISTCHEE, 1972-99 (INDIAN AND NORTHERN AFFAIRS)**

	Chis	East	Mist	Nem	Oujé	Wask	Was	Wem	Whap	Total
1972	1345	245	1376	117	0	681	461	498	338	<b>5061</b>
1973	1401	247	1440	48	0	767	469	515	339	<b>5226</b>
1974	1444	260	1480	48	0	781	474	544	359	<b>5390</b>
1975	1486	262	1530	49	0	791	472	537	362	<b>5489</b>
1976	1570	282	1542	48	0	807	600	548	360	<b>5757</b>
1977	1610	281	1615	89	0	821	634	572	364	<b>5986</b>
1978	1628	284	1620	108	0	844	644	587	366	<b>6081</b>
1979	1682	301	1675	138	0	860	660	616	371	<b>6303</b>
1980	1694	303	1698	129	0	887	692	653	373	<b>6429</b>
1981	1690	299	1721	123	0	904	696	663	373	<b>6469</b>
1982	1774	315	1764	146	0	1045	713	683	370	<b>6810</b>
1983	1796	323	1735	214	0	1052	731	696	394	<b>6941</b>
1984	1811	317	1733	221	0	1048	742	698	401	<b>6971</b>
1985	1835	321	1939	227	0	1092	772	698	403	<b>7287</b>
1986	1885	322	2000	221	0	1122	798	725	406	<b>7479</b>
1987	1938	322	2073	237	0	1148	822	747	408	<b>7695</b>
1988	2114	350	2035	239	0	1213	740	775	459	<b>7925</b>
1989	2155	365	2017	239	0	1167	748	794	465	<b>7950</b>
1990	2277	378	2098	264	0	1231	795	841	494	<b>8378</b>
1991	2412	391	2171	278	0	1295	815	885	509	<b>8756</b>
1992	2442	407	2234	284	NA	1319	850	897	516	<b>8949</b>
1993	2515	429	2300	293	NA	1354	850	919	544	<b>9204</b>
1994	2678	433	2323	300	NA	1390	906	940	570	<b>9540</b>
1995	2771	433	2386	400	NA	1441	917	959	575	<b>9882</b>
1996	2849	437	2445	413	NA	1494	947	987	588	<b>10160</b>
1997	2897	486	2491	420	NA	1526	981	993	600	<b>10394</b>
1998	3008	498	2549	436	NA	1568	996	993	631	<b>10679</b>
1999	3075	514	2588	454	NA	1561	1019	1019	653	<b>10883</b>

**TABLE 1.1.9: CREE BENEFICIARIES OF THE JAMES BAY AGREEMENT BY RESIDENCE, 1999 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES)**

Age	Nem	Mist	Oujé	Was	Wask	East	Wem	Chis	Whap	Total
0-4	52	263	75	132	187	51	111	366	96	<b>1333</b>
5 to 9	71	305	77	134	240	80	114	373	114	<b>1508</b>
10-14	49	250	47	98	193	59	109	354	68	<b>1227</b>
15-19	76	256	56	126	157	50	102	277	51	<b>1151</b>
20-24	47	314	67	122	137	43	116	319	40	<b>1205</b>
25-29	49	270	58	106	169	58	113	329	71	<b>1223</b>
30-34	49	209	52	91	127	54	91	242	64	<b>979</b>
35-39	31	171	31	77	126	28	69	205	51	<b>789</b>
40-44	41	113	25	61	83	26	48	161	32	<b>590</b>
45-49	19	88	20	44	65	20	51	116	17	<b>440</b>
50-54	18	83	18	28	48	14	44	127	23	<b>403</b>
55-59	8	68	9	25	37	11	31	81	17	<b>287</b>
60-64	7	53	7	31	28	10	22	69	15	<b>242</b>
65-69	2	35	6	26	16	13	15	34	14	<b>161</b>
70-74	7	24	4	18	15	11	13	34	9	<b>135</b>
75-++	14	52	6	19	27	19	20	58	12	<b>227</b>
<b>Total</b>	<b>540</b>	<b>2554</b>	<b>558</b>	<b>1138</b>	<b>1655</b>	<b>547</b>	<b>1069</b>	<b>3145</b>	<b>694</b>	<b>11900</b>

TABLE 1.1.10: CREE BENEFICIARIES OF THE JAMES BAY AGREEMENT BY RESIDENCE, 1999, FEMALES ONLY (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES)

Age	Sex	Nem	Mist	Oujé.	Was	Wask	East	Wemi	Chis	Whap	Total
0-4	F	27	129	39	60	92	24	60	181	44	<b>656</b>
5 to 9	F	29	146	31	60	126	35	65	189	54	<b>735</b>
10-14	F	21	125	18	49	99	31	54	164	28	<b>589</b>
15-19	F	37	134	31	56	84	23	55	136	23	<b>579</b>
20-24	F	23	157	37	61	79	18	59	161	18	<b>613</b>
25-29	F	26	129	27	44	85	34	57	158	40	<b>600</b>
30-34	F	21	101	24	44	56	31	34	123	34	<b>468</b>
35-39	F	16	84	12	31	67	13	36	109	27	<b>395</b>
40-44	F	20	64	16	31	34	15	24	82	18	<b>304</b>
45-49	F	7	42	8	18	32	12	30	67	8	<b>224</b>
50-54	F	8	46	12	15	26	5	19	62	13	<b>206</b>
55-59	F	6	38	4	13	18	7	18	48	10	<b>162</b>
60-64	F	5	21	5	22	13	6	13	35	5	<b>125</b>
65-69	F	0	14	4	14	9	6	8	14	10	<b>79</b>
70-74	F	3	13	1	11	7	3	4	12	6	<b>60</b>
75-++	F	9	27	4	11	8	10	7	37	6	<b>119</b>
<b>Total</b>	<b>F</b>	<b>258</b>	<b>1270</b>	<b>273</b>	<b>540</b>	<b>835</b>	<b>273</b>	<b>543</b>	<b>1578</b>	<b>344</b>	<b>5914</b>

TABLE 1.1.11: CREE BENEFICIARIES OF THE JAMES BAY AGREEMENT BY RESIDENCE, 1999, MALES ONLY (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES)

Males Only	Sex	Nem	Mist	Oujé-B	Wasw	Wask	East	Wem	Chis	Whap	Total
0-4	M	25	134	36	72	95	27	51	185	52	677
5 to 9	M	42	159	46	74	114	45	49	184	60	773
10-14	M	28	125	29	49	94	28	55	190	40	638
15-19	M	39	122	25	70	73	27	47	141	28	572
20-24	M	24	157	30	61	58	25	57	158	22	592
25-29	M	23	141	31	62	84	24	56	171	31	623
30-34	M	28	108	28	47	71	23	57	119	30	511
35-39	M	15	87	19	46	59	15	33	96	24	394
40-44	M	21	49	9	30	49	11	24	79	14	286
45-49	M	12	46	12	26	33	8	21	49	9	216
50-54	M	10	37	6	13	22	9	25	65	10	197
55-59	M	2	30	5	12	19	4	13	33	7	125
60-64	M	2	32	2	9	15	4	9	34	10	117
65-69	M	2	21	2	12	7	7	7	20	4	82
70-74	M	4	11	3	7	8	8	9	22	3	75
75-++	M	5	25	2	8	19	9	13	21	6	108
<b>Total</b>	<b>M</b>	<b>282</b>	<b>1284</b>	<b>285</b>	<b>598</b>	<b>820</b>	<b>274</b>	<b>526</b>	<b>1567</b>	<b>350</b>	<b>5986</b>



CHART 1.1C: POPULATION BY AGE, QUEBEC POPULATION COMPARED WITH THE POPULATION OF CREE BENEFICIARIES RESIDING IN EYYOU ISTCHEE (1999)

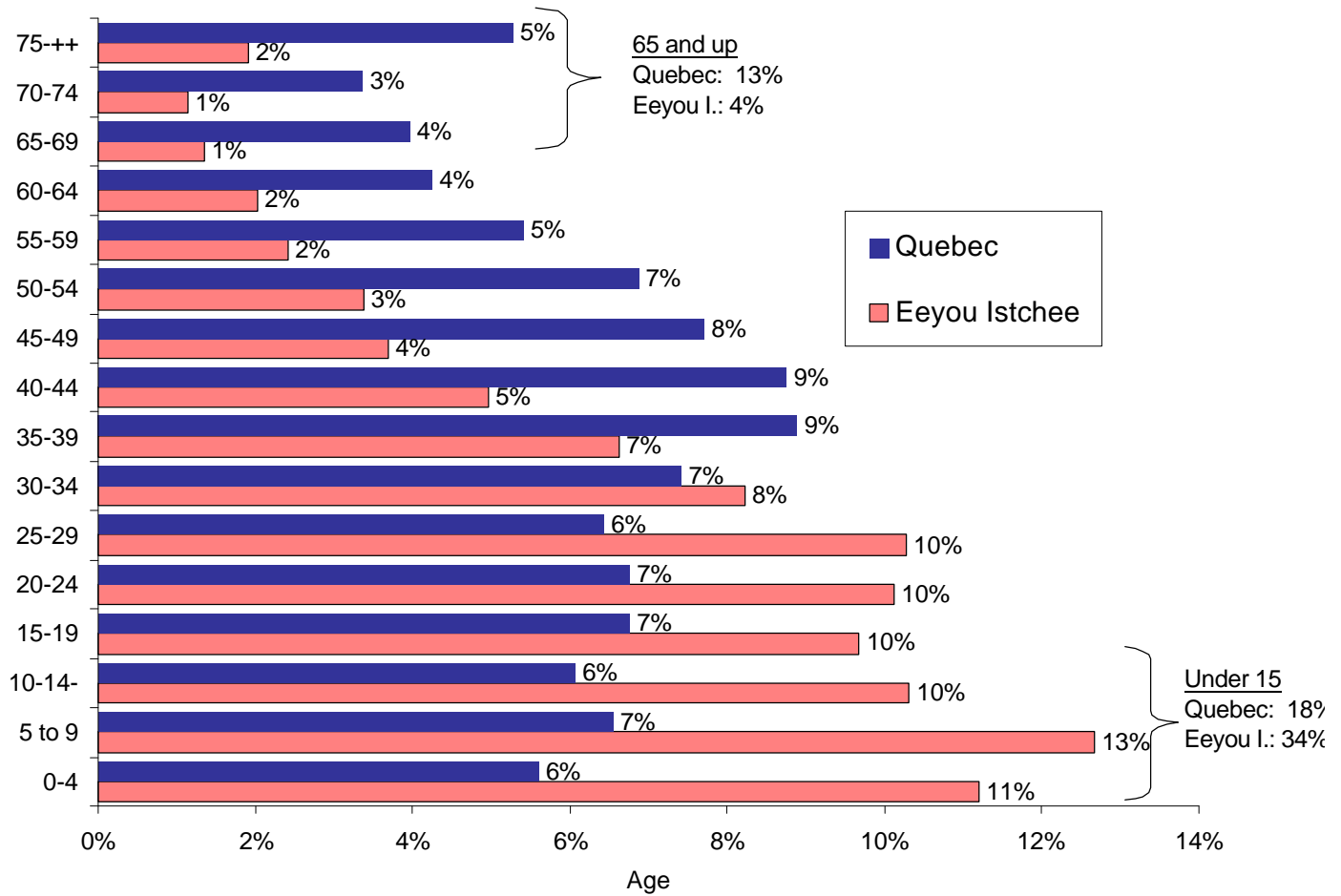


TABLE 1.1.12: POPULATION BY AGE GROUP, INLAND COMMUNITIES AND COASTAL COMMUNITIES COMPARED (1996 CENSUS, STATISTICS CANADA)

Age	Inland	Coast
0 - 4	13.2%	13.6%
5 - 9	11.1%	11.4%
10 - 14	10.0%	9.6%
15 - 19	11.2%	9.0%
20 - 24	10.6%	11.0%
25 - 29	9.7%	9.7%
30 - 34	8.2%	8.5%
35 - 39	6.0%	6.3%
40 - 44	4.6%	4.7%
45 - 49	3.4%	4.2%
50 - 54	3.4%	3.2%
55 - 59	2.7%	2.5%
60 - 64	1.9%	2.0%
65 - 69	1.1%	1.3%
70 - 74	0.9%	1.1%
75 +	1.9%	1.7%
<b>Total</b>	<b>100%</b>	<b>100%</b>

TABLE 1.1.13: AGE BREAKDOWN AMONG CREE JBNQA BENEFICIARIES LIVING IN THE 9 COMMUNITIES AND THOSE LIVING OUTSIDE OF THE 9 COMMUNITIES (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES)

Age	In one of the 9 communities (1999)	
	Number	Percent
0-4	1333	11%
5-14	2735	23%
15-24	2536	20%
25-34	2202	19%
35-44	1379	12%
45-54	843	7%
55-64	529	4%
65+	523	4%
<b>Total</b>	<b>11,900</b>	<b>100%</b>

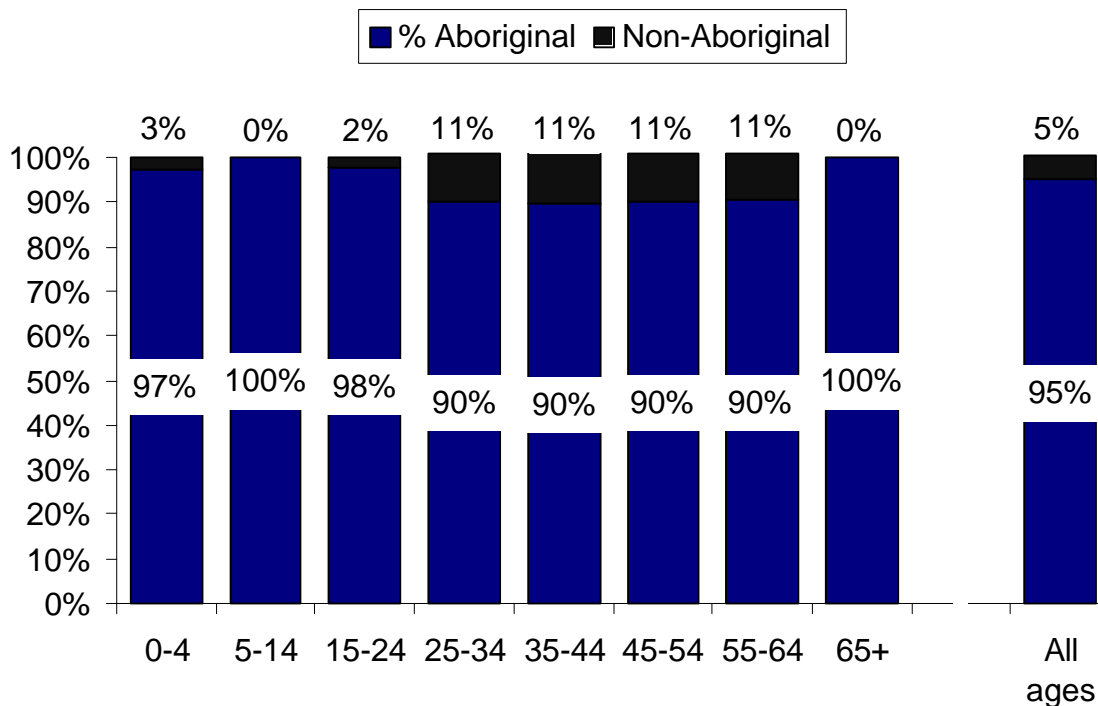
Age	Outside of the 9 communities (2000)	
	Number	Percent
0-4	71	6%
5-14	302	27%
15-24	230	21%
25-34	227	20%
35-44	140	13%
45-54	81	7%
55-64	28	3%
65+	36	3%
<b>Total</b>	<b>1115</b>	<b>100%</b>

*Note: Low percentage of children under 5 living outside the 9 communities may be due to late or non-registration of births.*

TABLE 1.1.14: ABORIGINAL AND NON-ABORIGINAL<sup>13</sup> POPULATION IN EYYOU ISTCHEE, BY AGE AND SEX (1996 CENSUS, STATISTICS CANADA)

Age	Aboriginal		Non-Aboriginal	
	Males	Females	Males	Females
0-4	765	715	25	15
5-14	1195	1160	0	0
15-24	1165	1140	20	35
25-34	940	905	105	100
35-44	535	565	75	50
45-54	360	370	55	25
55-64	225	250	30	20
65+	235	210	0	0
<b>Total</b>	<b>5420</b>	<b>5315</b>	<b>310</b>	<b>245</b>

CHART 1.1D: PERCENT OF THE POPULATION OF EYYOU ISTCHEE THAT IS ABORIGINAL AND NON-ABORIGINAL (1996 CENSUS, STATISTICS CANADA)



<sup>13</sup> See operational definition of “Aboriginal” on page 9.

TABLE 1.1.15: PERCENT OF POPULATION BY AGE GROUP, ABORIGINAL AND NON-ABORIGINAL RESIDENTS COMPARED (1996 CENSUS, STATISTICS CANADA)

	Aboriginal		Non-Aboriginal
0-4	13.8%	0-4	7.2%
5-14	21.9%	5-14	0.0%
15-24	21.5%	15-24	9.9%
25-34	17.2%	25-34	36.9%
35-44	10.2%	35-44	22.5%
45-54	6.8%	45-54	14.4%
55-64	4.4%	55-64	9.0%
65+	4.1%	65+	0.0%
	<b>100%</b>		<b>100%</b>

TABLE 1.1.16: PERCENT OF POPULATION BY SEX, ABORIGINAL AND NON-ABORIGINAL RESIDENTS COMPARED (1996 CENSUS, STATISTICS CANADA)

	Females	Males	Total
Aboriginal	49.5%	50.5%	100%
Non-Aboriginal	44.1%	55.9%	100%

TABLE 1.1.17: PROPORTION OF POPULATION UNDER 15 AND OVER 65, 1979-1999 (RESIDENT CREE JBNQA BENEFICIARIES)

	%<15	%65+
1979	43%	4%
1984	39%	5%
1989	36%	5%
1999	34%	5%

TABLE 1.1.18: POPULATION BY COMMUNITY, INDICATING ABORIGINAL STATUS (1996 CENSUS, STATISTICS CANADA)

	Population <sup>14</sup>	Aboriginal <sup>15</sup>	Non-Aboriginal	% Aboriginal
Nemaska	485	465	25	96%
Mistissini	2335	2230	105	96%
Oujé-Bougoumou	475	450	30	95%
Waswanipi	1085	1035	50	95%
Waskaganish	1550	1480	70	95%
Eastmain	525	500	25	95%
Wemindji	1015	970	45	96%
Chisasibi	3245	3030	215	93%
Whapmagoostui	630	600	30	95%
<b>Eeyou Istchee</b>	<b>11340</b>	<b>10750</b>	<b>585</b>	<b>95%</b>

TABLE 1.1.19: ABORIGINAL POPULATION BY GROUP<sup>16</sup> AND COMMUNITY (1996 CENSUS, STATISTICS CANADA)

	N. American Indian <sup>17</sup>	Métis <sup>18</sup>	Inuit	Other Aboriginal <sup>19</sup>	Total
Nemaska	460	0	0	0	465
Mistissini	2200	25	0	10	2230
Oujé-Bougoumou	425	20	0	0	450
Waswanipi	1020	10	0	0	1035
Waskaganish	1465	15	0	0	1480
Eastmain	485	15	10	0	500
Wemindji	950	15	10	10	970
Chisasibi	2945	25	45	10	3030
Whapmagoostui	595	0	10	0	600
<b>Eeyou Istchee</b>	<b>10535</b>	<b>125</b>	<b>55</b>	<b>35</b>	<b>10750</b>

<sup>14</sup> Sums may differ from reported total due to rounding and respondent non-reporting of certain characteristics.

<sup>15</sup> See operational definition of "Aboriginal" on page 9.

<sup>16</sup> Aboriginal status and categories are based upon self-report.

<sup>17</sup> "North American Indian" is a census term, equivalent to First Nations or Indian, including Cree.

<sup>18</sup> There is no accepted legal definition of Métis. Métis counts are based on individuals' self-reporting and understanding of the term.

<sup>19</sup> Includes individuals reporting "mixed" Aboriginal and non-Aboriginal identity, affiliation or ancestry.

TABLE 1.1.20: SELECTED DEMOGRAPHIC INDICATORS (1999)

Indicator	Eeyou Istchee	Quebec	Registered Indians, on reserve, Canada
% Under 15 (1999)	34%	18%	34%
% Under 20 (1999)	44%	25%	44%
%55 and over (1999)	8.8%	22.3%	9.4%
% 65 and over (1999)	4%	13%	4.7%
Dependency ratio <sup>20</sup> (1999)	.63	.45	.64
% 15-64 year old (1999)	61%	69%	61%
Crude birth rate (1999) <sup>21</sup>	23.9 <sup>22</sup>	10.0 <sup>23</sup>	
Synthetic fertility index <sup>24</sup> (1994-98) <sup>25</sup>	2.84	1.57	
Percent male (1996 <sup>26</sup> )	49%	51%	

<sup>20</sup> Dependency ratio is the ratio of those who are **not** of “working age” (<15 and 65+) divided by those who are of “working age” (15-64). Source: all residents, 1996 Canadian census.

<sup>21</sup> Number of live births divided by the total population multiplied by 1,000.

<sup>22</sup> Based on Public Health Module birth counts for 1999 and census-based population projection from the Institut National de la Statistique du Québec.

<sup>23</sup> <http://www.stat.gouv.qc.ca/donstat/demograp/naissance/401.htm>

<sup>24</sup> Represents the number of babies a woman would have if her fertility patterns through life (passing through each age group) followed the “norms” at a given point in time.

<sup>25</sup> Institut National de la Santé Publique de Québec, Portrait de Santé du Québec et de ses Régions, 2001 (in progress)

<sup>26</sup> 1996 Canadian Census (Statistics Canada)

TABLE 1.1.21: NUMBER OF BIRTHS AND CRUDE BIRTH RATE BY YEAR, 1985-99

	Births <sup>27</sup>	Crude birth rate <sup>28</sup>
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

*Note: The increase in the early 1990's may be related to the creation of Oujé-Bougoumou.*

TABLE 1.1.22: NUMBER OF BIRTHS PER YEAR, SOURCES COMPARED, 1985-98

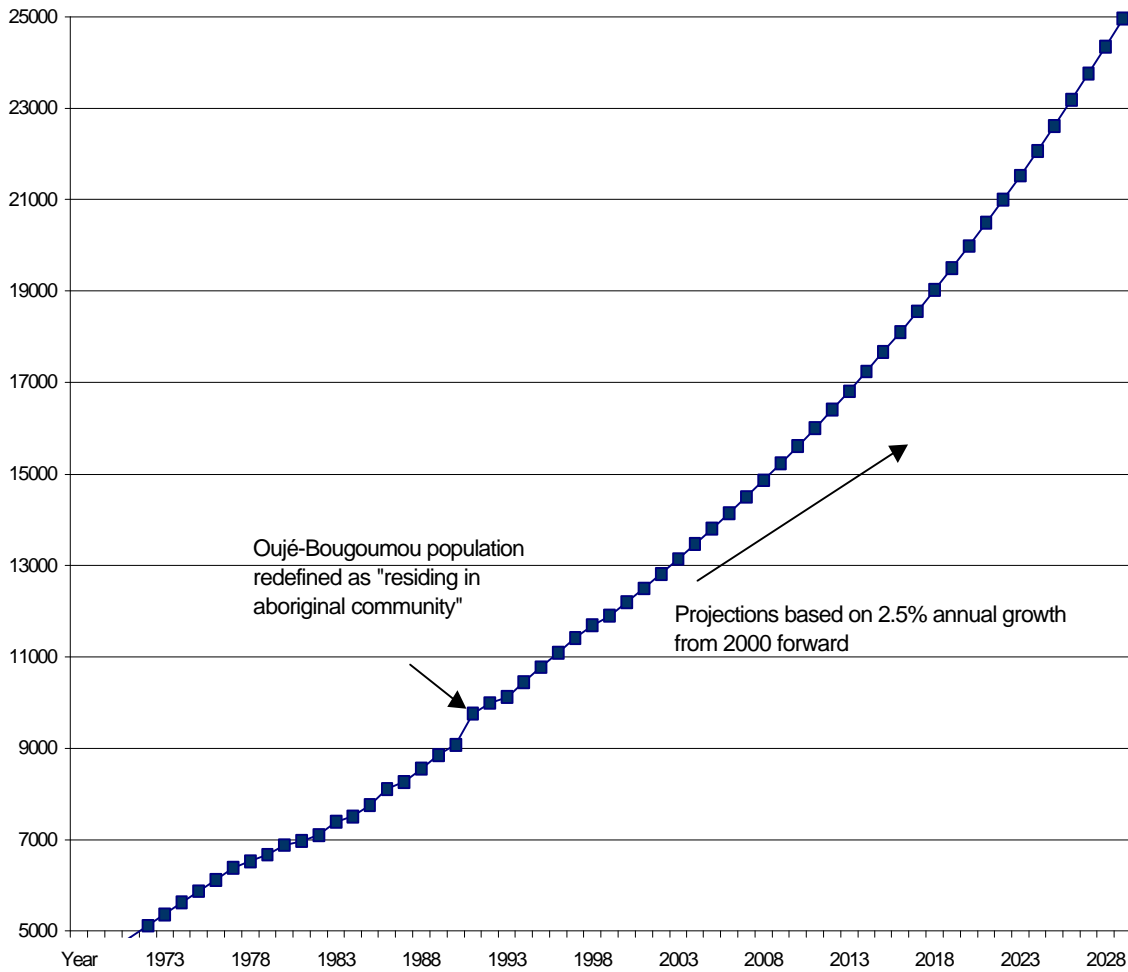
	Public Health Module	INSPQ <sup>29</sup>
1985	225	221
1986	237	268
1987	248	281
1988	256	248
1989	258	263
1990	284	264
1991	272	263
1992	312	310
1993	308	306
1994	330	316
1995	330	327
1996	303	297
1997	300	298
1998	315	301
Total	3978	3963

<sup>27</sup> Birth counts from the Public Health Module- Cree Region of James Bay.

<sup>28</sup> 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.

<sup>29</sup> Institut National de la Statistique du Québec.

CHART 1.1E: ABORIGINAL POPULATION<sup>30</sup> RESIDING IN THE TERRITORY 1969-2027 (2000-2027 PROJECTED)



<sup>30</sup> Data for 1970-1981 from various sources (Tendances Nordiques: Les changements sociaux 1970-1990 chez les Cris et les Inuits du Québec. Simard, JJ, Université Laval, 1996, p. 12. Data from 1982 to 1999 from the JBNQA beneficiary list data from 2000 to 2009 based on projections.



## 1.2. Socio-demographic factors

### Key Points

- Of those 15 and over, 39% were never married (single) compared to 28% for Quebec as a whole.
- Single parents headed 17% of Eeyou Istchee families, compared to 24% for Quebec.
- The average family size, including parents, is 4.5 for two-parent families and 3.1 in one-parent families.
- About 96% of Aboriginal residents have Cree as their mother tongue, 90% speak it at home and 98% are able to speak it.<sup>31</sup>
- English is spoken by 77% and French by 29%. 26% speak both and 20% speak neither.
- 39% of the population moved between 1991 and 1996. 72% of those (28% of the total population) moved within their community.

### Data Sources and Quality

- All data in this section are from the census of the Canadian population, which is held every 5 years throughout Canada.
- Most of the census data are from the spring of 1996 and some are from earlier censuses.
- All residents of Eeyou Istchee and other First Nations communities receive the census “long form” covering a range of questions.
- Census data is based on self-report questionnaires.
- Prior to 1996, and in 1991 in particular, census totals for Eeyou Istchee are considered to be undercounted. In 1991, the undercounting was on the order of 30%. This raises questions about the validity of the data available for that year. Few figures from 1991 are presented here.
- Because of the way language questions are reported, figures on the number of speakers of Cree are based on those who provided “single responses” only.

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<sup>31</sup> Among those providing a single response only.

TABLE 1.2.1: POPULATION 15 YEARS AND OVER BY MARITAL STATUS, COMPARED (1996 CENSUS, STATISTICS CANADA)

	Eeyou Istchee	Canada	Quebec
Never married (single)	39%	27%	28%
Married (including common-law)	55%	60%	58%
Separated	1%	3%	2%
Divorced	1%	5%	6%
Widowed	4%	6%	6%
Total	100%	100%	100%

CHART 1.2A: PROPORTION THAT ARE MARRIED (INCLUDING COMMON-LAW) AMONG THOSE 15 YEARS AND OVER BY COMMUNITY (1996 CENSUS, STATISTICS CANADA)

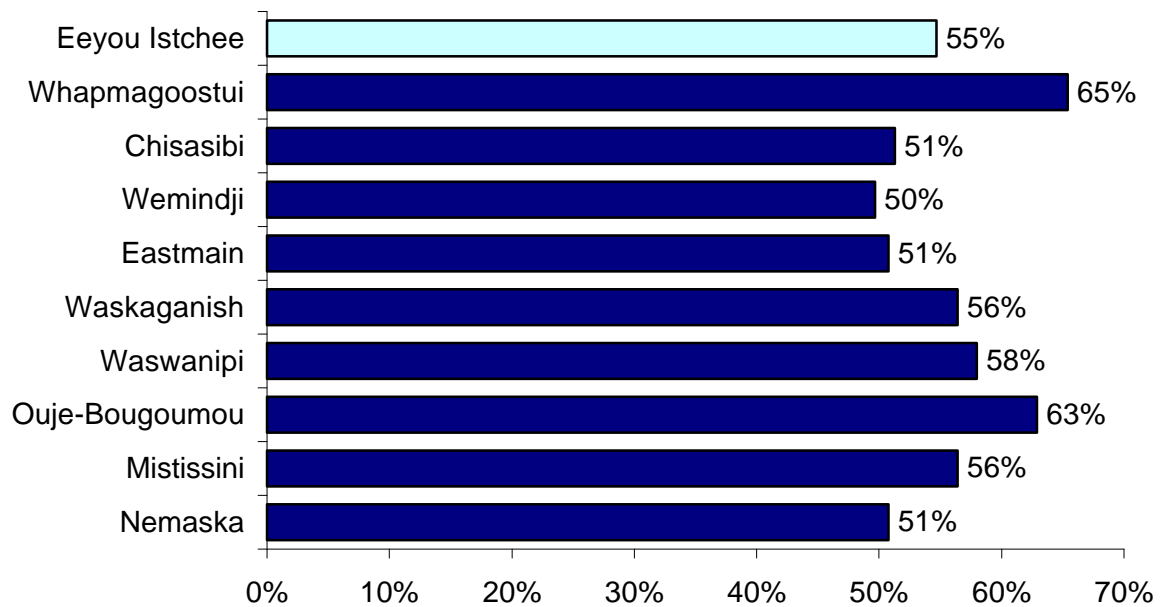


TABLE 1.2.2: PERCENT OF FAMILIES HEADED BY SINGLE PARENTS VS TWO-PARENTS, COMPARED (1996 CENSUS, STATISTICS CANADA)

	Single female parent	Single male parent	Two parents <sup>32</sup>	Total
<b>Eeyou Istchee</b>	<b>13%</b>	<b>4%</b>	<b>83%</b>	<b>100%</b>
Canada	18%	4%	78%	100%
Quebec	20%	4%	76%	100%

*Note: Includes only those families with one or more never-married sons or daughters living at home. Couples and singles without children are excluded.*

TABLE 1.2.3: PERCENT OF FAMILIES HEADED BY SINGLE PARENTS VS TWO-PARENTS, COMPARED (1996 CENSUS, STATISTICS CANADA)

	Single parent	Two-parent	Total
Nemaska	28%	72%	100%
Mistissini	11%	89%	100%
Oujé-Bougoumou	16%	84%	100%
Waswanipi	15%	85%	100%
Waskaganish	16%	84%	100%
Eastmain	20%	80%	100%
Wemindji	19%	81%	100%
Chisasibi	20%	80%	100%
Whapmagoostui	12%	88%	100%
<b>Eeyou Istchee</b>	<b>17%</b>	<b>83%</b>	<b>100%</b>
Quebec	24%	76%	100%
Canada	22%	78%	100%

*Note: Includes only those families with one or more never-married sons or daughters living at home. Couples and singles without children are excluded*

TABLE 1.2.4: PROPORTION OF INDIVIDUALS 65 YEARS AND OLDER LIVING ALONE (1996 CENSUS, STATISTICS CANADA)

Eeyou Istchee	Quebec
3%	30%

<sup>32</sup> Two-parent families include married and common-law couples with children.

TABLE 1.2.5: AVERAGE NUMBER OF PERSONS, BY FAMILY TYPE AND COMMUNITY (1996 CENSUS, STATISTICS CANADA)

	Average number of persons in family <sup>33</sup>	
	Two parent families <sup>34</sup>	One parent families <sup>35</sup>
Nemaska	4.5	3.1
Mistissini	4.6	2.9
Oujé-Bougoumou	3.9	2.8
Waswanipi	4.3	3.0
Waskaganish	4.7	2.9
Eastmain	4.5	3.2
Wemindji	4.5	3.4
Chisasibi	4.6	3.2
Whapmagoostui	4.2	2.7
<b>Eeyou Istchee</b>	<b>4.5</b>	<b>3.1</b>
Quebec	3.1	2.5

*Note: Number of persons includes the parents.*

<sup>33</sup> A census “family” is defined as “a now-married couple (with or without never-married sons and/or daughters of either or both spouses), a couple living common-law (with or without never-married sons and/or daughters of either or both partners) or a lone-parent of any marital status, with at least one never-married son or daughter living in the same dwelling.

<sup>34</sup> Two parent families include husband-wife and common-law families.

<sup>35</sup> One-parent families are also known as single parents or lone parents.

TABLE 1.2.6: MOST COMMON FIRST SPOKEN LANGUAGES (MOTHER TONGUE) AMONG RESIDENTS OF EYYOU ISTCHEE (1996 CENSUS, STATISTICS CANADA)

Mother Tongue	Aboriginal	Non-Aboriginal	All residents
Cree	10220	0	10220
English	305	175	480
French	95	335	430
English and “non-official” <sup>36</sup>	60	0	60
All others and other multiple responses <sup>37</sup>	70	80	150
<b>Total</b> <sup>38</sup>	<b>10750</b>	<b>590</b>	<b>11340</b>

*The number with Cree as their mother tongue is probably higher than 10,200 because some of those reporting multiple mother tongues may have Cree as one of their first languages.*

TABLE 1.2.7: MOST COMMON LANGUAGES SPOKEN AT HOME AMONG RESIDENTS OF EYYOU ISTCHEE (1996 CENSUS, STATISTICS CANADA)

Home language	All residents
Cree	9665
English	760
French	410
English and French	25
English and “non-official” <sup>39</sup>	385
French and “non-official” <sup>40</sup>	35
English, French and “non-official” <sup>41</sup>	25
All others (incl. multiple responses <sup>42</sup> )	15
<b>Total</b> <sup>43</sup>	<b>11340</b>

*The total number who speak Cree at home is probably higher than 9,665 because multiple home languages (e.g. “English and non-official”) may include Cree.*

<sup>36</sup> Refers to individuals reporting two mother tongues: English and another language (other than French).

<sup>37</sup> Includes Inuktitut and Arabic, Montagnais-Naskapi, German, Dutch, Italian, both English and French, both French and “non-official language” and English, French and “non-official language” and others. See previous footnote.

<sup>38</sup> The total is less than the total census population because language information was not available for all residents.

<sup>39</sup> Refers to individuals reporting two home languages: English and another language (other than French)

<sup>40</sup> Refers to individuals reporting two home languages: French and another language (other than English)

<sup>41</sup> Refers to individuals reporting three home languages: English, French and another language.

<sup>42</sup> Includes Inuktitut and Arabic, Montagnais-Naskapi, German, Dutch, Italian, both English and French, both French and “non-official language” and English, French and “non-official language” and others. See previous footnote.

<sup>43</sup> The total is less than the total census population because language information was not available for all residents.

TABLE 1.2.8: MOTHER TONGUE, HOME LANGUAGE AND KNOWLEDGE OF CREE AMONG THE ABORIGINAL POPULATION, BY VILLAGE (1996 CENSUS, STATISTICS CANADA)

Aboriginal population only	(first language)			Home language			(Able to speak)
	Cree		French	Cree		French	
Single responses only*	96%	2%		89%	6%		Cree 97%
Mistissini		1%	1%		4%	0%	
Oujé-Bougoumou	90%		3%	77%		5%	93%
	93%	4%		79%	13%		96%
Waskaganish		3%	1%		5%	1%	
Eastmain	95%		2%	91%		0%	98%
	95%	4%		91%	7%		97%
Chisasibi		2%	1%		3%	0%	
Whapmagoostui	98%		0%	94%		0%	98%
	<b>96%</b>	<b>3%</b>		<b>90%</b>	<b>5%</b>		<b>98%</b>

*Note: The figures presented here are for Aboriginal persons only.*

*tongue or home language questions) were excluded.<sup>45</sup>*

TABLE 1.2.9: KNOWLEDGE OF ENGLISH AND FRENCH BY ABORIGINAL STATUS AND COMPARED WITH QUEBEC AND CANADA (1996 CENSUS, STATISTICS CANADA)

	Canada	Quebec	Eeyou Istchee		
			All	Aboriginal	Non-Aboriginal
Know English	84%	43%	77%	76%	86%
Know French	31%	94%	29%	26%	86%

<sup>44</sup> According to census definition, a respondent that “can speak well enough to conduct a conversation” is deemed to have knowledge of the language.

<sup>45</sup> Out of 11,340 respondents 90 (4%) responded that they had more than one mother tongue and 475 (8%) indicated more than one home language.

TABLE 1.2.10: KNOWLEDGE OF ENGLISH AND FRENCH BY COMMUNITY AND

Knowledge of "official" languages		French
Nemaska	81%	28%
Mistissini	75%	26%
Oujé-Bougoumou	88%	47%
Waswanipi	81%	52%
Inland	78%	35%
Waskaganish	80%	32%
Eastmain	70%	30%
Wemindji	83%	7%
Chisasibi	75%	29%
Whapmagoostui	69%	7%
Coastal	76%	24%
<b>Eeyou Istchee</b>	<b>77%</b>	<b>29%</b>
Québec	43%	94%
Canada	84%	31%

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

TABLE 1.2.11: KNOWLEDGE OF ENGLISH AND FRENCH BY COMMUNITY AND COMPARED WITH QUEBEC AND CANADA (1996 CENSUS, STATISTICS CANADA)

"official" languages <sup>46</sup>	only	French only	Both English and French	Either English or French or Both	Neither English nor French
Nemaska	53%	0%	28%	81%	16%
Mistissini	52%	3%	23%	78%	22%
Oujé-Bougoumou	43%	2%	45%	90%	13%
Waswanipi	33%	4%	48%	86%	14%
Inland	46%	3%	32%	82%	18%
Waskaganish	50%	2%	30%	82%	18%
Eastmain	44%	4%	26%	73%	27%
Wemindji	77%	1%	6%	84%	17%
Chisasibi	49%	3%	26%	78%	22%
Whapmagoostui	62%	0%	7%	69%	30%
Coastal	54%	2%	22%	78%	22%
<b>Eeyou Istchee</b>	<b>51%</b>	<b>3%</b>	<b>26%</b>	<b>80%</b>	<b>20%</b>
Québec	5%	56%	38%	99%	1%
Canada	67%	14%	17%	98%	2%

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

TABLE 1.2.12: KNOWLEDGE<sup>46</sup> OF ENGLISH AND FRENCH BY AGE (1996 CENSUS, STATISTICS CANADA)

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%
<b>Total</b>	<b>77%</b>	<b>29%</b>	<b>26%</b>	<b>20%</b>

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

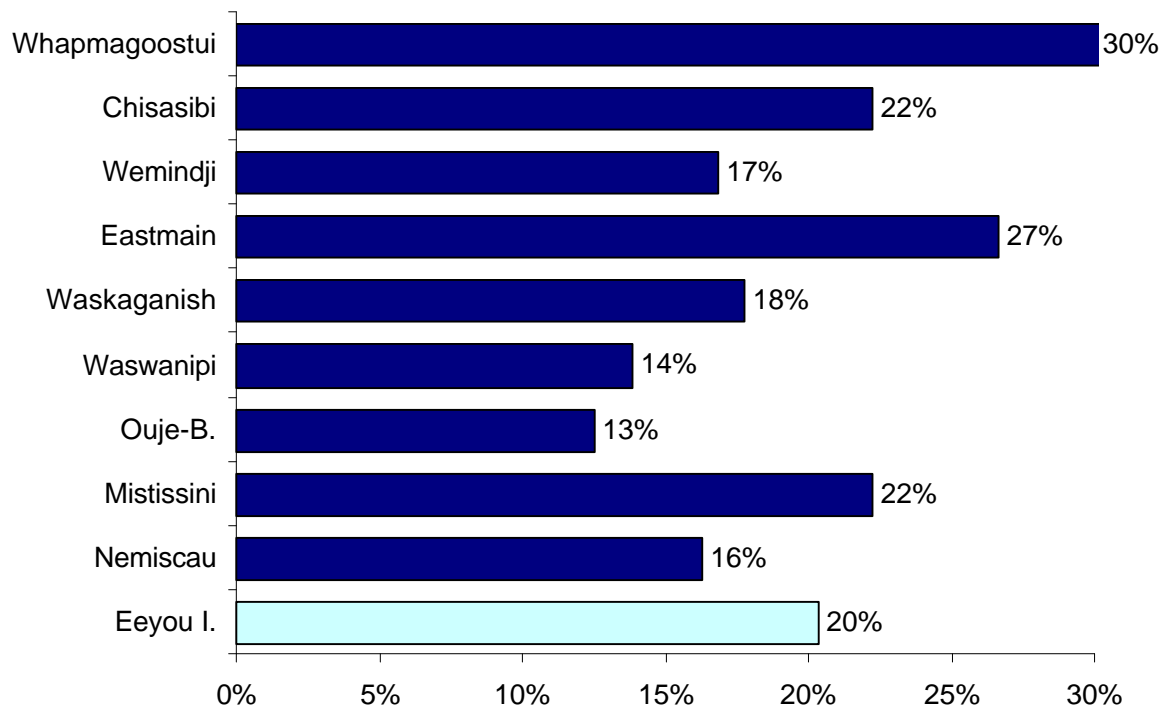
<sup>46</sup> Knowledge of English or French is defined as the ability to carry on a "basic conversation".



TABLE 1.2.13: KNOWLEDGE OF ENGLISH AND FRENCH BY PERIOD (1986 & 1996 CENSUS, STATISTICS CANADA)

	speaks French	speaks English	English only	French only	Both English and French	Either English or French	Neither English nor French
1986 <sup>47</sup>	20%	64%	50%	7%	14%	71%	29%
1996	29%	77%	51%	3%	26%	80%	20%

CHART 1.2B: PERCENT OF POPULATION THAT SPEAKS NEITHER FRENCH NOR ENGLISH (1996 CENSUS, STATISTICS CANADA)



<sup>47</sup> 1986 data as reported in the demographic and socio-economic situation of the Cree population: principal results of the 1986 census. Lavallée et al, Northern Quebec Module, Community Health Department, Montreal General Hospital. 1992.

TABLE 1.2.14: PROPORTION OF RESIDENTS THAT MOVED (CHANGED RESIDENCE<sup>48</sup>) BETWEEN 1991 AND 1996 (1996 CENSUS, STATISTICS CANADA)

1996 Residents of	Moved in 5 years prior to 1996
Nemaska	30%
Mistissini	39%
Oujé-Bougoumou	100%
Waswanipi	52%
Waskaganish	38%
Eastmain	26%
Wemindji	29%
Chisasibi	32%
Whapmagoostui	49%
<b>Eeyou Istchee</b>	<b>39%</b>
Canada	43%

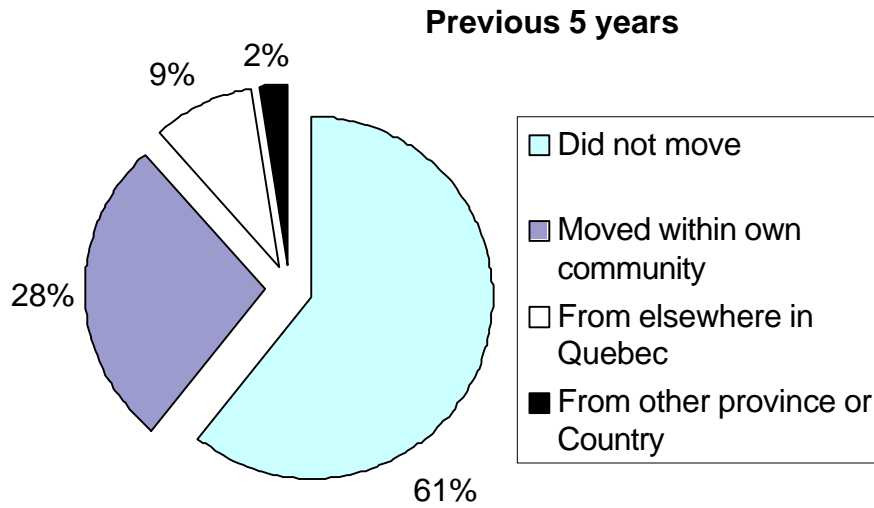
*Note: Oujé-Bougoumou was created in 1991.*

TABLE 1.2.15: NUMBER OF PEOPLE BY MOVING STATUS, YEAR PRIOR AND 5 YEARS PRIOR TO 1996 CENSUS (1996 CENSUS, STATISTICS CANADA)

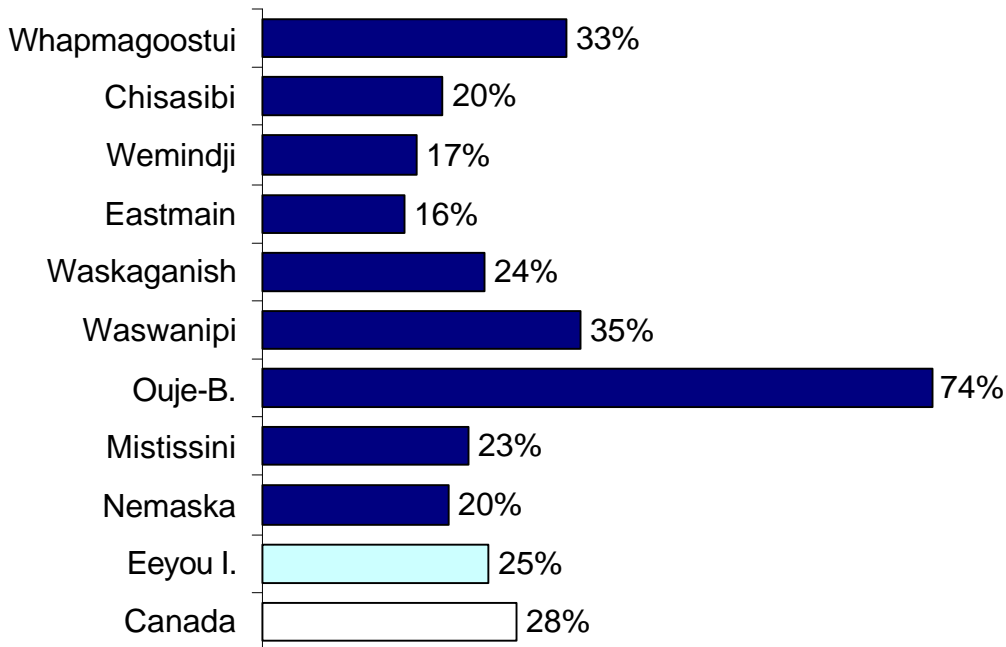
	Did not move	Moved within community	Moved from elsewhere in Quebec	Moved from other province	Moved from other country
Previous year	9475	1110	360	100	10
Previous 5 years	5965	2700	915	205	30

<sup>48</sup> Defined as “changed address”. In other words, moves within a community, moves between communities and moves to all other places are counted.

**CHART 1.2C: PROPORTION OF RESIDENTS BY MOVING STATUS IN 5 YEARS PRIOR TO 1996 CENSUS (1996 CENSUS, STATISTICS CANADA)**



**CHART 1.2D: PERCENT OF POPULATION WHO MOVED (ANY CHANGE OF RESIDENCE) IN PREVIOUS YEAR (1996 CANADIAN CENSUS, STATISTICS CANADA)**



### 1.3. Socio-economic factors

#### Key Points

- Of those 15 and up, 36% have completed high school vs. 65% for Quebec as a whole (1996)
- Of those 15 and over in Eeyou Istchee, 2% of the Aboriginal population has a university degree compared to 56% of the non-Aboriginal population. The figure for Quebec as a whole is 12%.
- In 1981, 53% of those over 15 had less than a grade 9 education. By 1996, the figure dropped to 35%.
- The unemployment rate among those 15 and up is 17% in Eeyou Istchee, compared with 12% for Quebec and 10% for Canada.
- Among people under 40, the unemployment rate among is about one and a half times that for Quebec as a whole, but among those 40 and over the rate in Eeyou Istchee is lower.
- Among those employed in Eeyou Istchee, only 39% had full-year, full-time jobs compared with 51% among Quebecois in general.
- The welfare rate in Eeyou Istchee was 5.0%, compared with 9.6% for Quebec as a whole.
- Average total income among men in Eeyou Istchee is \$21,578 (vs. \$28,436 for Quebec) and \$15,536 for women (vs. \$17,836 for Quebec)
- The average total income for Aboriginals in Eeyou Istchee is less than half that of non-Aboriginals in the territory (Aboriginal men: \$19,542, women: \$14,131 vs. non-Aboriginal men: \$45,071 and women: \$36,012)
- The average number of persons per room is 0.8 compared to 0.4 for Quebec.
- The proportion of occupied dwellings with more than one person per room is 24% compared to 1% for Quebec

#### Data Sources and Quality

- Primarily census data. See notes in section 1.2
- Comparisons of income levels are difficult to compare directly with other populations because:
  - First Nations generally do not pay income tax when employed on reserve.
  - An important proportion of some households' "incomes" may be non-monetary in nature (e.g. hunting, fishing, sharing)
  - Costs of living in the North are higher.
  - The *Cree Hunter and Trappers Income Security Program* is a unique program that does not fit cleanly within standard census definitions (see below).
- The "**mixed economy**" (combination of wage and land-based economies) that is characteristic of Eeyou Istchee makes **comparisons of employment, welfare and income figures with other jurisdictions difficult to interpret**. The

standard statistical indicators reflect only the wage and cash based aspect of the economy. The significant value of non-monetary inputs, such as subsistence hunting and fishing, is not clearly accounted for, nor are they measured in standardized ways.

- The *Cree Hunter and Trappers Income Security Program (ISP)* provided income to 2687 people in 1998-99. There is no equivalent program elsewhere in Canada. It is a form of guaranteed annual income program. Those on the program are not eligible to receive welfare. Both husband and wife are classed as beneficiaries if each meets the program criteria. The existence of the program complicates comparisons with employment rates in other jurisdictions.
- To compare (un)employment rates derived from the census, it is crucial to know **whether or not beneficiaries of the ISP were counted as “employed.”** According to Statistics Canada officials<sup>49</sup>, a person who trapped or worked in the bush full-time should have been considered self-employed. They indicated that most of the men receiving ISP benefits self-identified as self-employed trappers and were therefore counted as self-employed. They said that women receiving ISP benefits were often recorded as **not** employed, unless they indicated that they were “trappers”. The issue of ISP recipients were coded in the census remains somewhat unclear. It is not possible to quantify the effect on Statistics Canada’s employment figures.
- The employment-to-population figures, overall (for those 15 and up), appear at first glance close to those for Quebec as a whole, but there are some important issues to consider in comparing the figures:
  - Compared to Quebec, a greater proportion of employed persons work in part-time jobs. This fact is reflected in the overall income figures.
  - Compared to Eeyou Istchee, the relatively high proportion of people over 65 in Quebec (many of whom are retired) tends to decrease the employment figures for Quebec in terms. When those over 65 are removed from the statistics, employment-to-population levels in Eeyou Istchee are substantially lower than in Quebec.
  - When non-Aboriginal persons are excluded, the Eeyou Istchee employment-to-population figures drop considerably.
  - Some individuals receiving income from the ISP may be counted as employed (see discussion, above.)
- A comparison of the unemployment rates for people aged 20-64 provides a different picture.

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<sup>49</sup> Source: Dominique Castonguay and Patricia Simon of Statistics Canada’s Quebec regional office, based on a telephone interview by Jill Torrie (Public Health Module- Cree Region of James Bay).

**TABLE 1.3.1: HIGHEST LEVEL OF SCHOOLING COMPLETED AMONG THOSE 15 YEARS AND OVER (1996 CENSUS, STATISTICS CANADA)**

	Nem	Mist	Oujé	Wasw	Wask	East	Wem	Chis	Whap	Eeyou Istchee
Less than grade 9	135	715	120	255	270	90	190	670	150	<b>2590</b>
Grade 9 -13, no secondary graduation certificate	70	295	55	165	370	115	290	700	95	<b>2145</b>
Grade 9 -13 with secondary graduation certificate	15	45	10	55	65	45	50	125	45	<b>450</b>
Non-University education, no certificate or diploma	20	95	45	65	90	20	60	140	30	<b>570</b>
Non-University education with certificate or diploma	55	285	45	95	105	35	55	285	40	<b>990</b>
University without degree	0	50	15	30	30	15	20	75	15	<b>245</b>
University with bachelor's degree or higher	25	85	20	30	60	25	30	135	15	<b>430</b>
<b>Total 15 years and up</b>	<b>320</b>	<b>1570</b>	<b>310</b>	<b>695</b>	<b>990</b>	<b>345</b>	<b>695</b>	<b>2130</b>	<b>390</b>	<b>7420</b>

**TABLE 1.3.2: LEVEL OF EDUCATION AMONG THOSE 15 YEARS AND OVER, BY COMMUNITY (1996 CENSUS, STATISTICS CANADA)**

	Less than grade 9 education	High school certificate or higher	University bachelors degree or higher
Nemaska	42%	36%	8%
Mistissini	46%	36%	5%
Oujé-Bougoumou	38%	44%	6%
Waswanipi	37%	38%	4%
Waskaganish	28%	36%	6%
Eastmain	27%	42%	7%
Wemindji	27%	33%	4%
Chisasibi	31%	36%	6%
Whapmagoostui	38%	39%	4%
<b>Eeyou Istchee</b>	<b>35%</b>	<b>36%</b>	<b>6%</b>
Quebec	18%	65%	12%
Canada	12%	65%	13%

*Note: These are selected indicators. They do not add up to 100% because they are neither exhaustive nor mutually exclusive categories.*

*Older people are, on average, less educated and the population in Quebec and Canada is older than in Eeyou Istchee. If the education figures were age-adjusted, we would expect even greater differences in education levels.*

*High school graduation is from grade 11 (secondary 5) in Quebec. In other parts of Canada, it is grade 12 or 13.*

TABLE 1.3.3: PROPORTION OF PERSONS 15 AND OVER WITH LESS THAN 9 YEARS OF SCHOOLING, BY PERIOD (VARIOUS YEARS, CENSUS, STATISTICS CANADA)

1981 <sup>50</sup>	1986	1991 <sup>51</sup>	1996
52.9%	56.2%	45.4%	35%

TABLE 1.3.4: PROPORTION OF PERSONS 15 AND OVER WITH A UNIVERSITY DEGREE, BY PERIOD (1986 & 1996 CENSUS, STATISTICS CANADA)

1986 <sup>52</sup>	1991	1996
2.6%	3.3%	5.7%

TABLE 1.3.5: LEVEL OF EDUCATION AMONG THOSE 15 YEARS AND OVER, BY ABORIGINAL STATUS (1996 CENSUS, STATISTICS CANADA)

	% With <grade 9	% With high school certificate or higher	University bachelor's degree or higher
Aboriginal	38%	32%	2%
Non-Aboriginal	0%	97%	56%
All residents	35%	36%	6%

*Note: These are selected indicators. They do not add up to 100% because they are neither exhaustive nor mutually exclusive categories.*

<sup>50</sup> 1981 and 1986 data as reported in the demographic and socio-economic situation of the Cree population: principal results of the 1986 census. Lavallée et al, Northern Quebec Module, Community Health Department, Montreal General Hospital. 1992.

<sup>51</sup> 1991 data as reported in Indicateurs Sociosanitaires: Le Québec et ses régions, Direction générale de la santé publique (MSSS), May 1997.

<sup>52</sup> 1986 data as reported in the demographic and socio-economic situation of the Cree population: principal results of the 1986 census. Lavallée et al, Northern Quebec Module, Community Health Department, Montreal General Hospital. 1992.

TABLE 1.3.6: NUMBER EMPLOYED, UNEMPLOYED AND NOT IN THE LABOUR FORCE, 15 YEARS AND OVER, BY COMMUNITY (1996 CENSUS, STATISTICS CANADA)

15 years and over	In labour force		Not in labour force	Total
	Employed	Unemployed		
Nemaska	210	15	100	<b>325</b>
Mistissini	755	215	585	<b>1560</b>
Oujé-Bougoumou	180	30	110	<b>310</b>
Waswanipi	300	105	285	<b>690</b>
Waskaganish	605	80	295	<b>980</b>
Eastmain	200	30	105	<b>335</b>
Wemindji	410	60	235	<b>705</b>
Chisasibi	1295	270	560	<b>2125</b>
Whapmagoostui	255	30	100	<b>395</b>
<b>Eeyou Istchee</b>	<b>4210</b>	<b>850</b>	<b>2365</b>	<b>7425</b>

*Note: Figures and totals may not perfectly correspond due to rounding.*

*“Employed”:* persons not living in institutions who, during the week prior to Census Day: (a) Did any work at all for pay or in self-employment (part or full time); or (b) Were absent from their job or business for the entire week because of vacation, illness, a labour dispute at their place of work or other reasons.

*“Unemployed”:* persons not living in institutions who, during the week prior to Census Day, were without paid work and were available for work and either: (a) Had actively looked for work in the past four weeks; or (b) Were on temporary lay-off and expected to return to their job; or (c) Had definite arrangements to start a new job in four weeks or less.

*“Not in Labour Force”:* persons not living in institutions who, in the week prior to Census Day, were neither employed nor unemployed. It includes persons who did not work for pay or in self-employment in the week prior to enumeration and (a) did not look for paid work in the four weeks prior to enumeration, (b) were not on temporary lay-off and (c) did not have a new job to start in four weeks or less. It also includes persons who looked for work during the last four weeks but were not available to start work in the week prior to enumeration.

See discussion under “data sources and quality” section (p. 36)



TABLE 1.3.7: NUMBER EMPLOYED, UNEMPLOYED AND NOT IN THE LABOUR FORCE, 20 TO 64 YEARS OF AGE, BY COMMUNITY (1996 CENSUS, STATISTICS CANADA)

20-64 years	In labour force		Not in labour force	Total
	Employed	Unemployed		
Nemaska	180	20	45	<b>250</b>
Mistissini	695	195	305	<b>1190</b>
Oujé-Bougoumou	165	20	65	<b>260</b>
Waswanipi	285	75	150	<b>535</b>
Waskaganish	550	70	160	<b>790</b>
Eastmain	180	35	60	<b>270</b>
Wemindji	370	55	130	<b>550</b>
Chisasibi	1175	230	310	<b>1715</b>
Whapmagoostui	230	30	40	<b>310</b>
<b>Eeyou Istchee</b>	<b>3830</b>	<b>730</b>	<b>1265</b>	<b>5870</b>

*Note: See definitions under table 1.36. Also, see discussion under “data sources and quality” section, above.*

TABLE 1.3.8: PERCENT OF THOSE 20-64 YEARS OF AGE THAT WERE IN THE LABOUR FORCE, COMPARED (1996 CENSUS, STATISTICS CANADA)

Eeyou Istchee	Canada	Quebec
78%	79%	76%

*Note: See definitions under table 1.36.*

TABLE 1.3.9: UNEMPLOYMENT RATE AND EMPLOYMENT-TO-POPULATION RATIO AMONG THOSE 15 YEARS AND OVER, BY COMMUNITY (1996 CENSUS, STATISTICS CANADA)

15 years and over	Unemployment rate <sup>53</sup>	Employment-to-population ratio <sup>54</sup>
Nemaska	7%	65%
Mistissini	22%	48%
Oujé-Bougoumou	14%	58%
Waswanipi	26%	44%
Waskaganish	12%	62%
Eastmain	13%	60%
Wemindji	13%	58%
Chisasibi	17%	61%
Whapmagoostui	10%	65%
<b>Eeyou Istchee</b>	<b>17%</b>	<b>57%</b>
Quebec	12%	55%
Canada	10%	59%

*Note: The employment-to-population ratio and the unemployment rate are not opposites (see footnotes for definitions).*

*See definitions under table 1.36. Also, see discussion under “data sources and quality” section, above.*

<sup>53</sup> The unemployment rate is calculated by dividing the number unemployed by those “in the labour force”. To be in the work force, one must be either employed or “actively seeking work”.

<sup>54</sup> The “employment to population ratio” is calculated by dividing the number of people employed by the population (non-institutionalized, 15 years and over).

TABLE 1.3.10: EMPLOYMENT-TO-POPULATION RATIO AND UNEMPLOYMENT RATE AMONG THOSE 20 TO 64 YEARS OF AGE, BY COMMUNITY (1996 CENSUS, STATISTICS CANADA)

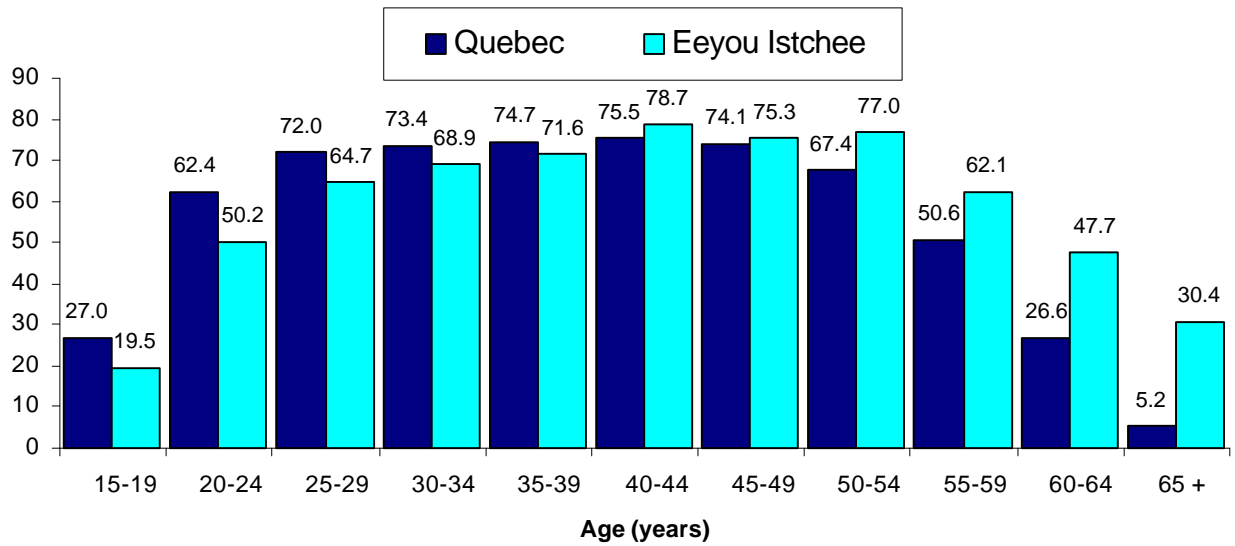
20-64 years	Unemployment rate	Employment to population ratio
Nemaska	10%	72%
Mistissini	22%	58%
Oujé-Bougoumou	11%	63%
Waswanipi	21%	53%
Waskaganish	11%	70%
Eastmain	16%	67%
Wemindji	13%	67%
Chisasibi	16%	69%
Whapmagoostui	11%	74%
<b>Eeyou Istchee</b>	<b>16%</b>	<b>65%</b>
Quebec	11%	67%
Canada	10%	71%

*Note: See previous table's notes.*

TABLE 1.3.11: UNEMPLOYMENT RATE BY AGE, COMPARED (1996 CENSUS, STATISTICS CANADA)

Age (years)	Quebec	Eeyou Istchee
15-19	22.9	35.3
20-24	17.1	27.1
25-29	12.4	20.0
30-34	11.0	17.6
35-39	10.5	13.9
40-44	10.2	7.5
45-49	9.7	10.8
50-54	9.6	6.8
55-59	10.8	10.3
60-64	10.7	0.0
65 and over	8.3	0.0
<b>Total</b>	<b>11.8</b>	<b>16.9</b>

CHART 1.3A: EMPLOYMENT-TO-POPULATION RATIO BY AGE, COMPARED (1996 CENSUS, STATISTICS CANADA)



*Note: See discussion under “data sources and quality” section, above.*

TABLE 1.3.12: EMPLOYMENT-TO-POPULATION RATIO BY AGE AND SEX (1996 CENSUS, STATISTICS CANADA)

Age (years)	Male	Female	Both
15-19	16.5	21.6	19.5
20-24	51.6	46.5	50.2
25-29	64.9	64.5	64.7
30-34	76.0	65.2	68.9
35-39	69.4	76.5	71.6
40-44	80.8	82.0	78.7
45-49	83.3	70.7	75.3
50-54	80.0	84.2	77.0
55-59	57.1	69.0	62.1
60-64	62.5	70.0	47.7
65 and +	34.7	25.0	30.4
<b>Total</b>	<b>58.5</b>	<b>54.5</b>	<b>56.8</b>

*Note: See discussion under “data sources and quality” section, above.*

TABLE 1.3.13: EMPLOYMENT TO POPULATION RATIO AMONG THOSE 15 YEARS AND OVER, BY PERIOD (VARIOUS YEARS, CENSUS, STATISTICS CANADA)

1981 <sup>55</sup>	1986	1991	1996
38.1%	31.4%	43.3%	57%

*Note: See discussion under “data sources and quality” section, above.*

TABLE 1.3.14: EMPLOYMENT-TO-POPULATION RATIO, BY AGE GROUP AND SEX (1996 CENSUS, STATISTICS CANADA)

	15-24	25+	All, 15+
Men	35%	69%	<b>59%</b>
Women	36%	63%	<b>55%</b>
<b>Men and Women</b>	<b>36%</b>	<b>63%</b>	<b>57%</b>

*Note: See discussion under “data sources and quality” section, above.*

<sup>55</sup> 1981 and 1986 data as reported in the demographic and socio-economic situation of the Cree population: principal results of the 1986 census. Lavallée et al, Northern Quebec Module, Community Health Department, Montreal General Hospital. 1992. (Note: error on page 31 corrected here.)

TABLE 1.3.15: EMPLOYMENT-TO-POPULATION RATIO AND UNEMPLOYMENT RATE AMONG THOSE 20-64 YEARS OF AGE, BY SEX, COMPARED (1996 CENSUS, STATISTICS CANADA)

	Employment to population ratio			Unemployment rate		
	Men	Women	Both	Men	Women	Both
Quebec	74%	60%	<b>67%</b>	10%	7%	<b>9%</b>
Eeyou Istchee	68%	62%	<b>65%</b>	18%	14%	<b>16%</b>

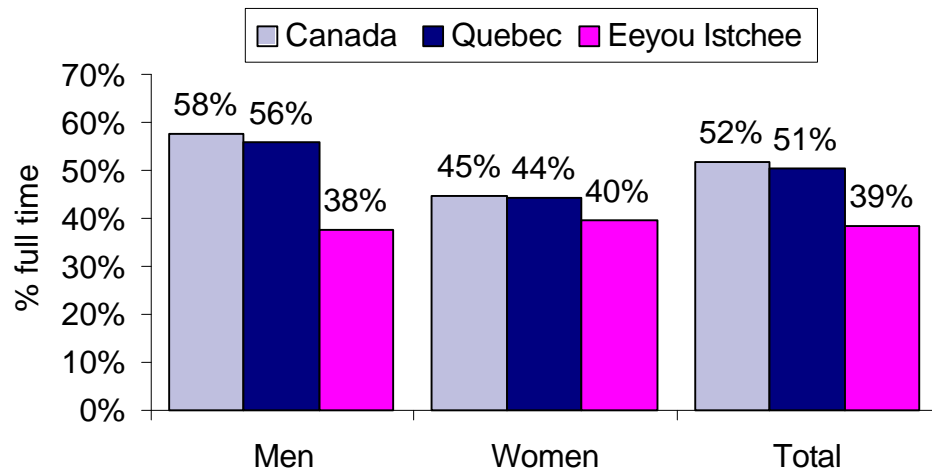
*Note: See notes under table 1.3.6 and “data sources and quality” section, above.*

TABLE 1.3.16: EMPLOYMENT-TO-POPULATION RATIO FOR THOSE 25 YEARS AND OVER BY SEX AND ABORIGINAL STATUS (1996 CENSUS, STATISTICS CANADA)

	Employment to population ratio			Unemployment rate		
	Men	Women	<b>Both</b>	Men	Women	<b>Both</b>
Aboriginal	66%	61%	<b>64%</b>	18%	11%	<b>15%</b>
Non-Aboriginal	91%	90%	<b>92%</b>	4%	0%	<b>3%</b>
<b>All residents</b>	<b>69%</b>	<b>63%</b>	<b>66%</b>	<b>16%</b>	<b>10%</b>	<b>14%</b>

*Note: See notes under table 1.3.6 and discussion under “data sources and quality” section, above.*

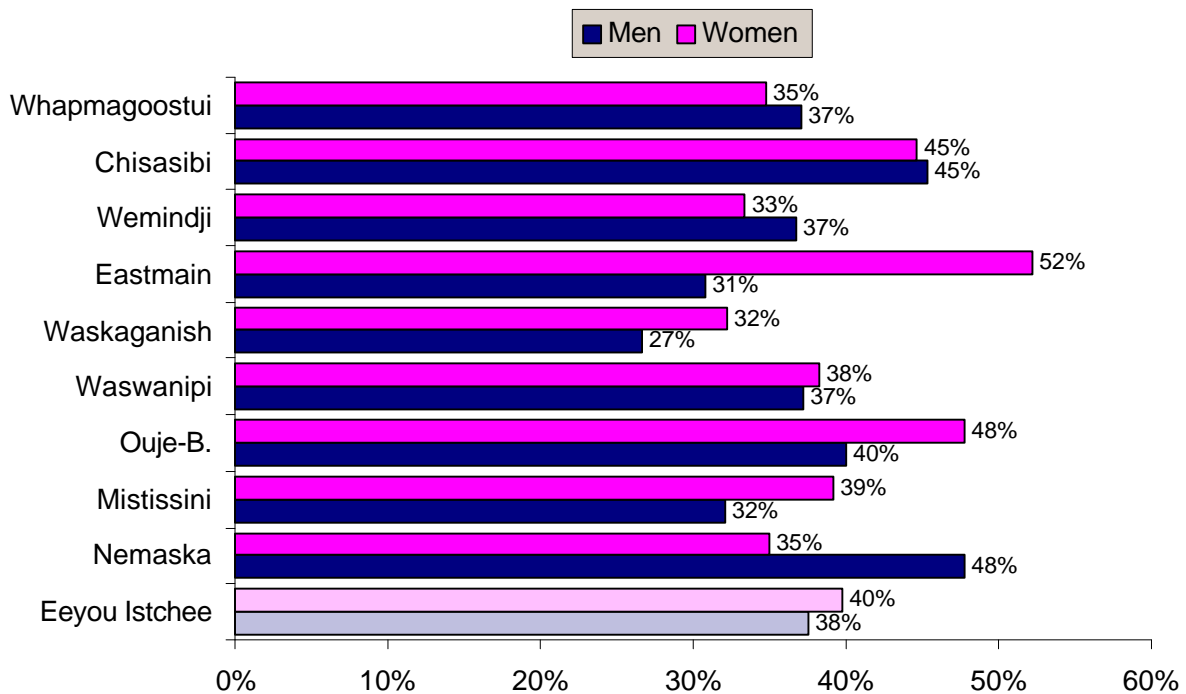
CHART 1.3B: PROPORTION OF WORKERS, 15 YEARS AND OVER THAT WERE EMPLOYED FULL YEAR, FULL TIME IN 1995, BY SEX; QUEBEC AND EYYOU ISTCHEE COMPARED (1996 CENSUS, STATISTICS CANADA)



*Note: Calculated by dividing the number of people who were employed full time for the whole year by all those that earned any employment income in 1995.*

*Although the levels of employment in Quebec and Eeyou Istchee may appear to be similar, it is important to note that workers in Eeyou Istchee are less likely to be employed full-time. The relatively high proportion of part-time employment in Eeyou Istchee translates into less work overall.*

CHART 1.3C: PROPORTION OF WORKERS, 15 YEARS AND OVER, THAT WERE EMPLOYED FULL YEAR, FULL TIME IN 1995, BY SEX AND COMMUNITY (1996 CENSUS, STATISTICS CANADA)



*Note: Calculated by dividing the number of people who were employed full time for the whole year by all those that earned any employment income in 1995.*

TABLE 1.3.17: WORKERS BY TYPE AMONG THOSE 15 YEARS AND OVER (1996 CENSUS, STATISTICS CANADA)

	Men	Women
Employees	79.7%	86.8%
Self-employed	19.9%	12.8%
Unpaid family worker	0.4%	0.5%



CHART 1.3D: WORKERS BY TYPE AND COMMUNITY AMONG THOSE 15 YEARS AND OVER (1996 CENSUS, STATISTICS CANADA)

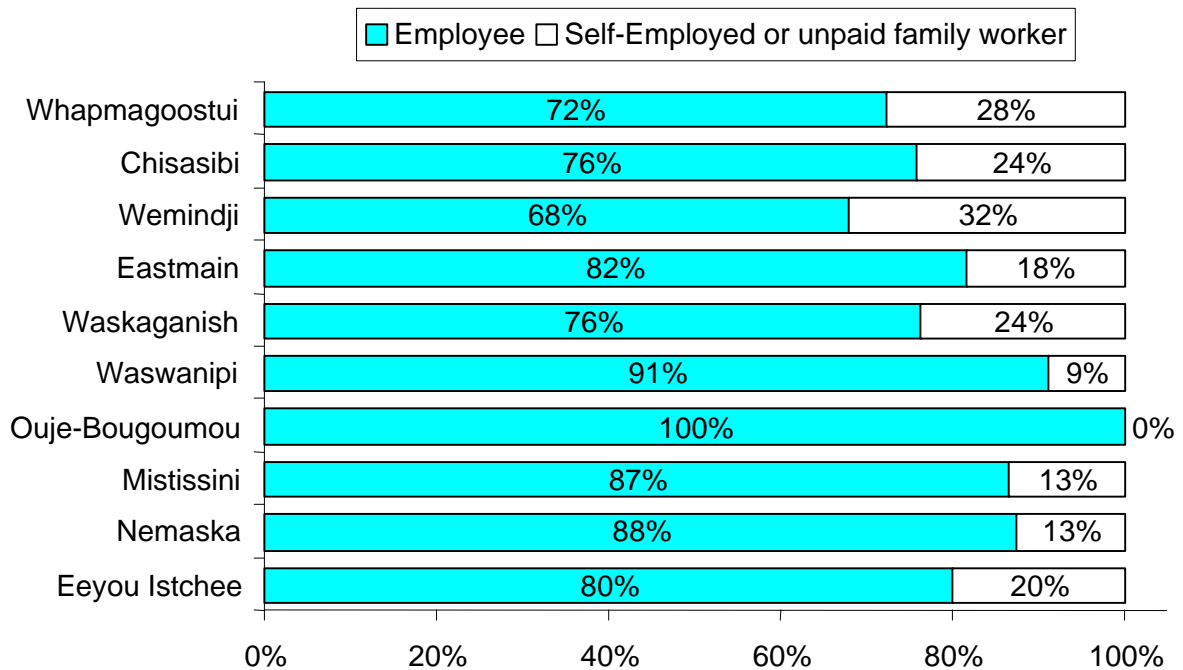


TABLE 1.3.18: EMPLOYMENT-TO-POPULATION RATIO AMONG THOSE 15 YEARS AND OVER BY SEX AND BY PRESENCE OF CHILDREN AT HOME (1996 CENSUS, STATISTICS CANADA)

Presence of children at home		Men	Women
No kids at home		46%	47%
Any kids at home		72%	61%
One or more children living at home	Kids under 6 years only	65%	49%
	Kids over 6 years only	72%	68%
	Kids under 6 and over 6	75%	59%

*Note: See discussion under “data sources and quality” section, above.*

TABLE 1.3.19: NUMBER OF CREE EMPLOYED AND UNEMPLOYED BY COMMUNITY, 1994 (HAWKINS ET AL.<sup>56</sup>).

Community	Total labour force		
	Employed	Unemployed	Total
Nemaska	148	28	176
Mistissini	532	265	797
Oujé-Bougoumou	170	0	170
Waswanipi	319	80	399
Waskaganish	355	171	526
Eastmain	97	45	142
Wemindji	298	74	372
Chisasibi	677	315	992
Whapmagoostui	191	121	312
<b>Eeyou Istchee</b>	<b>2787</b>	<b>1099</b>	<b>3886</b>

*Note: The statistics provided in the report are based on entirely different definitions than those used by Statistics Canada and are therefore not comparable.*

*“Employed” here, is based on an “actual count of those who have full-time salaried or wage employment as reported by Cree and local entities and includes the adult participants of the Income Security Program.”*

*The number of “unemployed” was established in various ways—“from unemployment claimants (minimum) to the labour force net of employed and welfare recipients.”*

<sup>56</sup> Hawkins, N et al, Socio-economic Profile of the 9 Cree communities in northern Quebec, 1994 Update. Prepared for the Grand Council of the Crees and the Cree Regional Authority, 1997.

TABLE 1.3.20: CREE LABOUR FORCE BY COMMUNITY AND SOURCE OF INCOME, 1994 (HAWKINS ET AL.<sup>57</sup>).

Community	Income security	Cree entities	Band admin.	Local enterprises	Other	Un-employed	Total
Nemaska	53	43	31	17	4	28	176
Mistissini	326	93	57	56	0	265	797
Oujé-B.	93	12	46	18	1	0	170
Waswanipi	189	39	43	44	4	80	399
Waskaganish	160	49	64	71	11	171	526
Eastmain	25	23	26	23	0	45	142
Wemindji	143	32	45	70	8	74	372
Chisasibi	315	150	115	93	4	315	992
Whapmagoostui	115	23	36	17	0	121	312
<b>Eeyou Istchee</b>	<b>1419</b>	<b>464</b>	<b>463</b>	<b>409</b>	<b>32</b>	<b>1099</b>	<b>3886</b>
<b>%</b>	<b>37%</b>	<b>12%</b>	<b>12%</b>	<b>11%</b>	<b>1%</b>	<b>28%</b>	<b>100%</b>

*Note: See notes under table 1.3.19 for definition of unemployed.*

TABLE 1.3.21: INCOME SOURCE OF THE EMPLOYED LABOUR FORCE IN CREE REGION BY COMMUNITY AND SOURCE OF INCOME (HAWKINS ET AL.<sup>58</sup>).

Community	Income Security benefits (ISP)	Full-time jobs	Total	% ISP
Nemaska	53	95	148	36%
Mistissini	326	206	532	61%
Oujé-B.	93	77	170	55%
Waswanipi	189	130	319	59%
Waskaganish	160	195	355	45%
Eastmain	25	72	97	26%
Wemindji	143	155	298	48%
Chisasibi	315	362	677	47%
Whapmagoostui	115	76	191	60%
<b>Eeyou Istchee</b>	<b>1419</b>	<b>1368</b>	<b>2787</b>	<b>51%</b>

*Note: See notes under table 1.3.19 for definition of unemployed.*

<sup>57</sup> IBID

<sup>58</sup> IBID

TABLE 1.3.22: ENROLMENT IN THE CREE HUNTERS AND TRAPPERS INCOME SECURITY PROGRAM, OVER TIME (CREE HUNTERS AND TRAPPERS INCOME SECURITY BOARD, 2000<sup>59</sup>)

	1994-95	1995-96	1996-97	1997-98	1998-99
Units	1193	1178	1190	1264	1273
Adults	1764	1730	1742	1830	1844
Children	940	897	853	866	843
<b>Adults+Children</b>	<b>2704</b>	<b>2627</b>	<b>2595</b>	<b>2696</b>	<b>2687</b>

*Note: A unit is composed of one or 2 adults.*

*The program is open to Cree Beneficiaries of the James Bay and Northern Quebec Agreement who live in Quebec, are members of one of the nine communities and “have adopted wildlife harvesting activities as a way of life.” Benefits are calculated in relation to the number of days spent harvesting and unit size. (For details, see annual report<sup>59</sup>.)*

<sup>59</sup> Annual Report: 1998-1999. Cree Hunters and Trappers Income Security Board.

TABLE 1.3.23: AVERAGE NUMBER OF DAYS COMPENSATED FOR HARVESTING BY TYPE OF FAMILY, 1998-99 (CREE HUNTERS AND TRAPPERS INCOME SECURITY BOARD, 2000<sup>60</sup>)

Beneficiary Units	Average number of days	
	Per unit	Per head
1 adult without children	180	180
1 adult with children	173	173
2 adults without children	376	203
2 adults with children	329	184

*Note: There is a 240-day limit, after which benefits are not paid for time spent harvesting. The number of days for which the daily allowance is received is also reduced when individuals receive other sources of income (e.g. employment insurance).*

*Also, see notes under previous table.*

TABLE 1.3.24: NUMBER OF UNITS BY LEVEL OF BENEFITS PAID, 1998-99 (CREE HUNTERS AND TRAPPERS INCOME SECURITY BOARD, 2000<sup>61</sup>)

Benefits (\$)	Number of units	Percent
\$0-5,999	130	10.2%
\$6,000-11,999	682	53.5%
\$12,000-\$17,999	162	12.7%
\$18,000-\$23,999	270	21.2%
\$24,000+	29	2.3%

*Note: A unit is one or two adults. Also, see notes under previous tables.*

TABLE 1.3.25: HOURS OF UNPAID HOUSEWORK PER WEEK BY SEX, QUEBEC AND EYOU ISTCHEE COMPARED (1996 CENSUS, STATISTICS CANADA)

Housework Hours/week	Men (15+)		Women (15+)	
	Eeyou I.	Quebec	Eeyou I.	Quebec
Less than 5	42%	49%	14%	25%
5 to 14	29%	31%	23%	29%
15 to 29	17%	13%	26%	24%
30 or more	13%	6%	38%	22%
	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<sup>60</sup> Annual Report: 1998-1999. Cree Hunters and Trappers Income Security Board.

<sup>61</sup> Annual Report: 1998-1999. Cree Hunters and Trappers Income Security Board.

TABLE 1.3.26: HOURS OF UNPAID CHILDCARE PER WEEK BY SEX, QUEBEC AND EYYOU ISTCHEE COMPARED (1996 CENSUS, STATISTICS CANADA)

Childcare Hours/week	Men (15+)		Women (15+)	
	Eeyou I.	Quebec	Eeyou I.	Quebec
None	34%	65%	22%	58%
1 to 14	29%	24%	20%	21%
15 to 59	29%	9%	34%	14%
60 or more	8%	2%	24%	7%
	100%	100%	100%	100%

TABLE 1.3.27: HOURS OF UNPAID CARE TO SENIORS PER WEEK BY SEX, QUEBEC AND EYYOU ISTCHEE COMPARED (1996 CENSUS, STATISTICS CANADA)

Senior care Hours/week	Men (15+)		Women (15+)	
	Eeyou I.	Quebec	Eeyou I.	Quebec
None	55%	87%	52%	81%
<5	21%	10%	22%	13%
5 to 9	8%	2%	9%	4%
10+	15%	1%	17%	2%
	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

TABLE 1.3.28: SOCIAL ASSISTANCE (WELFARE) RATE, 2000 (INSTITUT NATIONAL DE LA SANTÉ PUBLIQUE<sup>62</sup>)

Nord-du-Québec	Nunavik	Eeyou Istchee <sup>63</sup>	Quebec
4.4%	14.6%	8.8%	9.6%

*Note: Calculated by dividing the number of people who were beneficiaries of social assistance during March of 2000 divided by the population under 65 years of age. In a family situation, normally all members of the family are counted as beneficiaries.*

<sup>62</sup> Institut National de la Santé Publique de Québec, Portrait de Santé du Québec et de ses Régions (in progress)

<sup>63</sup> Although social assistance is managed under a different system in Mistissini and Waswanipi, figures for all 9 communities have been combined, here.

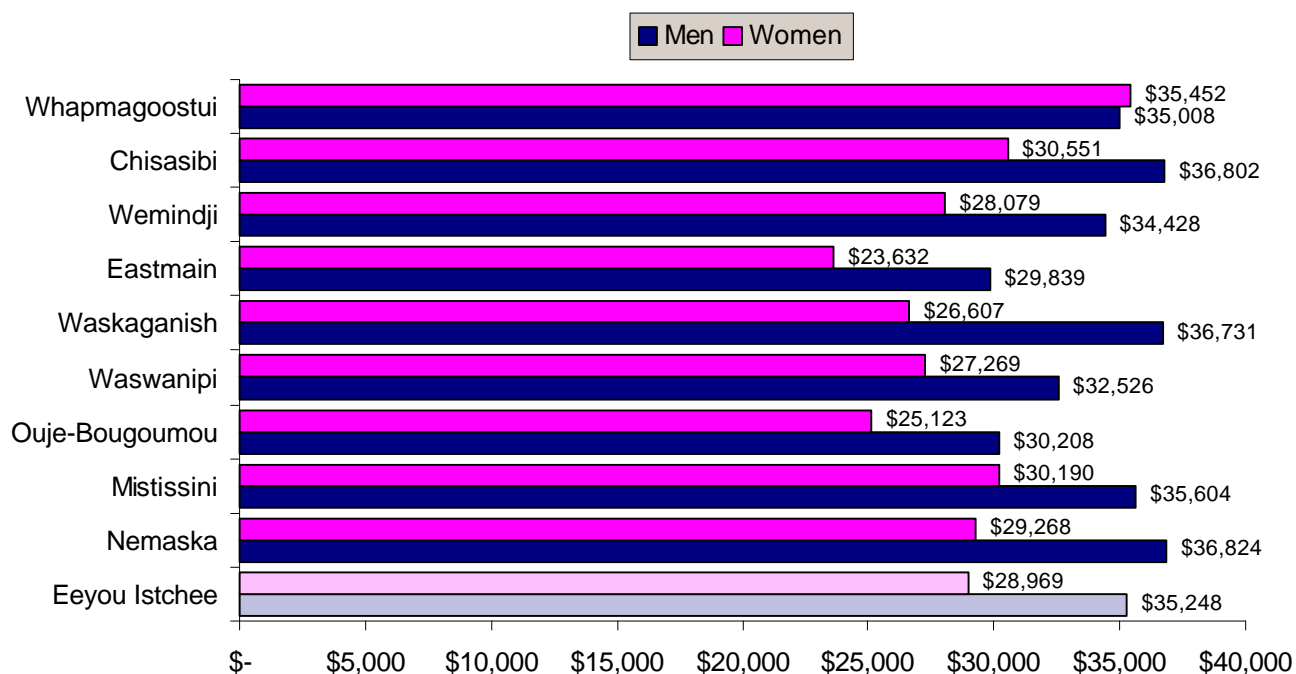
TABLE 1.3.29: AVERAGE EMPLOYMENT INCOME IN 1995 OF THOSE 15 YEARS AND OVER WITH EMPLOYMENT INCOME BY SEX; QUEBEC AND EYYOU ISTCHEE COMPARED (1996 CENSUS, STATISTICS CANADA)

Average employment income	Men		Women	
	Eeyou I.	Quebec	Eeyou I.	Quebec
Part year or part time	\$11,810	\$18,888	\$9,186	\$12,996
Full time, full year	\$35,248	\$39,340	\$28,969	\$28,449
<b>All</b>	<b>\$20,640</b>	<b>\$30,293</b>	<b>\$17,065</b>	<b>\$19,828</b>

*Note: Those without employment income are excluded from averages. Only employment income is counted.*

*Employment income figures are gross (i.e. before taxes and deductions). As First Nations working in designated locations or for designated organizations do not pay taxes, comparisons between Eeyou Istchee and Quebec should be interpreted cautiously.*

CHART 1.3E: AVERAGE EMPLOYMENT INCOME IN 1995 OF THOSE 15 YEARS AND OVER WHO WORKED FULL TIME FULL YEAR, BY SEX AND COMMUNITY (1996 CENSUS, STATISTICS CANADA)



*Note: Those without employment income are excluded from averages. Only employment income is counted. Employment income figures are based on gross incomes (see note under table 1.3.20)*

TABLE 1.3.30: AVERAGE EMPLOYMENT INCOME IN 1995 AMONG THOSE 15 AND OVER WITH EMPLOYMENT INCOME IN 1995, BY SEX AND ABORIGINAL STATUS (1996 CENSUS, STATISTICS CANADA)

Average employment income	Men		Women	
	Aboriginal	Non-Aboriginal	Aboriginal	Non-Aboriginal
Part time or part year work	\$ 10,480	\$ 33,085	\$ 8,047	\$ 24,378
Full time, full year work	\$ 31,871	\$ 50,973	\$ 26,622	\$ 45,083
<b>All, full or part time</b>	<b>\$ 17,878</b>	<b>\$ 44,621</b>	<b>\$ 15,163</b>	<b>\$ 35,699</b>

*Note: Those without employment income are excluded from averages. Only employment income is counted. Employment income figures are based on gross incomes (see note under table 1.3.20)*

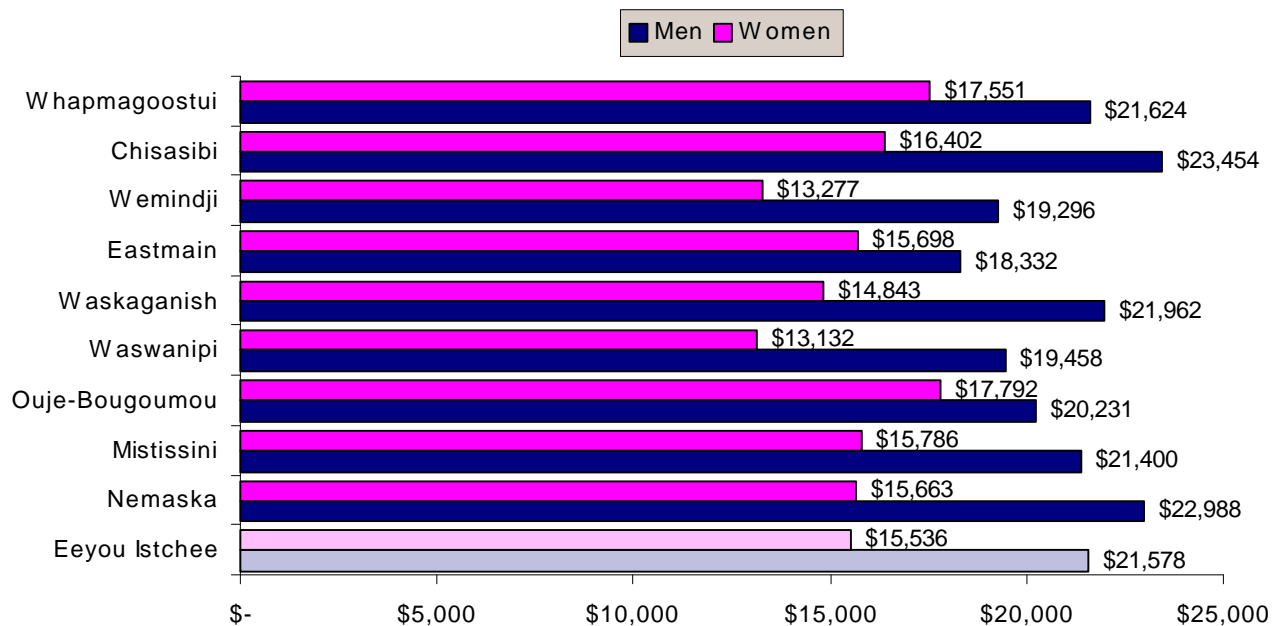
TABLE 1.3.31: AVERAGE AND MEDIAN TOTAL INCOME IN 1995 AMONG THOSE 15 AND OVER BY SEX, EYYOU ISTCHEE AND QUEBEC COMPARED (1996 CENSUS, STATISTICS CANADA)

Total income	Men		Women	
	Eeyou I.	Quebec	Eeyou I.	Quebec
Average total income	\$ 21,578	\$ 28,436	\$ 15,536	\$ 17,836
Median total income	\$ 17,502	\$ 23,324	\$ 10,411	\$ 13,369

*Note: Includes all sources of monetary income (e.g. employment, social assistance, pensions and other government transfers.) Employment income figures— the main component of total income— are based on gross incomes (see note under table 1.3.20)*



**CHART 1.3F: AVERAGE TOTAL INCOME IN 1995 AMONG THOSE 15 YEARS AND OVER, BY SEX AND COMMUNITY (1996 CENSUS, STATISTICS CANADA)**



*Note: Includes all sources of income (e.g. employment, social assistance, pensions and other government transfers). Employment income figures—the main component of total income—are based on gross incomes (see note under table 1.3.20)*

**TABLE 1.3.32: AVERAGE TOTAL INCOME IN 1995 AMONG THOSE 15 YEARS AND OVER, RESIDING IN EYYOU ISTCHEE, BY ABORIGINAL STATUS AND SEX (1996 CENSUS, STATISTICS CANADA)**

	Men	Women
Aboriginal	\$ 19,542	\$ 14,131
Non-Aboriginal	\$ 45,071	\$ 36,012
All residents	\$ 21,578	\$ 15,536

*Note: Includes all sources of income (e.g. employment, social assistance, pensions and other government transfers). Employment income figures—the main component of total income—are based on gross incomes (see note under table 1.3.20)*

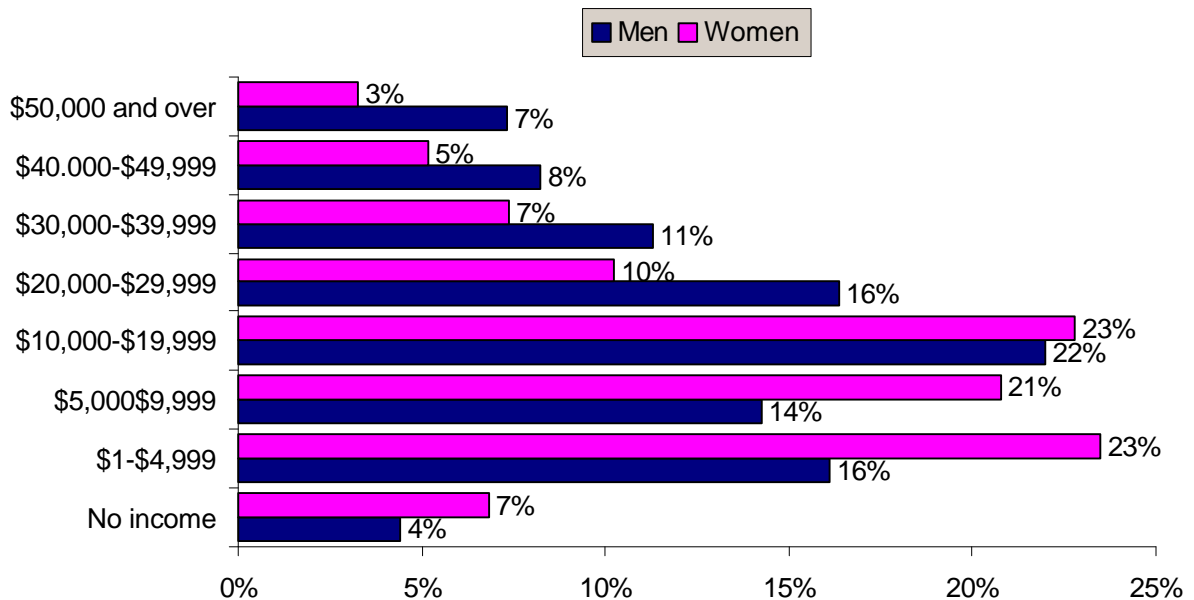
TABLE 1.3.33: PROPORTION BY TOTAL INCOME AMONG THOSE 15 AND OVER, BY SEX: EYYOU ISTCHEE AND QUEBEC COMPARED (1996 CENSUS, STATISTICS CANADA)

	Men		Women	
	Eeyou I.	Quebec	Eeyou I.	Quebec
No income*	4%	5%	7%	13%
\$1-\$4,999	16%	12%	23%	16%
\$5,000-\$9,999	14%	11%	21%	15%
\$10,000-\$19,999	22%	19%	23%	26%
\$20,000-\$29,999	16%	16%	10%	14%
\$30,000-\$39,999	11%	13%	7%	8%
\$40,000-\$49,999	8%	9%	5%	4%
\$50,000 and over	7%	14%	3%	3%

*Note: Includes all sources of income (e.g. employment, social assistance, pensions and other government transfers). Employment income figures—the main component of total income—are based on gross incomes (see note under table 1.3.20)*

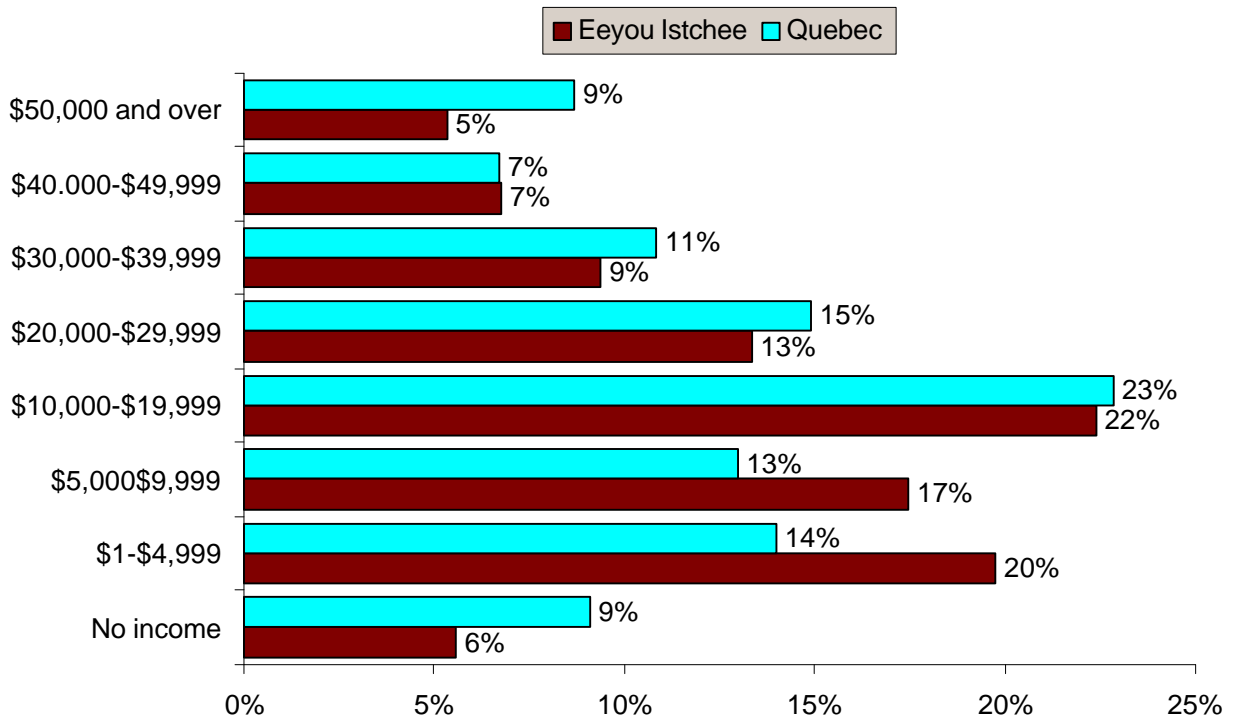
*\*Other family members may have income.*

CHART 1.3G: PROPORTION BY TOTAL INCOME AMONG THOSE 15 AND OVER, BY SEX (1996 CENSUS, STATISTICS CANADA)



*Note: Includes all sources of income (e.g. employment, social assistance, pensions and other government transfers.) Employment income figures—the main component of total income—are based on gross incomes (see note under table 1.3.20)*

CHART 1.3H: PROPORTION BY TOTAL INCOME AMONG THOSE 15 AND OVER, EYYOU ISTCHEE AND QUEBEC COMPARED (1996 CENSUS, STATISTICS CANADA)



*Note: Includes all sources of income (e.g. employment, social assistance, pensions and other government transfers.) Employment income figures—the main component of total income—are based on gross incomes (see note under table 1.3.20)*

TABLE 1.3.34: PROPORTION AT “EXTREMITIES” OF TOTAL INCOME RANGES AMONG THOSE 15 AND OVER, BY COMMUNITY (1996 CENSUS, STATISTICS CANADA)

	Under \$10,000	\$50,000 and up	Total, either “extremity”
Nemaska	42%	6%	48%
Mistissini	46%	5%	52%
Oujé-Bougoumou	39%	3%	42%
Waswanipi	46%	4%	50%
Waskaganish	45%	6%	50%
Eastmain	37%	3%	40%
Wemindji	49%	5%	54%
Chisasibi	39%	7%	46%
Whapmagoostui	42%	3%	44%
<b>Eeyou Istchee</b>	<b>43%</b>	<b>5%</b>	<b>48%</b>
Quebec	36%	9%	45%

*Note: Includes all sources of income (e.g. employment, social assistance, pensions and other government transfers.) Employment income figures—the main component of total income—are based on gross incomes (see note under table 1.3.20)*

TABLE 1.3.35: AVERAGE TOTAL COMBINED FAMILY INCOME BY FAMILY TYPE AND COMMUNITY (1996 CENSUS, STATISTICS CANADA)

	Two-parent families	One parent families
Nemaska	\$51,832	\$23,845
Mistissini	\$49,611	\$27,488
Oujé-Bougoumou	\$44,388	\$30,764
Waswanipi	\$41,629	\$29,801
Waskaganish	\$51,935	\$27,444
Eastmain	\$46,463	\$40,536
Wemindji	\$48,654	\$36,627
Chisasibi	\$52,850	\$40,501
Whapmagoostui	\$43,230	\$33,289
<b>Eeyou Istchee</b>	<b>\$49,205</b>	<b>\$33,897</b>
Quebec	\$53,192	\$28,421

*Note: Includes all sources of income (e.g. employment, social assistance, pensions and other government transfers.) Employment income figures—the main component of total income—are based on gross incomes (see note under table 1.3.20)*

TABLE 1.3.36: NORTHERN FOOD BASKET, 1996 (INDIAN AND NORTHERN AFFAIRS, CANADA)

Ottawa	Waskaganish <sup>64</sup>	Kuujuuaq
\$125	\$214	\$180

*Represents retail cost of a “nutritious basket” (selected list) of food items. Designed to meet nutrient requirements of a family of four<sup>65</sup> Based on lowest regular price recorded in Northern villages and from one supermarket in Ottawa. Substitutions may be made when items not available.*

TABLE 1.3.37: AVERAGE NUMBER OF PERSONS PER ROOM, BY COMMUNITY (1996 CENSUS, STATISTICS CANADA)

Community	Persons/Room
Nemaska	0.7
Mistissini	0.8
Oujé-Bougoumou	0.7
Waswanipi	0.8
Waskaganish	0.8
Eastmain	0.9
Wemindji	0.9
Chisasibi	0.9
Whapmagoostui	0.9
<b>Eeyou I</b>	<b>0.8</b>
Quebec	0.4

*Note: Rooms include bedrooms, kitchens and living rooms but exclude bathrooms, halls or sheds.*

<sup>64</sup> No other Eeyou Istchee communities were included in survey of food costs in recent years.

<sup>65</sup> Contents of food basket not specifically adapted to the Cree diet and do not include any bush food.

TABLE 1.3.38: PROPORTION OF OCCUPIED DWELLINGS WITH MORE THAN ONE PERSON PER ROOM, BY COMMUNITY (1996 CENSUS, STATISTICS CANADA)

Community	>1 person per room
Nemaska	12%
Mistissini	25%
Oujé-Bougoumou	8%
Waswanipi	15%
Waskaganish	24%
Eastmain	26%
Wemindji	28%
Chisasibi	31%
Whapmagoostui	18%
<b>Eeyou Istchee</b>	<b>24%</b>
Quebec	1%

*Note: Rooms include bedrooms, kitchens and living rooms but exclude bathrooms, halls or sheds.*

TABLE 1.3.39: PROPORTION OF OCCUPIED DWELLINGS WITH MORE THAN ONE PERSON PER ROOM IN EYYOU ISTCHEE, 1986 AND 1996 (1986 & 1996 CENSUS, STATISTICS CANADA)

1986	1996
52%	24%

TABLE 1.3.40: AVERAGE NUMBER OF OCCUPANTS PER HOUSING UNIT, 1999  
(HAWKINS ET AL<sup>66</sup>, INDIAN AND NORTHERN AFFAIRS<sup>67</sup>)

Community	Hawkins et al	INAC
Nemaska	4.2	3.4
Mistissini	5.9	5.9
Oujé-Bougoumou	3.1	4.6
Waswanipi	5.1	3.7
Waskaganish	4.7	4.3
Eastmain	5.4	5.4
Wemindji	4.7	4.5
Chisasibi	5.4/5.0*	7.9
Whapmagoostui	4.5	4.0
<b>Eeyou Istchee</b>	<b>5.1</b>	<b>5.2</b>
Other Quebec First Nation Communities		4.0

*Note: \*Chisasibi data reported on a selected number of housing units.*

<sup>66</sup> Norman D. Hawkins and Associates Inc, Cree Housing Study Summary Report. Housing Review and Formulation of Demand, March 2000.

<sup>67</sup> Quebec Indian Community Guide 1999. Indian and Northern Affairs, Quebec Region.

## 2. *Specific determinants of health: behaviour, lifestyle, risk and protective factors*

### Key Points

- The last health survey in Eeyou Istchee was in 1991. As a result, some of the data in this section may be outdated.
- Smoking rates<sup>68</sup> were higher than those for Quebec as a whole for both men (46% vs. 32%) and women (37% vs. 29%), although the number of cigarettes smoked was lower (37% of Cree smokers smoked 11 or more cigarettes per day compared to 76% among other Quebecois.)
- Smoking rates were much higher among 15-24 year olds. 61% of them were regular smokers and 16% were occasional smokers for a total of 77% that smoked at least occasionally. This compares with 50% among those 25-44, 24% among those 45-64 and 23% among those 65 and up.
- The percent that drank alcohol was lower than that for southern Quebec (49% vs. 79%) and the percentage that had quit drinking was much higher among Cree (28% vs. 6%)
- Drinkers were more common in the inland communities (54% vs. 45%) and “heavy” drinking (5 or more drinks at a time) was considerably higher in the inland communities (83% vs. 55% of those who drink).
- There is data that suggests that compared to other Quebecois, Cree drinkers tend to drink more heavily when they drink.<sup>69</sup>
- 51% of men (15+) and 65% of women reported that they never consumed drugs (e.g. marijuana, hashish, solvents, cocaine etc.) The figures increase to 77% and 89% respectively when asking only about the year preceding the survey.
- The most commonly reported drug used was marijuana or hashish.
- Males and 15-24 year olds appear to be the most physically active segments in the population.
- Women in Eeyou Istchee are less likely to have received a PAP test or performed a breast self-exam compared to women in other parts of Quebec.
- The proportion of births to women under 18 is higher in Eeyou Istchee (8.1%) than Quebec as a whole (1.3%)
- Low birth weight (<2500 g) is less common in Eeyou Istchee (2% vs. 6% for Quebec) as are premature births (4.0% vs. 7.3% for Quebec)

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<sup>68</sup> “Regular smokers”

<sup>69</sup> The “number of drinks” questions asked on the Quebec survey and the Cree survey were not identical.



## Data Sources and Quality

- Useful information on certain behaviour-related issues (e.g. smoking, drinking, physical activity) can only be attained from survey data. Unfortunately the most recent source of survey-based health data (Santé Québec) for Eeyou Istchee dates back to 1991.
- Self-reported (survey derived) information on stigmatized, sensitive or very personal issues such as drinking is generally assumed to underestimate the extent of the phenomena measured.
- Three indices to measure “at-risk” drinking are presented, CAGE, ADI and Modified ADI:
  - CAGE: individuals answering yes to two of four questions<sup>70</sup> are considered “at-risk” for alcohol-related problems.
  - ADI: identifies a drinking problem for individuals who answered "yes" to at least one CAGE question and admitted to having been confronted with at least one of the problems in table 2.7.
- Modified ADI excludes two problematic CAGE questions (see below)
- Santé Québec noted that the CAGE and ADI scales “lose some of their discriminating power” when applied to Cree. 80% of drinkers said yes to “Have you ever felt that you should cut down on your drinking?” and 72% responded affirmatively to “Have you ever felt bad or guilty about your drinking?”<sup>71</sup> The report suggests that these high rates may be related to disapproval of drinking and prohibition of alcohol consumption in most communities. The CAGE and ADI indices may not be the best measures of “at-risk” drinking in Eeyou Istchee.
- A modified ADI was derived and proposed as an alternative. It specifically excludes the questions about wanting to cut down and about feeling bad or guilty. The modified index has not been validated.

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<sup>70</sup> CAGE questions: 1) Have you ever been criticized by people around you because of your drinking? 2) Have you ever felt that you should cut down on your drinking? 3) Have you ever tried to cut down on your drinking? 4) Have you ever felt bad or guilty about your drinking?

<sup>71</sup> 34% of all Cree 15 and over were CAGE positive, with figures of 64% among occasional drinkers and 76% among habitual drinkers

TABLE 2.1: SMOKING STATUS BY AGE, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)

	15-24	25-44	45-64	65 +	All 15+%
Never smoked	8.7%	5.5%	14.9%	17.8%	9.2%
Ex-smokers	14.5%	44%	61.2%	59%	37.4%
Occasional smokers	15.6%	13.2%	6.7%	1.9%	12%
Regular smokers	61.2%	37.3%	17.2%	21.3%	41.4%

CHART 2A: PROPORTION OF REGULAR SMOKERS BY AGE AND SEX, CREE 1991 AND QUEBEC 1992-93 COMPARED (SANTÉ QUÉBEC HEALTH SURVEY)

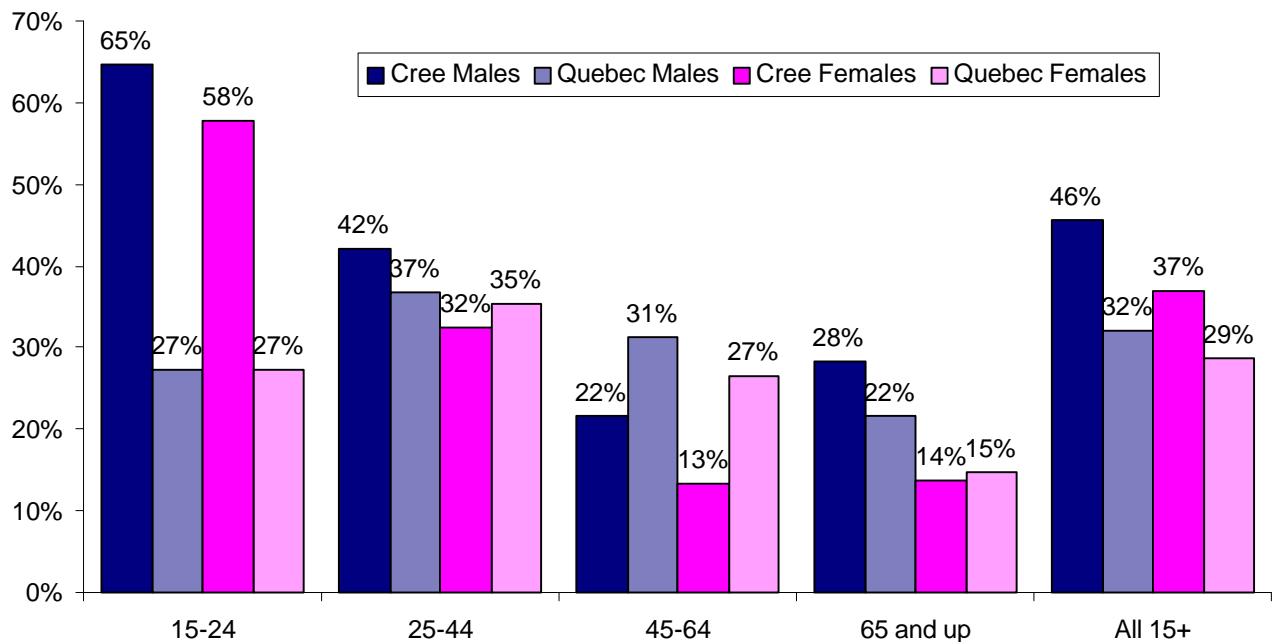


TABLE 2.2: NUMBER OF CIGARETTES SMOKED PER DAY AMONG REGULAR SMOKERS OVER 15 YEARS OF AGE, BY SEX 1991 (SANTÉ QUÉBEC HEALTH SURVEY)

	10 cigarettes or less	11-25 cigarettes	26+ cigarettes
Men	49	49	1%
Women	80	19	1%
Both	63%	36%	1%

TABLE 2.3: NUMBER OF CIGARETTES SMOKED PER DAY AMONG REGULAR SMOKERS, OVER 15 YEARS OF AGE, CREE 1991 AND QUEBEC 1992-93 COMPARED (SANTÉ QUÉBEC HEALTH SURVEY)

	10 cigarettes or less	11-25 cigarettes	26+ cigarettes
Cree	63%	36%	1%
Quebec	23%	65%	11%

TABLE 2.4: TYPES OF ALCOHOL DRINKERS, 15 YEARS AND UP, EYYOU ISTCHEE 1991 AND QUEBEC 1992-3 COMPARED (SANTÉ QUÉBEC HEALTH SURVEY)

	Interior	Coast	Eeyou Istchee	Quebec %
Non-Drinkers	16.2%	27.6%	22.9%	15.1%
Ex-Drinkers	29.5%	27.3%	28.2%	5.7%
Current drinkers	54.3%	45.1%	48.9%	79.2%

CHART 2B: PROPORTION THAT ARE CURRENT DRINKERS, BY AGE AND SEX, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)

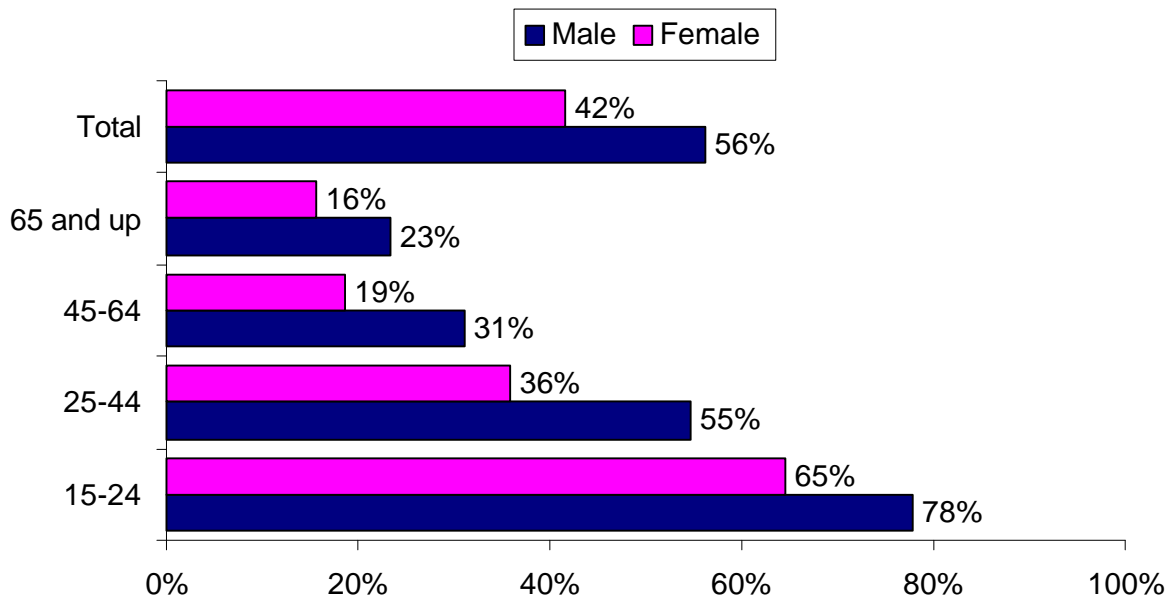


TABLE 2.5: PROPORTION OF DRINKERS CONSUMING FIVE DRINKS OR MORE PER OCCASION, BY AGE, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)

	15-24	25-44	45-64	65 and up	Total
Male	78%	72%	69%	61%	74%
Female	64%	49%	59%	-	58%

*Note: Excludes non-drinkers.*

*Directly comparable data for Quebec as a whole are not available, because slightly different survey questions were used. Figures from 1992-93 indicate that in the year before the survey, 55% of Quebec drinkers drank five or more drinks on one or more occasions and 27% did that on at least 5 occasions.*

- The total number of female drinkers over 65 on which this percentage is based is very small (actual number not published). The figure should be interpreted with caution.

TABLE 2.6: PROPORTION OF CREE DRINKERS CONSUMING FIVE DRINKS OR MORE A DAY WHEN THEY DRINK, BY SUB REGION, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)

Inland	Coast
83%	55%

TABLE 2.7: PROBLEMS RELATED TO ALCOHOL CONSUMPTION IN THE 12 MONTHS PRECEDING THE SURVEY BY SEX, 15 YEARS AND OVER, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)

	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 <sup>72</sup>	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 hospitalization 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%
<b>Answered "yes" to at least one of these questions</b>	<b>34%</b>	<b>15%</b>	<b>24%</b>

TABLE 2.8: PROPORTION OF "AT-RISK" DRINKERS ACCORDING TO THE CAGE, ADI AND MODIFIED ADI INDICES, BY AGE AND SEX, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)

	CAGE		ADI		Modified ADI	
	Males	Females	Males	Females	Males	Females
15-19	39%	46%	44%	39%	16%	18%
20-24	65%	49%	65%	33%	36%	17%
25-44	42%	22.2	37%	12%	25%	8%
45-64	22%	14%	13%	9%	8%	4%
65 and over	12%	0%*	8%	3%	4%	0%*
<b>All ages</b>	<b>40%</b>	<b>28%</b>	<b>37%</b>	<b>20%</b>	<b>21%</b>	<b>10%</b>

\* The total number of drinkers over 65 on which these percentages are based is very small (actual number not published). The figure should be interpreted with caution.

<sup>72</sup> Figures for "been warned for drunken driving" should be interpreted with caution, since it is suspected that some respondents may have misunderstood the statement.

TABLE 2.9: LIFETIME CONSUMPTION OF VARIOUS TYPES OF DRUGS AMONG THOSE 15 AND OVER BY SEX, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)

	Males	Females	Both
Marijuana or hashish	46%	32%	39%
Cocaine or crack	12%	5%	8%
Solvents (sniffing) <sup>73</sup>	12%	9%	11%
Other drugs	12%	7%	9%
None	51%	65%	58%

*Note: Totals may exceed 100% because some individuals used more than one type of drug.*

TABLE 2.10: DRUG CONSUMPTION DURING THE 12 MONTHS PRECEDING THE SURVEY, BY AGE AND SEX, 1991(SANTÉ QUÉBEC HEALTH SURVEY)

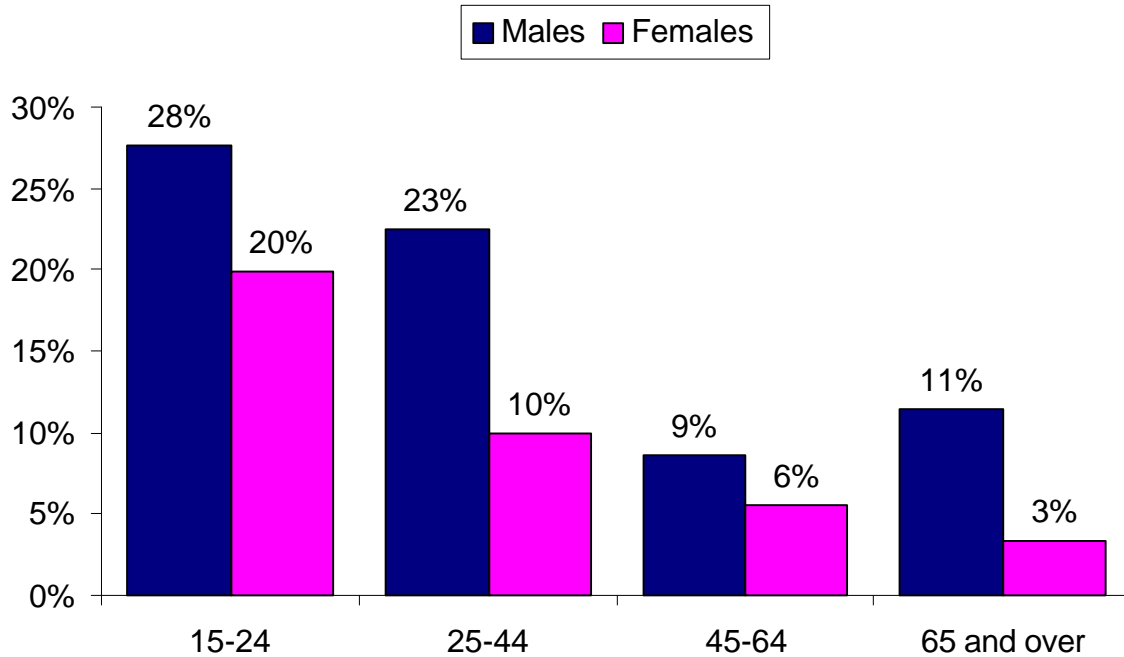
	Marijuana or hashish		Cocaine or crack		Solvents		Other drugs		No drugs	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
15-19	33%	26%	7%	3%	5%	3%	15%	5%	61%	72%
20-24	45%	19%	12%	8%	-	0	4%	4%	53%	79%
25-44	19%	4%	9%	1%	<1%	0	<1%	0	79%	96%
45-64	0	1%	0	0	0	0	0	0	100	99%
65 and over	0	0	0	0	0	0	0	0	100	100
<b>All ages</b>	<b>21%</b>	<b>7%</b>	<b>7%</b>	<b>2%</b>	<b>1%</b>	<b>&lt;1%</b>	<b>4%</b>	<b>2%</b>	<b>77%</b>	<b>89%</b>

TABLE 2.11: PREVALENCE OF SUICIDAL THOUGHTS AMONG THOSE 15 AND OVER DURING THE 12 MONTHS PRECEDING THE SURVEY, COMPARED (SANTÉ QUÉBEC HEALTH SURVEY)

	Nunavik 1992	Eeyou Istchee 1991	Quebec 1992-93
Suicidal ideas	8.3%	3.3%	3.9%

<sup>73</sup> Glue, gasoline, liquid paper, lighter fluid, nail polish, etc.

**CHART 2C: INDIVIDUALS WHO ARE PHYSICALLY VERY ACTIVE OR MODERATELY ACTIVE<sup>74</sup> DURING LEISURE TIME, BY AGE AND SEX, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)**



**TABLE 2.12: PHYSICAL ACTIVITY LEVEL<sup>75</sup> DURING DAILY ACTIVITIES, BY SEX, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)**

	Very active	Moderately active	Relatively inactive	Inactive
Females	11%	28%	49%	12%
Males	22%	29%	40%	9%

<sup>74</sup> For the leisure time index, moderately active individuals did activities that sometimes caused them to breathe heavily. Very active individuals engaged in a 20-minute activity more than once a week and that activity caused them to sweat or breathe heavily.

<sup>75</sup> 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.”

TABLE 2.13: MEASURED BODY MASS INDEX (BMI) BY AGE, 18 TO 74 YEARS, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)

Age	<25	25-29.9 (overweight)	30 and over (obese)
18-24	30%	37%	33%
25-44	18%	34%	47%
45-64	6%	32%	62%
65-74	12%	26%	63%

*Note: The cut-offs for “overweight” and “obese” are those used by the World Health Organization, based on non-Aboriginal populations. It has been demonstrated that overweight and obese people have significantly greater health risks for a number of health problems, including diabetes.<sup>76</sup>*

*There is some agreement that it is appropriate to use different cut-offs for different ethnic groups and further agreement that BMI by itself is an inadequate predictor of “risk” (activity level, body shape and other factors come into play.) Some experts believe that the risk thresholds (overweight and obesity cut-offs) for First Nations should be higher than for Caucasians.*

TABLE 2.14: PERCENTAGE WITH A BODY MASS INDEX OF 30 OR OVER, 193, 1989 AND 1991, BY SEX (PUBLIC HEALTH MODULE— CREE REGION OF JAMES BAY<sup>77</sup>)

BMI 30	1983	1989	1991
Women	42%	50%	57%
Men	23%	33%	38%

TABLE 2.15: MEASURED BODY MASS INDEX (BMI) BY SEX, 18 TO 74 YEARS, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)

	30 and over (Obese)	35 and over (Very obese)
Men	38%	10%
Women	57%	28%

<sup>76</sup> For example, see: Canadian Guidelines for healthy weights: Report of an expert group convened by Health Promotion Directorate, Health Services and Promotion Branch. Minister of National Health and Welfare, Ottawa, October 1988.

<sup>77</sup> Torrie J. et al. Implementing Integrated Diabetes Planning: Services Within the Cree Board of Health and Social Services of James Bay: More Easily Said than Done.



TABLE 2.16: PROPORTION OF WOMEN WHO HAD AT LEAST ONE PAP TEST (LIFETIME) BY AGE, CREE 1991 VS. QUEBEC 1992-93 (SANTÉ QUÉBEC HEALTH SURVEY)

Age	Cree	Quebec
15-24	55%	67%
25-44	85%	96%
45-64	74%	94%
65+	48%	79%
<b>Total</b>	<b>69%</b>	<b>89%</b>

TABLE 2.17: PROPORTION OF WOMEN WHO HAD AT LEAST ONE PAP TEST IN PREVIOUS 2 YEARS, CREE 1991 VS. QUEBEC 1992-93 (SANTÉ QUÉBEC HEALTH SURVEY)

Cree	Quebec
45%	66%

TABLE 2.18: TIME ELAPSED SINCE LAST CERVICAL CANCER (PAP) TEST BY AGE GROUP, 1991 (SANTÉ QUÉBEC HEALTH SURVEY)

	12 months or less	1-2 years	2 years +	Never	Don't know/ No response
15-24	28%	19%	7%	40%	6%
25-44	34%	23%	28%	11%	4%
45-64	10%	14%	50%	25%	1%
65 and up	-	16%	31%	37%	16%
<b>All, 15 and up</b>	<b>25%</b>	<b>19%</b>	<b>25%</b>	<b>26%</b>	<b>5%</b>

TABLE 2.19: PROPORTION OF WOMEN WHO PERFORMED AT LEAST ONE BREAST SELF-EXAM (LIFETIME), BY AGE, EYYOU ISTCHEE 1991 VS. QUEBEC 1992-93 (SANTÉ QUÉBEC HEALTH SURVEY)

Breast self-exam	Cree	Quebec
15-24	27%	57%
25-44	51%	75%
45-64	45%	78%
65+	32%	65%
<b>Total</b>	<b>40%</b>	<b>72%</b>

TABLE 2.20: PROPORTION OF WOMEN WHO HAD A BREAST EXAM BY A PROFESSIONAL (LIFETIME), BY AGE, EYYOU ISTCHEE 1991 VS. QUEBEC 1992-93 (SANTÉ QUÉBEC HEALTH SURVEY)

Breast exam	Cree	Quebec
15-24	22%	65%
25-44	43%	92%
45-64	43%	92%
65+	38%	81%
<b>Total</b>	<b>35%</b>	<b>86%</b>

TABLE 2.21: PERCENT OF BIRTHS TO MOTHERS UNDER 18 AND UNDER 20 YEARS OF AGE, REGIONS COMPARED, 1997 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES)

Age	Eeyou Istchee <sup>78</sup>	Nord-du-Québec <sup>79</sup>	Nunavik <sup>80</sup>	Quebec
Under 18	8.1%	1.2%	8.4%	1.3%
Under 20	23.5%	6.6%	21.4%	4.7%

*Note: Includes all births (singleton and multiples.)*

TABLE 2.22: TEENAGE FERTILITY RATE (INSPQ<sup>81</sup>)

Eeyou Istchee	Nunavik	Quebec
130.5	168.1	16.0

*Note: Number of births per 1,000 women (15-19 years) per year.*

<sup>78</sup> Using regionally managed birth records, the Public Health Module reported similar results with 8.2% of births to women under the age of 18 and 23% to women under 20.

<sup>79</sup> See footnote #2 for description of Nord-du-Québec region

<sup>80</sup> See footnote #3 for description of Nunavik region

<sup>81</sup> Institut National de la Santé Publique de Québec, Portrait de Santé du Québec et de ses Régions, 2001 (in progress)

TABLE 2.23: PERCENT OF BIRTHS IN EYYOU ISTCHEE TO WOMEN UNDER 18 AND UNDER 20 YEARS OF AGE BY YEAR (PUBLIC HEALTH MODULE— CREE REGION OF JAMES BAY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Under 18	14%	14%	10%	11%	7%	9%	9%	10%	8%	9%
Under 20	26%	26%	25%	28%	22%	25%	27%	21%	23%	22%

*Note: Based on all births (singleton and multiples)*

TABLE 2.24: PERCENT OF BIRTHS TO WOMEN UNDER 20 YEARS OF AGE BY COMMUNITY, 1985-98 (PUBLIC HEALTH MODULE— CREE REGION OF JAMES BAY)

Community	
Chisasibi	27.5%
Eastmain	23.5%
Mistissini	22.9%
Nemaska	22.6%
Oujé-Bougoumou	19.2%
Waskaganish	24.6%
Waswanipi	28.3%
Wemindji	20.1%
Whapmagoostui	22.8%
<b>Eeyou Istchee</b>	<b>24.7%</b>

*Note: Based on all births (singleton and multiples)*

TABLE 2.25: PERCENTAGE OF LOW BIRTH WEIGHT AND MACROSOMIC INFANTS BY MOTHER'S AGE GROUP, 1985-1995 (ARMSTRONG ET AL, 1998<sup>82</sup>)

	n	<2500g %	≥ 4000g %
12 to 16	159	2.5%	28.3%
17-19	555	2.0%	31.6%
20-34	1891	2.5%	37.9%
≥ 35	113	1.8%	41.6%
<b>All ages</b>	<b>2718</b>	<b>2.3%</b>	<b>36.1%</b>

<sup>82</sup> Armstrong et al. Prevalence of Low and High Birth Weight Among the James Bay Cree of Northern Quebec. Canadian Journal of Public Health, November-December 1998. pp419-420

TABLE 2.26: PERCENT OF NEWBORNS WITH LOW BIRTH WEIGHT (<2,500 GRAMS) BY REGION, 1994-98 (INSPQ<sup>83</sup>)

Region	Under 2,500 g
Eeyou Istchee	2.9%
Nunavik	6.2%
Nord-du-Québec	6.5%
Quebec	6.0%

*Note: Based on all births (singleton and multiples)*

TABLE 2.27: PERCENT OF DELIVERIES BY CAESAREAN SECTION: DELIVERIES BY MOTHERS FROM EYYOU ISTCHEE, 1986-87 AND 1991-92 TO 1998-99 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>84</sup>)

1986-87	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
17.9%	17.6%	20.9%	19.3%	18.9%	21.0%	13.3%	15.3%	13.3%

*Note: Includes mothers from Eeyou Istchee regardless of place of delivery. Excludes deliveries that occurred in birthing centres or at home.*

TABLE 2.28: RATE OF CERTAIN OBSTETRICAL INTERVENTIONS PERFORMED DURING DELIVERIES BY MOTHERS FROM EYYOU ISTCHEE, 1986-87 AND 1991-92 TO 1994-95 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>85</sup>)

	1986-87	1991-92	1992-93	1993-94	1994-95
Caesarean (/100 births)	17.9%	17.6%	20.9%	19.3%	18.9%
Gen. anesthetic (/100 caesarean)	74.3%	51.1%	62.7%	52.5%	46.7%
Vaginal birth after caesarean	0.0%	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 vag. births)	4.3%	5.9%	9.0%	9.0%	11.7%

*Based on mothers resident in Eeyou Istchee, regardless of region of delivery.*

<sup>83</sup> Institut National de la Santé Publique de Québec, Portrait de Santé du Québec et de ses Régions, 2001 (in progress)

<sup>84</sup> From Ministry of Health Website ([www.msss.gouv.qc.ca](http://www.msss.gouv.qc.ca)) statistics section and diskette called "Périnatalité, données 1986-87, 1991-2 à 1994-5"

<sup>85</sup> From Quebec Ministry of Health and Social Services diskette titled "Perinatalité, données 1986-87, 1991-2 à 1994-5"

TABLE 2.29: RATE OF CERTAIN OBSTETRICAL INTERVENTIONS, 1994-95 COMPARED (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>86</sup>)

1994-95	Eeyou Istchee	Quebec
Caesarean (/100 births)	18.9%	16.7%
General anesthetic (/100 caesarean)	46.7%	27.0%
Vaginal birth after caesarean	19.4%	34.6%
Episiotomy (/100 vaginal births)	17.9%	43.0%
Forceps or suction (/100 vaginal births)	11.7%	16.0%

TABLE 2.30: PERCENT OF DELIVERIES BY CAESAREAN SECTION COMPARED, 1998-99 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>87</sup>)

Region	Caesarean sections
Nord-du-Québec	19.4%
Nunavik	2.7%
Eeyou Istchee	13.3%
Quebec	17.3%

*Note: Based on mother's residence. Excludes deliveries that occurred in birthing centres or at home.*

TABLE 2.31: PERCENT OF BIRTHS THAT WERE PREMATURE (<37 WEEKS GESTATION) BY REGION, 1994-98 (INSPQ<sup>88</sup>)

Region	<37 weeks
Eeyou Istchee	5.8%
Nunavik	11.8%
Nord-du-Québec	7.5%
Quebec	7.2%

<sup>86</sup> From Quebec Ministry of Health and Social Services diskette titled "Perinatalité, données 1986-87, 1991-2 à 1994-5"

<sup>87</sup> IBID

<sup>88</sup> Institut National de la Santé Publique de Québec, Portrait de Santé du Québec et de ses Régions, 2001 (in progress)

TABLE 2.32: PREVALENCE OF BREASTFEEDING OVER TIME, 1988 AND 1993 (PUBLIC HEALTH MODULE— CREE REGION OF JAMES BAY<sup>89</sup>)

	At the hospital	3 months of age	6 months of age
Six Eeyou Istchee communities (1988)*	87%	67%	60%
Six Eeyou Istchee communities (1993**)	83%	60%	40%
Quebec Ministry of Health targets <sup>90</sup>	80%	60%	30%

*Note: \*1988 results based on a survey in Chisasibi, Nemaska, Waskaganish, Waswanipi, Wemindji and Whapmagoostui. \*\*1993 results from Chisasibi, Eastmain, Mistissini, Waskaganish, Wemindji and Whapmagoostui. Four of the communities overlap in the two surveys.*

TABLE 2.33: PROPORTION OF CHILDREN BREASTFED, 1999 (CREE REGIONAL AUTHORITY, 1999<sup>91</sup>)

	Breastfed	Children in sample
Chisasibi	92%	154
Eastmain	73%	74
Mistissini	66%	278
Oujé-Bougoumou	59%	58
Waskaganish	61%	131
Waswanipi	47%	75
Wemindji	85%	33
Whapmagoostui	89%	27
<b>Total</b>	<b>70%</b>	<b>830</b>

*Note: Rates are “per child” and include breastfeeding for any duration. Results for 830 children are based on interviews with 564 families who had 0-6 year old children. Children living with non-biological mothers are excluded.*

*As the survey coincided with “goose break”, some families were “in the bush” and unavailable for interview. Those 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” (e.g. teen mothers, parents of children with “special needs” and parents of several preschoolers.)*

<sup>89</sup> Harris-Giraldo, R., C. Levitt, and J. Kaczorowski. Breastfeeding Rates, Trends and Associated Factors in the Eastern James Bay Cree Communities. Report for the Cree Board of Health and Social Services of James Bay, Chisasibi, Quebec, 1997.

<sup>90</sup> Priorités Nationales de Santé Publique 1997-2002, Vers L'Atteinte des Résultats Attendus : 1<sup>er</sup> Bilan. Direction Générale de la santé publique. Ministère de la Santé et des Services Sociaux.

<sup>91</sup> Torrie, J. and Bella Moses Petawabano. Regional Needs Assessment Report, Aboriginal Head Start On-Reserve Program, Eeyou Istchee. Community Service Department, Cree Regional Authority. September 1999.

*The effect of these biases are minimized by the size of the sample (in excess of 50% of target families.)*

### **3. Health Services- Resources and Utilization**

This section focuses on the funding, staffing, organization and utilization of services. Information is presented on health care expenditures in Eeyou Istchee, the number and type of beds available, the number of doctors and nurses as well as a variety of hospitalization-derived indicators.

Along with population-based determinants (sections 1 and 2), the extent, type, use and accessibility of health services are viewed as predictors of the health of a population. In the case of remote locations, accessibility takes on a special connotation and presents special challenges for timely and equitable delivery of the full range of health care services.

The health service utilization measures included address two conceptually different types of measures:

- The use of regionally provided services (by anyone) and
- Services accessed by residents of Eeyou Istchee, regardless of service location

The hospitalization statistics included in this section primarily refer to service use patterns. Injury-related hospitalization data is also reported as a morbidity measure in the next section (Health Status).

#### **Key Points**

- Gross expenditures on health in Eeyou Istchee in 1997-98 amounted to \$50,320,000 according to the Quebec Ministry of Health. As discussed under table 3.1, this figure may not be accurate and is difficult to interpret.
- Per capita expenditure on health care through the Eeyou Istchee health system is about double that of Quebec as a whole (\$4097 vs. \$2030). As explained under table 3.3, the comparison is difficult to interpret and the figures may not be accurate.
- Staffing levels for nurses were 50% lower for Eeyou Istchee 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 Eeyou Istchee 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.
- About three-quarters (74%) of hospitalizations for residents of Eeyou Istchee occur outside of the region.
- About one-third (31%) of hospitalizations in Nord-du-Québec are for residents of Eeyou Istchee.



- The hospital bed occupancy rate in Eeyou Istchee is 62.9% compared to 83.3% for Quebec.
- The average hospital stay for Eeyou Istchee residents dropped 21% between 1982-83 and 1997-98.
- The average hospital stay within the Eeyou Istchee regional hospital was down by 12% over the same period.
- Among residents of Eeyou Istchee, the number of surgical operations for inguinal or crural hernia was up by 100% between 1982-83 and 1997-98. The number of gall bladder removals was up 63%, and the number of hysterectomies, down by 53%.
- Per capita expenditure on health care through the Eeyou Istchee health system is about double that of Quebec as a whole (\$4097 vs. \$2030). However, see explanatory notes under table 3.1 as several mitigating factors make comparisons difficult.
- About three-quarters (74%) of hospitalizations for residents of Eeyou Istchee occur outside of the region.
- About one-third (31%) of hospitalizations in Nord-du-Québec are for residents of Eeyou Istchee.

### Data Sources and Quality

- Figures presented in this section are based on data published by the Quebec Ministry of Health. It is important to note that their figures, particularly regarding expenditures and staffing levels, **are not necessarily considered factual or accurate**. They are reprinted here, as advisory- to show what the Ministry, presumably, believes to be true. Please see additional notes under the respective tables.
- Several tables are based on hospitalizations for “short term care”. A number of very specific definitions apply.

#### Short term care:

- Surgeries done on an outpatient basis (day surgery), and other “day procedures” (e.g. hemato-oncology, endoscopy), as well as home-based care, are excluded.
- Only institutions that primarily offer active care (“soins actifs”) are included. Facilities offering primarily psychiatric, rehabilitative, convalescent or long-term care are excluded.
- Active care is defined as short-term care dispensed by a general or specialized care institution. Certain CLSC's are also included if their mandate includes short-term care.
- Institutions whose short-term care turnover rate is low (discharges per short-term care bed <15/year) are excluded.
- This data excludes long term care (even in short term beds), psychiatric care and healthy newborns.

- Hospital stays, which began as short-term but became long-term, are excluded.

Length of stay:

- Refers to the number of days spent in the dispensing institution, including the day of admission and any temporary leaves taking place between the date of admission and date of discharge. The day of the discharge is not included.
- The minimum number of days in a stay is one (1).
- Average length of stay (ALS) is presented in days and equals the number of days of hospitalization divided by the number of hospitalizations for a year for each category (age or sex or diagnosis).

Diagnosis:

- When a person who is hospitalized receives a number of diagnoses, the diagnosis that is considered the main reason for the hospitalization is retained.
- For all MEDECHO-derived (hospitalization) records, episodes resulting in hospital transfers (e.g. 2 nights in Chisasibi followed by 3 nights in Chibougamau) are counted as separate hospitalizations. The result is an overestimated number of hospitalizations and an underestimation of the “true” length of stay.

TABLE 3.1: GROSS EXPENDITURES BY SECTOR 1997-98 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>92</sup>)

Sector	Expenditure
Health Promotion	\$2,757,000
Diagnostic procedures	\$966,000
Treatment - physical (in-patient)	\$10,456,000
Treatment - mental (in-patient)	\$14,000
Rehabilitation	\$2,509,000
Social support, protection and shelter	\$2,841,000
Home care	\$1,060,000
Complementary services	\$8,328,000
Administrative activities	\$13,313,000
Other activities	\$8,058,000
<b>Total</b>	<b>\$50,302,000</b>

*Note: The expenditures **are not necessarily considered factual or accurate** and may not agree with those believed accurate by the CBHSSJB. They are reprinted here for the purpose of revealing what the Quebec Ministry of Health may believe to be true. The information is taken from newsletters (“Info-SIFO”).*

*The total reported is comprehensive; including expenses related to principal activities (related to each establishment’s mission) and all “accessory” activities (e.g. not directly related). Totals include incomes and benefits for physicians and other staff, retirement and RREGOP payments, travel costs, building and equipment acquisitions (“fixed assets”), First Nations non-insured health benefits etc. Any income is not deducted from the (gross) expenditures.*

*INFO-SIFO draws its information from three sources:*

*Financial reports of institutions—information broken down by sector (“formulaire AS-471”)*

*Financial reports of institutions—information not broken down by sector (“formulaire AS-471”)*

*Other sources of information (e.g. RAMQ, MSSS, Community organizations, OPHQ), some of which is not available by region.*

<sup>92</sup> Info-Sifo : Bulletin d’information concernant Système d’Information Financière et Opérationnelle. Direction de la gestion de l’information. Service du développement de l’information. MSSS. The Info-Sifo newsletter is available on the Ministry’s website ([www.msss.gouv.qc.ca](http://www.msss.gouv.qc.ca))

TABLE 3.2: TOTAL GROSS EXPENDITURES BY YEAR (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>93</sup>)

	Total expenditures	Per capita
1990-91	\$27,736,000	\$3,238
1991-92	\$34,949,000	\$3,307
1992-93	\$31,632,000	\$2,947
1993-94	\$32,334,000	\$2,965
1994-95	\$37,668,000	\$3,406
1995-96	\$41,942,000	\$3,710
1996-97	\$46,182,000	\$3,970
1997-98	\$50,302,000	\$4,097

*Note: Please see important notes under table 3.1.*

*Figures are not adjusted for inflation. Per capita amounts are calculated by dividing the amount total spent by institutions in the region by the resident population.*

TABLE 3.3: GROSS EXPENDITURES PER CAPITA COMPARED (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>94</sup>)

	Per capita (1997-98)
Nord-du-Québec	\$1,863
Nunavik	\$6,266
Eeyou Istchee	\$4,097
Quebec	\$2,030

*Note: Please see important notes under table 3.1*

*Interpret with caution: Figures for Eeyou Istchee and Nunavik include non-insured health benefits as well as very significant travel costs. These two elements substantially increase spending and make direct comparisons with other jurisdictions “like comparing apples and oranges.”*

*Services received by residents of region A in region B are counted as costs in region B.*

<sup>93</sup> IBID

<sup>94</sup> IBID

**TABLE 3.4: ACTUAL NET EXPENDITURES FOR CLIENT PROGRAMS IN THE JAMES-BAY-CREE REGION, 1993-94 TO 1997-98 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>95</sup>)**

	1993-94	1994-95	1995-96	1996-97	1997-98
Physical Health	\$18,193,000	\$19,399,000	\$19,553,000	\$20,540,000	\$22,963,000
Mental Health	\$212,000	\$132,000	\$176,000	\$716,000	\$1,170,000
Public Health	\$1,032,000	\$1,316,000	\$1,581,000	\$1,615,000	\$812,000
Elderly and Persons in Loss of Autonomy	\$837,000	\$786,000	\$814,000	\$951,000	\$666,000
Intellectually Handicapped	\$55,000	\$66,000	\$59,000	\$75,000	\$27,000
Physically Handicapped	\$1,584,000	\$1,681,000	\$1,390,000	\$740,000	\$605,000
Alcohol and Drug Abuse	\$19,000	\$77,000	\$32,000	\$45,000	\$33,000
Youth and Their Families	\$2,496,000	\$3,019,000	\$4,966,000	\$5,630,000	\$6,269,000
<b>All Programs</b>	<b>\$24,651,000</b>	<b>\$26,683,000</b>	<b>\$28,661,000</b>	<b>\$30,312,000</b>	<b>\$32,545,000</b>

*N.B. The expenditures are not necessarily considered factual or accurate and may not agree with those believed accurate by CBHSSJB. They are reprinted here for the purpose of revealing what the Quebec Ministry of Health may believe to be true.*

*The information for this table is gathered and organized using a system that is different and independent from the one used for tables 3.1, 3.2 and 3.3. The client program figures exclude certain expenses that are counted by the gross expenditure figures (e.g. services that do not fit into the 8 categories, above). The net expenditure figures (3.4) are also reduced by revenues.*

*Figures are not adjusted for inflation. Services received by residents of Eeyou Istchee in other regions are not counted. Non-insured health services are included.*

<sup>95</sup> Source: DGPSE, MSSS, octobre 1999: Contour financier des programmes-clientèle et dépenses du réseau de la santé et des services sociaux par programme-clientèle, 1993-94 to 1997-98, René Kirouac, DGPE. The "Info-Contour" newsletter is available on the Ministry's website ([www.msss.gouv.qc.ca](http://www.msss.gouv.qc.ca))

TABLE 3.5: NUMBER OF BEDS IN GENERAL AND SPECIALIZED CARE IN EYYOU ISTCHEE, 1991-1999 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>96</sup>)

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
27	28	28	27	27	27	27	27	27	27

TABLE 3.6: BREAKDOWN OF AUTHORIZED BEDS IN PRIVATE OR PUBLIC INSTITUTIONS, BY CATEGORY, MARCH 1999 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>97</sup>)

Institution type	Beds
General & specialized care	25
Short term psychiatric	0
Long term care	7
Shelter	0
Youth centre	10
Rehab. (9 beds or less)	16
Rehab- physically or intellectually challenged	0
Drug/Alcohol treatment	0

TABLE 3.7: DISTRIBUTION OF THE NETWORK'S WORKFORCE<sup>98</sup>, BY STAFF CATEGORY, NORTHERN REGIONS, 1997-98 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES -SDI, DGI, DGPSE, 1999)

	Management	Unionized worker	Employees per manager	Employees per 1,000 persons <sup>99</sup>
Nunavik <sup>100</sup>	27	344	12.7	42.6
Eeyou Istchee	22	305	13.9	28.7

<sup>96</sup> <http://www.msss.gouv.qc.ca/f/statistiques/index.htm>

<sup>97</sup> <http://www.msss.gouv.qc.ca/f/statistiques/index.htm>

<sup>98</sup> Based on equivalent to full-time employees (EFT) including benefits, overtime etc. for all occupational ranks. Full time for an EFT corresponds to the total hours provided for in the job description.

<sup>99</sup> Based on 1997 MSSH projections of 1996 census data. Includes management and unionized workers.

<sup>100</sup> See footnote #3 for description of Nunavik region.

TABLE 3.8: NUMBER OF GENERAL PRACTITIONERS AND SPECIALISTS PER 1,000 PEOPLE BY PRINCIPAL REGION OF PRACTICE, 1998 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>101</sup>)

	G.P.'s <sup>102</sup>		Specialists		Both	
	Number	# /1000	Number	# /1000	Number	# /1000
Nunavik <sup>103</sup>	23	2.5	6	0.7	29	3.2
Cote-Nord & Nord-du Quebec	166	1.6	79	0.8	245	2.3
<b>Eeyou Istchee</b>	<b>32</b>	<b>2.7</b>	<b>1</b>	<b>0.1</b>	<b>33</b>	<b>2.8</b>
All Quebec	6974	1	7167	0.98	14141	1.9

*Note: Physicians are counted in their "principal regions of practice". Short-term visiting doctors, therefore, are completely excluded from the counts for the Northern regions. Doctors that worked 51% of their time in a region are counted in that region only.*

*This source was identified as "preliminary" data. The information (which originates at the RAMQ) is no longer available for regions 10, 17 or 18. See next table for more directly comparable statistics.*

*The year presented, 1998, was a peak year for the number of doctors in Eeyou Istchee (R. Harris and C. Dumont, personal communication.) Extensive travel requirements and the relative lack of infrastructure and resources in isolated regions substantially increase the time required to provide services (and hence the number of physicians needed).*

TABLE 3.9: NUMBER OF GENERAL PRACTITIONERS AND SPECIALISTS (EQUIVALENT-TO-FULL-TIME) PER 1,000 PERSONS BY CATEGORY, OCTOBER 1997-MARCH 1998 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>104</sup>)

	General Practitioners	Per 1,000 population	Specialists	Per 1,000 population	Total MD's	Per 1,000 population
Nunavik	12.9	1.4	5.4	0.6	18.3	2.0
Montreal	1529.6	0.8	1985.6	1.1	3515.2	1.9
<b>Eeyou Istchee</b>	<b>15.8</b>	<b>1.3</b>	<b>6.9</b>	<b>0.6</b>	<b>22.7</b>	<b>1.9</b>

*Note: Figures are based on "equivalent-to-full-time" or 1540 hours of service. Physicians in Montreal, particularly in certain specialties, provide a considerable amount of service to non-Montrealers. Also, see notes under previous table*

<sup>101</sup> Source: SDI, DGI, DGPSE, MSSS, October 1999.

<sup>102</sup> The number of general practitioners includes medical residents.

<sup>103</sup> See footnote #3 for description of Nunavik region.

<sup>104</sup> "CONSOM" electronic data file. DGRP. MSSS.

TABLE 3.10: NUMBER OF NURSES AND EQUIVALENT TO FULL TIME NURSES EMPLOYED BY CATEGORY, EYOU ISTCHEE, 1998-99 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, NOVEMBER 2000<sup>105</sup>)

	Nurses	Auxiliary nurses	Attendants	Total
Total number*	135	1	16	152
Equivalent-to-full time**	62	1	10	73

*Note: \*For the total number, individual nurses are counted if they worked in the territory, regardless of the duration of employment. \*\*Each equivalent-to-full-time nurse is equal to 1826.3 remunerated hours (including benefits).*

TABLE 3.11: NUMBER OF NURSES AND EQUIVALENT-TO-FULL-TIME NURSES EMPLOYED, 1998-99 (DERIVED FROM QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, NOVEMBER 2000<sup>106</sup>)

Region employed	Total number*	Equivalent-to-full-time**	Ratio: Nurses per equivalent-to-full-time position
Eeyou Istchee	136	73	1.9
Nord-du Quebec	203	137	1.5
Nunavik	130	84	1.5
All Quebec	93903	65755	1.4

*Note: \*For the total number, individual nurses are counted if they worked in the territory, regardless of the duration of employment. \*\*Each equivalent-to-full-time nurse equals 1826.3 remunerated hours (including benefits).*

*Extensive travel requirements and the relative lack of infrastructure and resources in isolated regions substantially increase the time required to provide services (and hence the number of nurses needed).*

<sup>105</sup> MASTP, SDI, DGI, DGPSÉ, MSSS, November 2000.

<sup>106</sup> IBID



TABLE 3.12: NUMBER OF EQUIVALENT-TO-FULL-TIME NURSES EMPLOYED PER 1,000 PERSONS, 1998-99 (DERIVED FROM QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, NOVEMBER 2000<sup>107</sup>)

Region employed	Equivalent-to-full-time nurse per 1,000 persons
Eeyou Istchee	6.0
Nord-du Quebec	7.5
Nunavik	9.2
All Quebec	9.0

*Note: See notes under previous table.*

TABLE 3.13: REGION OF HOSPITALIZATION FOR RESIDENTS OF EYYOU ISTCHEE, BY PERIOD (SHORT TERM PHYSICAL CARE ONLY, EXCLUDING NEWBORNS)

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 Eeyou Istchee	68.6%	74.2%	76.7%	74.0%
<b>Eeyou Istchee</b>	<b>31.4%</b>	<b>25.7%</b>	<b>23.2%</b>	<b>25.9%</b>
Total <sup>108</sup>	100%	100%	100%	100%

TABLE 3.14: PERCENT OF HOSPITALIZATIONS OCCURRING IN RESIDENT'S OWN REGION, BY PERIOD (SHORT TERM PHYSICAL CARE ONLY, EXCLUDING NEWBORNS)

% Hospitalizations own region	1982-3	1987-8	1992-3	1997-8	1998-9
<b>Residents of Eeyou Istchee</b>	<b>31.4%</b>	<b>25.7%</b>	<b>23.2%</b>	<b>25.9%</b>	<b>26.0%</b>
Residents of Montreal	94.4%	96.1%	96.1%	95.8%	95.6%
Residents of Nunavik	37.7%	61.1%	66.6%	73.1%	71.9%
Residents of Nord-du-Québec	55.1%	57.0%	57.5%	59.2%	55.6%

<sup>107</sup> IBID

<sup>108</sup> The actual sums may not total 100% due to rounding.

TABLE 3.15 PERCENT OF HOSPITALIZATIONS IN NORD-DU-QUÉBEC REGION BY PATIENT'S REGION OF RESIDENCE AND PERIOD (SHORT TERM PHYSICAL CARE ONLY, EXCLUDING NEWBORNS)

Patients from:	Hospitalizations in <u>Nord-du-Québec</u> region			
	1982-83	1987-88	1992-93	1997-98
Nord-du-Québec	83.2%	75.4%	72.9%	64.9%
<b>Eeyou Istchee</b>	<b>12.3%</b>	<b>16.8%</b>	<b>20.8%</b>	<b>30.7%</b>
Other regions	4.5%	7.8%	6.3%	4.4%

TABLE 3.16: BIRTHS TO RESIDENTS OF EYYOU ISTCHEE BY PLACE OF BIRTH, 1999 (PUBLIC HEALTH MODULE— CREE REGION OF JAMES BAY, 2000)

	Chibougamau	Chisasibi	Rouyn-Noranda	Val D'Or <sup>109</sup>	Other	Total
Nemaska	2	0	0	9	0	<b>11</b>
Mistissini	49	0	0	4	4	<b>57</b>
Oujé-Bougoumou	12	0	1	2	3	<b>18</b>
Waswanipi	22	0	1	16	4	<b>43</b>
Waskaganish	0	0	0	41	2	<b>43</b>
Eastmain	0	0	0	14	1	<b>15</b>
Wemindji	0	1	2	18	0	<b>21</b>
Chisasibi	0	30	3	45	9	<b>87</b>
Whapmagoostui	0	1	0	25	0	<b>26</b>
Outside territory	1	0	0	1	2	<b>4</b>
Unknown	0	0	0	0	0	<b>0</b>
<b>Total</b>	<b>86</b>	<b>32</b>	<b>7</b>	<b>175</b>	<b>25</b>	<b>325</b>

<sup>109</sup> VAL D'OR REFERS TO THE ST-SAUVEUR HOSPITAL CENTRE.

TABLE 3.17: SELECTED INDICATORS FOR SHORT-TERM CARE<sup>110</sup> BY REGION OF REPORTING INSTITUTION, 1997-98 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>111</sup>, 2000)

	Beds	Users	User-Bed days	Occupancy rates <sup>112</sup>
<b>Eeyou Istchee</b>	<b>27</b>	<b>540</b>	<b>6196</b>	<b>62.9%</b>
Nord-du Quebec <sup>113</sup>	32	1836	8744	74.9%
Nunavik <sup>114</sup>	36	1664	4981	37.9%
All of Quebec	16389	673502	4982403	83.3%

*Note: By region of reporting institution*

TABLE 3.18: NUMBER OF HOSPITALIZATIONS AND AVERAGE STAY IN ACTIVE CARE CENTERS BY REGION OF RESIDENCE, 1989-90 AND 1996-97

	Number of hospitalisations		Average length of stay (days)	
	<b>1989-90</b>	<b>1996-97</b>	<b>1989-90</b>	<b>1996-97</b>
Nord-du Quebec <sup>115</sup>	4038	2593	5.6	5
Nunavik <sup>116</sup>	1704	1304	6.5	5
<b>Eeyou Istchee</b>	<b>1785</b>	<b>1849</b>	<b>5.9</b>	<b>5.3</b>

*Note: Applies to residents of Eeyou Istchee regardless of location of hospitalization.*

<sup>110</sup> Equivalent to "soins actifs" from the MEDECHO hospitalization system (see "Data Sources and Quality" in the Health Services Utilization section.)

<sup>111</sup> Source: SAS, MSSS, August 1999.

<http://www.msss.gouv.qc.ca/fr/statisti/indicat/utiserv/niveau5/index5.htm>

<sup>112</sup> Occupancy rates are calculated by dividing the number of actual user-days by the number of possible user-days and multiplying by 100

<sup>113</sup> See footnote #2 for description of Nord-du-Québec region

<sup>114</sup> See footnote #3 for description of Nunavik region

<sup>115</sup> See footnote #2 for description of Nord-du-Québec region

<sup>116</sup> See footnote #3 for description of Nunavik region

TABLE 3.19: NUMBER OF STAYS FOR SHORT-TERM HOSPITALIZATIONS IN GENERAL AND SPECIALIZED CARE INSTITUTIONS BY TYPE OF CARE AND PERIOD, RESIDENTS OF EYYOU ISTCHEE (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>117</sup>)

Residents of Eeyou Istchee	1982-83	1987-88	1992-93	1997-98	% Change 1982-3 to 1997-8
	# Stays	# Stays	# Stays	# Stays	
Short-term physical care	882	1452	1514	1725	+96%
Short-term psychiatric care	21	38	40	53	+152%
Care of newborns	117	226	285	303	+159%
<b>Total</b>	<b>1020</b>	<b>1706</b>	<b>1839</b>	<b>2081</b>	<b>+104%</b>

*Note: Applies to residents of Eeyou Istchee regardless of location of hospitalization.*

TABLE 3.20: NUMBER OF STAYS FOR SHORT-TERM HOSPITALIZATIONS IN GENERAL AND SPECIALIZED CARE INSTITUTIONS BY TYPE OF CARE AND PERIOD, TREATMENT IN EYYOU ISTCHEE (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>118</sup>)

Treatment in Eeyou Istchee	1982-83	1987-88	1992-93	1997-98	% Change 1982-3 to 1997-8
	# Stays	# Stays	# Stays	# Stays	
Short-term physical care	494	383	368	458	-7%
Short-term psychiatric care	20	19	18	20	0%
Care of newborns	55	53	49	32	-42%
<b>Total</b>	<b>589</b>	<b>474</b>	<b>453</b>	<b>530</b>	<b>-10%</b>

*Note: Applies to treatment in Eeyou Istchee hospitals regardless of clients' residence.*

<sup>117</sup> Source: L'Hospitalisation pour soins de courte durée au Québec: 1982-83 to 1997-98. MSSS, Direction générale de la planification stratégique et de l'évaluation, p 43-45

<sup>118</sup> IBID, pp 48-50

TABLE 3.21: LENGTH OF STAY FOR SHORT-TERM HOSPITALIZATIONS IN GENERAL AND SPECIALIZED CARE INSTITUTIONS BY TYPE OF CARE AND PERIOD, RESIDENTS OF EYYOU ISTCHEE (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>119</sup>)

Residents of Eeyou Istchee	1982-83	1987-88	1992-93	1997-98	% Change 1982-83 to 1997-98
	Days	Days	Days	Days	
Short-term physical care	6195	9560	9582	9925	+60%
Short-term psychiatric care	240	439	387	515	+115%
Care of newborns	626	995	1205	970	+55%
<b>Total</b>	<b>7061</b>	<b>11782</b>	<b>11174</b>	<b>11410</b>	<b>+62%</b>

*Note: Applies to residents of Eeyou Istchee regardless of location of hospitalization.*

TABLE 3.22: LENGTH OF STAY FOR SHORT-TERM HOSPITALIZATIONS IN GENERAL AND SPECIALIZED CARE INSTITUTIONS BY TYPE OF CARE AND PERIOD, TREATMENT IN EYYOU ISTCHEE (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999)

Treatment in Eeyou Istchee	1982-83	1987-88	1992-93	1997-98	% Change 1982-3 to 1997-8
	Days	Days	Days	Days	Days
Short-term physical care	3047	2322	1932	2586	-15%
Short-term psychiatric care	229	161	88	139	-39%
Care of newborns	187	160	117	68	-64%
<b>Total</b>	<b>3692</b>	<b>2804</b>	<b>2225</b>	<b>2932</b>	<b>-21%</b>

*Note: Applies to treatment in Eeyou Istchee hospitals regardless of clients' residence.*

<sup>119</sup> IBID, pp 423-45

TABLE 3.23: AVERAGE LENGTH OF STAY (DAYS) FOR SHORT-TERM HOSPITALIZATIONS IN GENERAL AND SPECIALIZED CARE INSTITUTIONS BY TYPE OF CARE AND PERIOD, RESIDENTS OF EYYOU ISTCHEE (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>120</sup>)

Residents of Eeyou Istchee	1982-83	1987-88	1992-93	1997-98	% Change
	Avg stay	Avg stay	Avg stay	Avg stay	1982-3 to 1997-8
Short-term physical care	7	6.6	6.3	5.8	-18%
Short-term psychiatric care	11.4	11.6	9.7	9.7	-15%
Care of newborns	5.4	4.4	4.2	3.2	-40%
<b>Total</b>	<b>6.9</b>	<b>6.9</b>	<b>6.1</b>	<b>5.5</b>	<b>-21%</b>

*Note: Applies to residents of Eeyou Istchee regardless of place of hospitalization. One illness or accident "event" may result in more than one hospitalization (e.g. two nights in Chisasibi followed by 2 nights in Montreal). In such cases, the average length of stay is treated as more than one "stay" and results in shorter average lengths of stay.*

TABLE 3.24: AVERAGE LENGTH OF STAY (DAYS) FOR SHORT-TERM HOSPITALIZATIONS IN GENERAL AND SPECIALIZED CARE INSTITUTIONS BY TYPE OF CARE AND PERIOD, TREATMENT IN EYYOU ISTCHEE (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>121</sup>)

Treatment in Eeyou Istchee	1982-3	1987-8	1992-3	1997-8	% Change
	Avg stay	Avg stay	Avg stay	Avg stay	1982-3 to 1997-8
Short-term physical care	6.2	6.1	5.3	5.6	-8%
Short-term psychiatric care	11.5	8.5	4.9	7	-39%
Care of newborns	3.4	3	2.4	2.1	-38%
<b>Total</b>	<b>6.3</b>	<b>5.9</b>	<b>4.9</b>	<b>5.5</b>	<b>-12%</b>

*Note: Use of more than one hospital, as described in the previous note, also affects the average length of stay in Eeyou Istchee*

<sup>120</sup> IBID, pp 43-45

<sup>121</sup> IBID, pp 48-50

TABLE 3.25: AVERAGE LENGTH OF STAY (DAYS) FOR SHORT-TERM HOSPITALIZATIONS IN GENERAL AND SPECIALIZED CARE INSTITUTIONS BY REGION OF RESIDENCE, (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>122</sup>)

Region of residence	Short-term physical care	Short-term psychiatric care	Care of newborns	Total
Cree	5.8	9.7	3.2	<b>5.5</b>
Nord du Quebec <sup>123</sup>	5.2	8.2	3.4	<b>5.3</b>
Nunavik <sup>124</sup>	4.9	6.7	2.9	<b>4.7</b>
All of Quebec	6.9	17.1	3.5	<b>7</b>

TABLE 3.26: NUMBER OF SHORT TERM CARE HOSPITALIZATIONS (EXCLUDING NEWBORNS) PER PERSON HOSPITALIZED FOR 1992-93 AND 1997-98 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>125</sup>)

	Number of hospitalizations					Total #
	1	2	3	4	5 or more	
1992-93	77%	16%	5%	2%	1%	1040
1997-98	76%	15%	5%	2%	2%	1174

*Note: Applies to hospitalizations within the fiscal year. Excludes those not hospitalized during the year.*

TABLE 3.27: NUMBER OF SURGERIES PERFORMED ON RESIDENTS OF EYYOU ISTCHEE, BY TYPE OF SURGERY AND PERIOD (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>126</sup>)

Number	1982-83	1987-88	1992-93	1997-98	% Change 87-88 to 97-98
Tonsillectomy	2	33	32	42	+27%
Appendectomy	11	18	24	26	+44%
Inguinal or crural hernia repair	2	5	11	10	+100%
Hysterectomy	2	19	13	9	-53%
Total hip replacement	0	2	3	0	-
Gall bladder removal	1	40	61	65	+63%

*Note: Only selected, relatively common surgeries are listed. Based on residents of Eeyou Istchee, regardless of where the surgery took place.*

<sup>122</sup> IBID, pp 43-45

<sup>123</sup> See footnote #2 for description of Nord-du-Québec region

<sup>124</sup> See footnote #3 for description of Nunavik region

<sup>125</sup> IBID, pp 148

<sup>126</sup> IBID, compiled from pp. 73-109

TABLE 3.28: AGE-ADJUSTED RATE OF SURGERIES PERFORMED ON RESIDENTS OF EYYOU ISTCHEE, BY TYPE OF SURGERY, COMPARED (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>127</sup>)

Surgery	Quebec	Eeyou Istchee	Ratio
Tonsillectomy	158	191	1.21
Appendectomy	119	150	1.26
Inguinal or crural hernia repair	234	72	0.31
Hysterectomy	362	256	0.71
Total hip replacement	35	0	0.00
Gall bladder removal	235	676	2.88

*Note: Rates are per 100,000 per, age adjusted for Eeyou Istchee. Ratios are Eeyou Istchee rates divided by Quebec rates. Only selected, relatively common surgeries are listed. Eeyou Istchee column refers to residents, regardless of where the surgery took place.*

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<sup>127</sup> IBID



## 4. Health Status

This section provides direct measures of the population's health including:

- Infectious diseases
- Chronic diseases (including diabetes)
- Life expectancy
- Mortality by cause
- Injury-related hospitalization

### Key Points

- Chlamydia is the most common reportable disease, with 84 cases in 1999.
- The chlamydia rate for Eeyou Istchee is 813 (per 100,000 per year) compared to 87 for Quebec.
- No AIDS cases have been reported. The limited available data on HIV is somewhat inconclusive.
- 11.0% of adults (15+) have been diagnosed with diabetes. The figure reaches about 30% in adults 50 and over.
- Waswanipi's diabetes rate is highest (18.8%) and Whapmagoostui's is lowest (7.05)
- Life expectancy for men is 74.8 (compared to 74.5 for Quebec) and 75.5 for women (compared to 81.1). There was an unexplained drop in life expectancy among women (80.5 to 75.5) between 1988-92 and 1993-97.
- Infant mortality in Eeyou Istchee is almost three times the provincial average (14.9 vs. 5.3 per 1,000 live births)
- For all-causes and ages combined, mortality rates in Eeyou Istchee are similar to those for Quebec as a whole (which are somewhat lower than those for Canada).
- Cancer death rates are somewhat lower in Eeyou Istchee (149.9 vs. 217.5 per 100,000 per year).
- The death rate related to respiratory causes was somewhat higher (149.9 in Eeyou Istchee vs. 64.3 in Quebec).
- The diabetes mortality rate was higher (rates: 42.5 in Eeyou Istchee vs. 19.2 in Quebec)
- Deaths from gastrointestinal causes were more common (rates: 54.7 in Eeyou Istchee vs. 26.5 in Quebec)
- Death rates related to motor vehicles were also higher (26.7 in Eeyou Istchee vs. 11.2 in Quebec)

## Data Sources and Quality

- We believe that the Quebec Ministry of Health mortality rates reported in several tables below are **underestimated**. (See next point for detail.)
- A detailed review of three sources of death records<sup>128</sup> for the period 1987-92 revealed undercounting as well as overcounting by the Ministry of Health mortality register (vital statistics). Systematic undercounting by the Ministry's register was related to the misallocation of some Mistissini deaths to the Lac-St-Jean (02) region (which includes a "Mistassini").

Overcounting by the Ministry also occurred, but to a lesser extent. For example, about half of the deaths mistakenly allocated to Eeyou Istchee were Inuit from Whapmagoostui's "other half" Kuujjuaraapik (region 17). They were likely allocated to region 18 subsequent to the use of the non-specific "Great-Whale" on the death certificate.

The overall effect is a net underestimation of total deaths by the Ministry (the same applies to the Module's in-house register). Mortality statistics should be interpreted cautiously.

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<sup>128</sup> Mortalité de la population des huit villages cris de la Baie James, 1987-92. RRSSS-Montreal Centre/Cree Board of Health and Social Services. St-Pierre, M H. 1995 p. 93-103. The study was based on a review of three sources of mortality data: Quebec Ministry of Health, Public Health Module confidential registry and the JBNQA beneficiary list.

TABLE 4.1: NOTIFIABLE DISEASES (“MADOS”- MALADIES À DÉCLARATION OBLIGATOIRE), BY YEAR (LABORATOIRE DE SANTÉ PUBLIQUE DU QUÉBEC, CENTRAL DATABASE)

	1992	1993	1994	1995	1996	1997	1998	1999	Total
<b>Sexually transmitted diseases</b>									
Chlamydia (genito-urinary)	94	87	102	111	91	77	135	84	<b>781</b>
Gonorrhoea (genito-urinary)	4	0	10	9	4	6	9	0	<b>42</b>
Hepatitis B (carrier)	0	0	1	2	0	0	0	0	<b>3</b>
Hepatitis B (undefined)	0	0	0	0	0	0	1	1	<b>2</b>
Hepatitis B (acute)	0	0	0	0	0	0	1	0	<b>1</b>
AIDS*	0	0	0	0	0	0	0	0	<b>0</b>
<b>Other notifiable diseases</b>									
Pertussis	0	41	2	0	0	1	25	0	<b>69</b>
Salmonella	3	3	3	11	5	9	10	7	<b>51</b>
Tuberculosis	1	2	3	2	2	6	0	1	<b>17</b>
Lead levels	0	0	0	0	0	1	3	10	<b>14</b>
Campylobacter	1	1	1	0	2	0	1	3	<b>9</b>
Hepatitis C (undefined)	0	0	0	0	0	0	4	3	<b>7</b>
Inv. S. Pneumonia, Invasive Strep A.	0	0	0	0	0	1	1	4	<b>6</b>
Giardia	1	1	0	1	0	0	1	1	<b>5</b>
Hepatitis A	0	1	0	0	2	0	0	0	<b>3</b>
Strep. A Inv	0	0	0	0	0	0	2	1	<b>3</b>
Chlamydia (pulmonary)	2	0	0	0	0	0	1	0	<b>3</b>
Scarlet Fever	1	0	0	0	0	0	1	0	<b>2</b>
Viral meningitis	0	1	0	0	0	0	0	1	<b>2</b>
Gonorrhoea (arthritic)	0	0	0	0	1	0	0	1	<b>2</b>
Measles	0	0	1	0	0	0	0	0	<b>1</b>
E. Coli	0	0	1	0	0	0	0	0	<b>1</b>
Hepatitis (not specified)	0	0	0	0	1	0	0	0	<b>1</b>
Chlamydia (eye)	1	0	0	0	0	0	0	0	<b>1</b>
Gonorrhoea (eye)	0	0	0	0	0	0	1	0	<b>1</b>
Mumps	0	0	0	0	0	0	0	1	<b>1</b>
<b>Total, all declarations</b>	<b>108</b>	<b>137</b>	<b>124</b>	<b>136</b>	<b>108</b>	<b>101</b>	<b>196</b>	<b>118</b>	<b>1028</b>

*Note: All notifiable disease counts are based on the year that declaration was received by public health authorities.*

*\*HIV is not reportable in Quebec, although AIDS is. A seroprevalence study of 90% of newborns between 1989-93, found no HIV antibodies among babies tested from coastal Cree villages (“JOM” postal codes). One baby was found to be HIV positive in a community with a postal code that starts with “JOY”. It is possible, though unlikely, that the baby was from Nemaska or Waswanipi. Births from those communities represent*

*only about 1/10<sup>th</sup> of all the “JOY” births, suggesting that there is about a 1/10 chance that the infected baby was from either location.*

TABLE 4.2: DECLARED TUBERCULOSIS CASES BY AGE GROUP, 1992-99 COMBINED (LABORATOIRE DE SANTÉ PUBLIQUE DU QUÉBEC, CENTRAL DATABASE)

	Total
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
<b>Total</b>	<b>17</b>

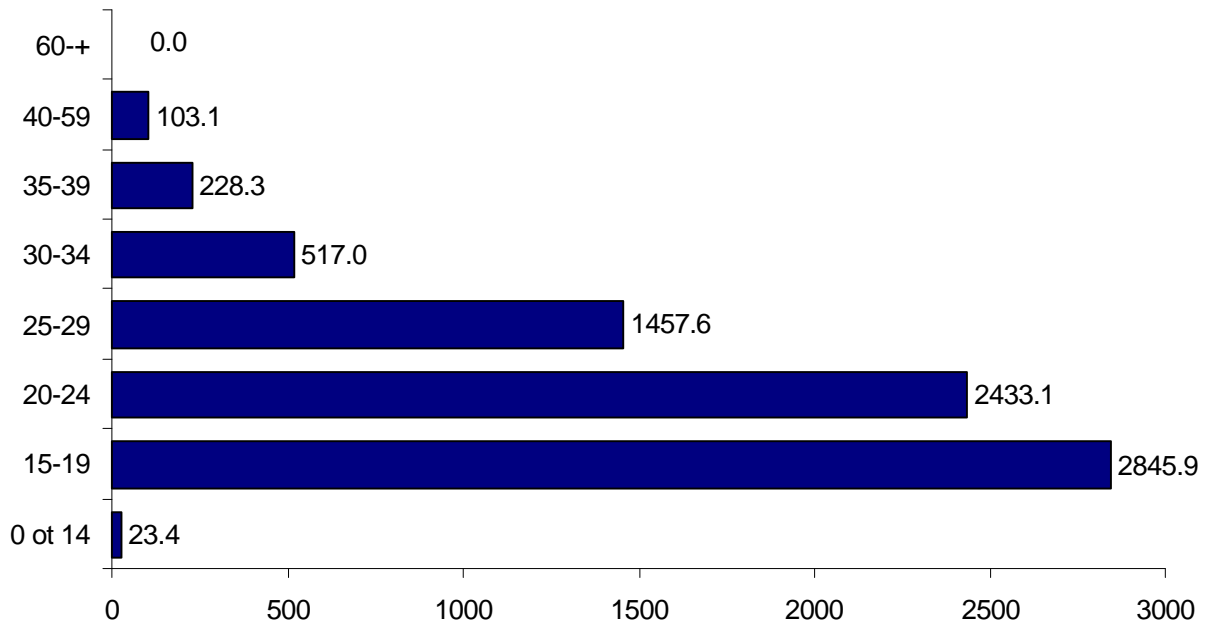
*Note: Includes pulmonary as well as other forms of tuberculosis.*

TABLE 4.3: DECLARED CHLAMYDIA CASES BY AGE AND SEX, 1997-1999 COMBINED (LABORATOIRE DE SANTÉ PUBLIQUE DU QUÉBEC, CENTRAL DATABASE)

Age group	Male	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
<b>Total</b>	<b>30</b>	<b>266</b>	<b>296</b>

*Note: The number of cases among males reflects the relative lack of testing and/or screening protocols for men. Figures apply only to genito-urinary cases.*

CHART 4A: RATE OF DECLARED CHLAMYDIA CASES BY AGE, 1997-1999  
COMBINED (LABORATOIRE DE SANTÉ PUBLIQUE DU QUÉBEC, CENTRAL  
DATABASE)



*Note: Declared cases per 100,000 per year. Figures apply only to genito-urinary cases. Reported LSPQ rates were recalculated using corrected population figures.*

TABLE 4.4: NUMBER AND RATE OF DECLARED CHLAMYDIA CASES, 1996-99 BY COMMUNITY (LABORATOIRE DE SANTÉ PUBLIQUE DU QUÉBEC, CENTRAL DATABASE)

	1996-99	Rate
Nemaska	19	880
Mistissini	64	627
Oujé-Bougoumou	20	896
Waswanipi	52	1142
Waskaganish	46	695
Eastmain	10	457
Wemindji	34	795
Chisasibi	78	620
Whapmagoostui	45	1621
<b>Eeyou Istchee*</b>	<b>387</b>	<b>813.0</b>
Quebec (1997)		86.7

*Note: Figures apply only to genito-urinary cases. Rates are per 100,000 persons per year (not age-adjusted). \*19 cases of unknown village are included in the regional total and rate. Reported LSPQ rates were recalculated using corrected population figures.*

TABLE 4.5: DECLARED CASES OF GONORRHEA, 1995-99 COMBINED (LABORATOIRE DE SANTÉ PUBLIQUE DU QUÉBEC, CENTRAL DATABASE)

	Male	Female	Total
10 to 14	0	1	1
15-19	1	5	6
20-24	1	10	11
25-29	0	1	2
30-34	1	0	0
35-39	0	0	1
40-59	0	0	0
60+	1	0	0
Unknown		5	6
<b>Total</b>	<b>5</b>	<b>22</b>	<b>27</b>

*Note: The lower number of cases among males reflects the relative lack of testing and/or screening protocols for men. Figures apply only to genito-urinary cases.*

TABLE 4.6: RATE OF DECLARED GONORRHEA CASES, COMPARED  
(LABORATOIRE DE SANTÉ PUBLIQUE DU QUÉBEC, CENTRAL DATABASE)

Eeyou Istchee 1996-99	Quebec 1997
38.7	7.5

*Note: 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.*

TABLE 4.7: PERCENT OF POPULATION REPORTING CERTAIN HEALTH  
PROBLEMS, COMPARED (SANTÉ QUÉBEC HEALTH SURVEY)

Reported problems	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%

TABLE 4.8: RATE (PREVALENCE) OF DIAGNOSED DIABETES, 1989, 1991 1997-  
2000 (CREE BOARD OF HEALTH AND SOCIAL SERVICES OF JAMES BAY, 2000<sup>129</sup>)

	1989*	1991*	1997	1998	1999	2000
Number	230	406	607	733	821	890
Rate	4.1%	7.1%	8.4%	9.6%	10.3%	11.0%

*Note: \*Figures from 1989 and 1991 are from studies undertaken prior to the creation of the CBHSSJB diabetes register in 1996.*

<sup>129</sup> Annual Diabetes Update, Eeyou Istchee, May 2000. Cree Board of Health and Social Services of James Bay

TABLE 4.9: NUMBER AND RATE (PREVALENCE) OF DIAGNOSED DIABETES CASES BY COMMUNITY (CREE BOARD OF HEALTH AND SOCIAL SERVICES OF JAMES BAY, 2000<sup>130</sup>)

	Diabetics	Rate*
Waswanipi	149	19%
Mistissini	254	14%
Oujé-Bougoumou	50	14%
Eastmain	50	14%
Waskaganish	115	11%
Wemindji	52	8%
Nemaska	32	8%
Chisasibi	154	7%
Whapmagoostui	30	7%
<b>Total</b>	<b>886*</b>	<b>11%</b>

*Note: Rates based on Cree beneficiaries over the age of 15. \*Total excludes 4 10-14 year olds with diabetes in Waswanipi and Mistissini*

TABLE 4.10: NUMBER AND RATE OF DIAGNOSED DIABETES CASES BY AGE (CREE BOARD OF HEALTH AND SOCIAL SERVICES OF JAMES BAY, 2000<sup>131</sup>)

	People with diabetes	Rate
10 to 19	7	0.3%
20-29	72	3%
30-39	146	8%
40-49	191	18%
50-59	225	31%
60-69	141	33%
70 +	108	29%

<sup>130</sup> Annual Diabetes Update, Eeyou Istchee, May 2000. Cree Board of Health and Social Services of James Bay

<sup>131</sup> IBID



CHART 4B: NUMBER OF DIABETES CASES BY SEX (CREE BOARD OF HEALTH AND SOCIAL SERVICES OF JAMES BAY, 2000<sup>132</sup>)

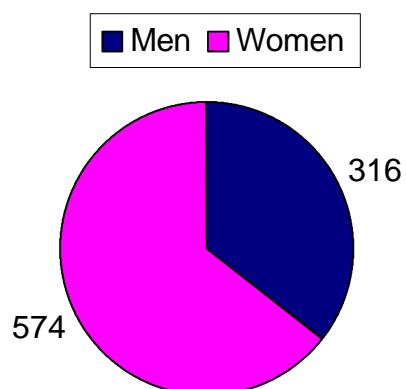


TABLE 4.11: BLOOD SUGAR LEVELS AMONG DIABETICS (CREE BOARD OF HEALTH AND SOCIAL SERVICES OF JAMES BAY, 2000<sup>133</sup>)

Healthy Blood Sugar Level	Blood sugar level too high	Blood sugar level dangerously high
38%	19%	40%

*Note: Healthy blood sugar level: HgbA1c 115%, high sugar: 116-139%, dangerously high 140%*

TABLE 4.12: NUMBER AND PERCENT OF DIABETICS DIAGNOSED WITH DIABETES-RELATED DAMAGE, BY TYPE OF DAMAGE (CREE BOARD OF HEALTH AND SOCIAL SERVICES OF JAMES BAY, 2000<sup>134</sup>)

	Number	Percent
Any kidney damage	307	49%
Any eye damage	84	13%
Any nerve damage	71	11%
Blood vessel damage	72	11%

<sup>132</sup> Annual Diabetes Update, Eeyou Istchee, May 2000. Cree Board of Health and Social Services of James Bay

<sup>133</sup> IBID, based on 623 patients that consented to sharing their data.

<sup>134</sup> IBID, based on 623 patients that consented to sharing their data.

TABLE 4.13: DECLARED CASES OF CANCER FOR RESIDENTS OF EYYOU ISTCHEE, BY SEX AND TYPE, 1992-96 (TUMOUR REGISTER, QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999)

Type	Women	Men	Total
Leukemia and lymphoma	1	5	6
Lung	3	6	9
Other-respiratory	0	2	2
Colorectal	5	5	10
Other-intestinal	2	4	6
Bladder, kidney and urethra	7	6	13
In situ cervix	9	-	9
Ovary	4	-	4
Uterus	3	-	3
Breast	10	-	10
Prostate	-	7	7
Bone and connective tissue	2	1	3
Other	5	8	13
<b>Total</b>	<b>51</b>	<b>44</b>	<b>95</b>

*Note: Total of all declared cases for the five-year period, from January 1992 to December 1996. Eight cases assumed to be duplicates were removed.*

TABLE 4.14: DECLARED CASES OF CANCER FOR RESIDENTS OF EYYOU ISTCHEE, BY AGE GROUP, 1992-96 (TUMOUR REGISTER, QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999)

Age group	Total
0 to 9	4
10 to 19	2
20 to 29	8
30 to 39	9
40 to 49	14
50 to 59	16
60 to 69	15
70 and up	27
<b>Total</b>	<b>95</b>

*Note: See previous note.*

TABLE 4.15: LIFE EXPECTANCY AT BIRTH, BY REGION AND SEX COMPARED (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>135</sup>)

Life expectancy in years (1993-97)	Males	Females
<b>Eeyou Istchee</b>	<b>74.8</b>	<b>75.5</b>
Nord-du-Québec	74.2	82.3
Nunavik	63.2	69.1
All Quebec	74.5	81.1

*Note: Life expectancy in Eeyou Istchee is believed to be overestimated (and mortality rates underestimated) due to undercounting of deaths. Please see notes under “data sources and quality” (p. 96)*

TABLE 4.16: LIFE EXPECTANCY AT BIRTH, BY SEX AND PERIOD, VARIOUS SOURCES (COURTEAU, ST-PIERRE, QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES)

Life expectancy (years)	Males	Females
1975-81 (Robinson <sup>136</sup> )	69.8	73.2
1982-86 (Courteau <sup>137</sup> )	71.6	75.1
1987-92 (St-Pierre <sup>138</sup> )	71.5	77.2
1988-92 (QMhSS <sup>139</sup> )	73.1	80.6
1989-93 (Choiniere <sup>140</sup> )	73.6	75.6
1993-97 (QMhSS <sup>141</sup> )	74.8	75.5
1994-98 (INSPQ <sup>142</sup> )	73.0	73.0

*Note: Life expectancy in Eeyou Istchee is believed to be overestimated (and mortality rates underestimated) due to undercounting of deaths. Please see notes under “data sources and quality” (p. 96)*

<sup>135</sup> Surveillance de la mortalité au Québec: 1976-1997, Direction générale de la santé publique, Ministère de la santé et des services sociaux. p. 248

<sup>136</sup> Robinson, E. Mortality among the James Bay Cree, Quebec, 1975-92. Circumpolar Health 84; 166-169. (Proceedings of the Sixth International Symposium on Circumpolar Health. Ed. Robert Fortuine. University of Washington Press, Seattle and London. 1985.

<sup>137</sup> Mortality among the James Bay Cree of Northern Quebec: 1982-1986. Courteau, J.P., Masters Thesis. Department of Epidemiology and Biostatistics, McGill University, Montreal 1989.

<sup>138</sup> Mortalité de la population des huit villages cris de la Baie James, 1987-92. RRSSS-Montreal Centre/Cree Board of Health and Social Services. St-Pierre, M.H. 1995 p. 25

<sup>139</sup> Surveillance de la mortalité au Québec: 1976-1997, Direction générale de la santé publique, Ministère de la santé et des services sociaux. p. 248

<sup>140</sup> Institut National de la Santé Publique de Québec, Portrait de Santé du Québec et de ses Régions (in progress)

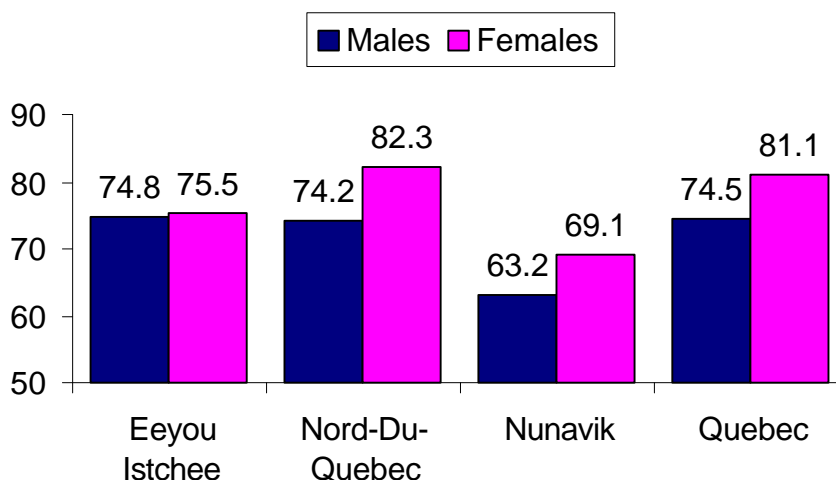
<sup>141</sup> IBID

<sup>142</sup> Institut National de la Statistique du Québec.

*Further, life expectancy figures are affected by unstable and imprecise population counts for the oldest age group. The 1996 denominator used for the 1994-98 figures included 211 persons 65 and over. The number of persons recorded in that age group for 1991 was 261—suggesting a rather implausible decrease between the two periods. What this means is that the life expectancy for 1994-98 is probably, in fact, higher or the one for the previous period is lower. In other words, the apparent drop in life expectancy in the last period may not be real or may not be as pronounced.*

*Interpret trend cautiously as data sources and quality varies.*

**CHART 4C: LIFE EXPECTANCY AT BIRTH, BY REGION AND SEX, 1993-97 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>143</sup>)**



**TABLE 4.17: NUMBER OF STILLBIRTHS BY WEEKS OF GESTATION 1994-98, COMPARED (INSTITUT NATIONAL DE LA STATISTIQUE DU QUÉBEC<sup>144</sup>)**

<28 weeks	28+ weeks	Unknown	Total
0	3	0	3

*Note: Includes only fetuses of 500 grams or more.*

<sup>143</sup> IBID

<sup>144</sup> <http://www.stat.gouv.qc.ca/donnstat/demograp/deces/314.htm>

TABLE 4.18: RATE OF STILLBIRTHS 1994-98, COMPARED (INSTITUT NATIONAL DE LA STATISTIQUE DU QUÉBEC<sup>145</sup>)

	Nord-du-Québec	Nunavik	Eeyou Istchee	Quebec
Per 1,000	4.7	8.0	1.9	4.1

*Note: Interpret with caution due to small number of cases (see previous table). Calculation based on the number of stillbirths divided by the number of live births and stillbirths combined multiplied by 1000.*

TABLE 4.19: NUMBER OF INFANT DEATHS BY AGE AT DEATH (DAYS) 1994-98 (INSTITUT NATIONAL DE LA STATISTIQUE DU QUÉBEC<sup>146</sup>)

<1 day	1-6 days	7-27 days	28-365 days	Total
4	3	3	13	23

TABLE 4.20: RATE OF INFANT DEATHS BY AGE AT DEATH (DAYS) 1994-98, COMPARED (INSTITUT NATIONAL DE LA STATISTIQUE DU QUÉBEC<sup>147</sup>)

Rate per 1,000	Nord-du-Québec	Nunavik	Eeyou Istchee	Quebec
Perinatal (stillbirths+0-6 days) <sup>148</sup>	9.4	16.8	6.5	7.2
Early neonatal (0-6 days) <sup>149</sup>	4.7	8.8	4.5	3.1
Late neonatal (7 -27 days) <sup>150</sup>	1.6	1.5	1.9	0.7
Neonatal (0-27 days) <sup>151</sup>	6.3	10.3	6.5	3.8
Post neonatal (28-365 days) <sup>152</sup>	0.8	9.6	8.4	1.5
Total infant (0-365 days)	7.1	19.9	14.9	5.3

*Note: Some categories overlap (see footnotes). Interpret with caution due to small number of cases (see previous table).*

<sup>145</sup> <http://www.stat.gouv.qc.ca/donnstat/demograp/decès/314.htm>

<sup>146</sup> <http://www.stat.gouv.qc.ca/donnstat/demograp/decès/314.htm>

<sup>147</sup> <http://www.stat.gouv.qc.ca/donnstat/demograp/decès/314.htm>

<sup>148</sup> Perinatal mortality rate = number of stillbirths plus infant deaths under 7 days of age divided by the number of birth plus stillbirths multiplied by 1,000.

<sup>149</sup> Early neonatal mortality rate = the number of infant deaths under 7 days of age divided by the number of births multiplied by 1,000.

<sup>150</sup> Late neonatal mortality rate = the number of infant deaths over 7 and under 28 days of age divided by the number of births multiplied by 1,000.

<sup>151</sup> Neonatal mortality rate = the number of infant deaths before 28 days of age divided by the number of births multiplied by 1,000.

<sup>152</sup> Post neonatal = the number of infant deaths after 28 days of age divided by the number of births, divided by 1,000.

TABLE 4.21: RATE OF INFANT DEATHS BY AGE AT DEATH AND PERIOD (CREE BOARD OF HEALTH AND SOCIAL SERVICES, QUEBEC MINISTRY OF HEALTH, INSTITUT NATIONAL DE LA STATISTIQUE DU QUÉBEC)

Rate per 1,000	Perinatal	Neonatal	Post-neonatal	Infant
1975-81 Robinson <sup>153</sup>	9.6	8.0	29.0	37.0
1982-86 (Courteau) <sup>154</sup>	6.8	2.6	14.6	17.2
1987-92 (St-Pierre) <sup>155</sup>	6.7	3.1	8.0	11.0
1994-98 (ISQ) <sup>156</sup>	6.5	6.5	8.4	14.9

*Note: Interpret cautiously as data sources vary and numbers are small. See footnotes from previous table for definitions.*

<sup>153</sup> Robinson, E. Mortality among the James Bay Cree, Quebec, 1975-92. *Circumpolar Health* 84; 166-169. (Proceedings of the Sixth International Symposium on Circumpolar Health. Ed. Robert Fortune. University of Washington Press, Seattle and London. 1985.

<sup>154</sup> Mortality among the James Bay Cree of Northern Quebec: 1982-1986. Courteau, J.P., Masters Thesis. Department of Epidemiology and Biostatistics, McGill University, Montreal 1989.

<sup>155</sup> Mortalité de la population des huit villages cris de la Baie James, 1987-92. RRSSS-Montreal Centre/Cree Board of Health and Social Services St-Pierre, M H. 1995 p. 30

<sup>156</sup> <http://www.stat.gouv.qc.ca/donnstat/demograp/deces/314.htm>

TABLE 4.22: INFANT MORTALITY RATE, BY PERIOD, COMPARISON OF SOURCES (ROBINSON<sup>157</sup>, COURTEAU<sup>158</sup>, QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>159</sup>, ST-PIERRE<sup>160</sup>, CHOINIER<sup>161</sup>, INSTITUT NATIONAL DE LA STATISTIQUE DU QUÉBEC<sup>162</sup>)

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 (Choiniere)	10.7
1987-92 (St-Pierre)	11.0
1988-92 (QMHSS)	8.9
1989-93 (Choiniere)	12.1
1993-97 (GMHSS)	11.0
1994-98 (Choiniere/ISQ)	14.9

*Note: Interpret cautiously as data sources vary and numbers are small. Small numbers of deaths result in important fluctuations depending on the precise period selected (e.g. compare 1993-97 with 1994-98)*

<sup>157</sup> “État de la santé” in L’expérience de la Baie James. Robinson, E., DSC Module du Nord Québécois, Cree Board of Health and Social Services.

<sup>158</sup> Mortality among the James Bay Cree of Northern Quebec: 1982-1986. Courteau, J.P., Masters Thesis. Department of Epidemiology and Biostatistics, McGill University, Montreal 1989

<sup>159</sup> For 1981-83 and 1984-96 : Indicateurs Socio-sanitaires: Le Québec et ses régions, Direction Générale de la santé publique (MSSS), May 1997. p. 115. For 1988-1992 and 1993-97: Surveillance de la mortalité au Québec: 1976-1997, Direction générale de la santé publique, Ministère de la Santé et des services sociaux. p. 207

<sup>160</sup> Mortalité de la population des huit villages cris de la Baie James, 1987-92. RRSSS-Montreal Centre/Cree Board of Health and Social Services St-Pierre, M H. 1995.

<sup>161</sup> Institut National de la Santé Publique de Québec, Portrait de Santé du Québec et de ses Régions (in progress)

<sup>162</sup> <http://www.stat.gouv.qc.ca/donnstat/demograp/deces/314.htm>

TABLE 4.23: NUMBER OF DEATHS BY CAUSE AND YEAR AMONG RESIDENTS OF EYYOU ISTCHEE, 1990-1997 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>163</sup>)

	1990	1991	1992	1993	1994	1995	1996	1997
<b>AIDS (042-044)</b>	0	0	0	0	0	0	0	0
<b>Cancer (140-208)</b>	4	5	10	4	6	8	10	8
Stomach cancer (151)	1	1	1	0	0	0	0	0
Colon or rectal cancer (153--154)	0	0	1	1	1	0	0	1
Trachea, bronchial or lung cancer (162)	2	2	1	0	2	2	2	5
Breast cancer (women only) (174)	0	0	1	0	0	1	2	0
Cervical and uterine cancer (women only) (180)	0	0	0	0	0	0	0	0
Prostate cancer (men only) (185)	0	1	0	0	1	1	0	0
Leukemia (204-208)	1	0	0	1	0	0	1	0
<b>Diabetes mellitus (250)</b>	1	1	2	2	2	2	3	0
<b>Circulatory disease (390-459)</b>	10	9	7	8	12	13	4	12
Hypertensive disease (401-405)	0	0	0	0	0	0	0	0
Ischemic myocardopathy (410-414)	5	2	5	3	3	5	4	6
Cerebro-vascular disease (430-438)	2	3	0	3	6	5	0	2
<b>Respiratory disease (460-519)</b>	6	2	4	7	7	6	5	9
Pneumonia and flu (480-487)	2	1	1	2	2	3	0	5
Chronic obstructive pulmonary disease (490-496)	3	1	1	2	1	2	2	4
<b>Gastro-intestinal disease (520-579)</b>	1	0	3	4	0	4	1	2
Cirrhosis of the liver (571) <sup>164</sup>	1	0	1	0	0	1	0	0
<b>Congenital anomaly (740-759)</b>	2	0	0	2	0	1	1	1
<b>Accident, poisoning, trauma (E800-E999)</b>	8	12	15	8	4	10	3	6
Motor vehicle ((E810-E819)	6	1	5	3	3	4	0	3
Falls (E880-E888)	0	0	0	0	0	1	0	0
Suicide (E950-E959)	2	2	5	2	0	0	1	0
Homicide (E960-E969)	0	0	1	0	0	0	0	0
<b>Alcoholism and cirrhosis of the liver (292; 303; 571)</b>	1	0	1	2	1	1	0	0
<b>All Other causes</b>	0	3	8	8	7	6	9	11
<b>All causes (001-999)</b>	<b>33</b>	<b>32</b>	<b>49</b>	<b>45</b>	<b>39</b>	<b>50</b>	<b>36</b>	<b>49</b>

*Note: The number of deaths in Eeyou Istchee is believed to be underestimated due to undercounting of deaths. Please see notes under “data sources and quality” (p. 96)*

*Numbers in brackets correspond to codes from the International Classification of Diseases, 9<sup>th</sup> edition (ICD-9).*

<sup>163</sup> Surveillance de la mortalité au Québec: 1976-1997, Direction générale de la santé publique, Ministère de la Santé et des services sociaux. Compiled from pp.4-200

<sup>164</sup> There is overlap between the “Cirrhosis of the liver (571)” category and the “Alcoholism and cirrhosis of the liver (292; 303; 571)” category. The totals, though only count those deaths once.



TABLE 4.24: NUMBER OF PERSON-YEARS OF LIFE LOST BY CAUSE OF DEATH, 1993-97 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>165</sup>)

	Person-years of life lost
<b>All causes (001-999)</b>	<b>4332</b>
<b>AIDS (042-044)</b>	0
<b>Cancer (140-208)</b>	505
Stomach cancer (151)	0
Colon or rectal cancer (153--154)	17.5
Trachea, bronchial or lung cancer (16)	102.5
Leukemia (204-208)	100
<b>Diabetes mellitus</b>	72.5
<b>Circulatory disease (390-459)</b>	247.5
Hypertensive disease (401-405)	0
Ischemic cardiopathy (410-414)	117.5
Cerebro-vascular disease (430-438)	45
<b>Respiratory disease (460-519)</b>	379
Pneumonia and flu (480-487)	74.5
Chronic obstructive pulmonary disease (490-496)	85
<b>Gastro-intestinal disease (520-579)</b>	37.5
Cirrhosis of the liver (571)	2.5
Congenital anomaly (740-759)	370
<b>Accident, poisoning, trauma (E800-E999)</b>	1367
Motor vehicle ((E810-E819)	542.5
Falls (E880-E888)	0
Suicide (E950-E959)	162.5
Homicide (E960-E969)	0
<b>Alcoholism and cirrhosis of the liver (292; 303; 571)</b>	55

*Note: Mortality rates in Eeyou Istchee are believed to be underestimated due to undercounting of deaths. Please see notes under "data sources and quality" (p. 96)*

*Numbers in brackets correspond to codes from the International Classification of Diseases, 9<sup>th</sup> edition (ICD-9).*

<sup>165</sup> IBID p. 242

TABLE 4.25: NUMBER OF DEATHS IN EYYOU ISTCHEE—TWO SOURCES COMPARED, BY YEAR (COMPILED BY G. BÉRUBÉ, PUBLIC HEALTH MODULE—CREE REGION OF JAMES BAY)

	Public Health Module	Ministry of Health	Difference
1993	47	45	+2
1994	40	39	+1
1995	49	50	-1
1996	46	36	+10
1997	50	49	+1
<b>Total</b>	<b>232</b>	<b>219</b>	<b>+13</b>

*Note: Please see notes under “data sources and quality” for discussion of differences between the data sources.*

TABLE 4.26: NUMBER OF DEATHS IN EYYOU ISTCHEE —TWO SOURCES COMPARED, 1993-97 (COMPILED BY G. BÉRUBÉ, PUBLIC HEALTH MODULE—CREE REGION OF JAMES BAY)

	Public Health Module	Ministry of Health	Difference
Chisasibi	79	77	+2
Eastmain	5	5	0
Mistissini	44	31	+13
Nemaska	11	9	+2
Oujé-Bougoumou	3	3	0
Waskaganish	22	24	-2
Waswanipi	24	24	0
Wemindji	24	24	0
Whapmagoostui	14	14	0
Other	6	8	-2
<b>Total</b>	<b>232</b>	<b>219</b>	<b>+13</b>

*See previous note.*

TABLE 4.27: DOCUMENTED SUICIDE COUNTS, COMPARISON OF SOURCES  
(PUBLIC HEALTH MODULE— CREE REGION OF JAMES BAY <sup>166</sup>)

	Public Health Module <sup>167</sup>	QMHSS <sup>168</sup>	Courteau <sup>169</sup>	Damestoy <sup>170</sup> & Barss <sup>171</sup>
1982-86	3	3	3	
1982-91	9	8		10
1987-92	9	10		
1982-96	17	16		

*Note: The Public Health Module— Cree Region of James Bay and Quebec Ministry of Health and Social Services counts are available separately for each year. Other sources report data for specific periods. Direct comparisons are available when the periods overlap.*

<sup>166</sup> Extracted from a more detailed accounting: "Paper 1: Distribution of suicides among Cree communities, 1981-1997. Jill Torrie. Public Health Module Cree Region Jan. 13, 1999.

<sup>167</sup> In-house records.

<sup>168</sup> Surveillance de la mortalité au Québec: 1976-1997, Direction générale de la santé publique, Ministère de la santé et des services sociaux and Profil des traumatismes au Québec : mise à jour, 1991 à 1995. Direction de la santé publique de Montréal-Centre.

<sup>169</sup> Mortality among the James Bay Cree of Northern Quebec: 1982-1986. Courteau, J.P., Masters Thesis. Department of Epidemiology and Biostatistics, McGill University, Montreal 1989.

<sup>170</sup> Department of Epidemiology and Biostatistics, McGill University, Montreal.

<sup>171</sup> Suicide and parasuicide among the Cree of eastern James Bay, Canada: circumstances and prevention. Special Research Report, Barss, P., Cree Board of Health and Social Services.

TABLE 4.28: AGE-ADJUSTED MORTALITY RATES BY CAUSE COMPARED, 1993-1997 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES, 1999<sup>172</sup>)

Deaths per 100,000 per year	Nord-du-Québec	Nunavik	Eeyou Istchee	Quebec	Eeyou I: Quebec Ratio
<b>AIDS (042-044)</b>				6.2	
<b>Cancer (140-208)</b>	262.3	289.8	149.9	217.5	<b>0.7</b>
Stomach cancer (151)	10.6	3.5		8.7	
Colon or rectal cancer (153--154)	19.1	20.6	14.7	26.4	<b>0.6</b>
Trachea, bronchial or lung cancer (162)	121.6	153.5	49.6	64.5	<b>0.8</b>
Leukemia (204-208)	7.8	1.7	4.2	6.7	<b>0.6</b>
<b>Diabetes mellitus</b>	11.6	17.9	42.5	19.2	<b>2.2</b>
<b>Circulatory disease (390-459)</b>	176.9	293.1	236.5	265.3	<b>0.9</b>
Hypertensive disease (401-405)	4.6	8.4		4.3	
Ischemic cardiomyopathy (410-414)	117.8	42.3	100.8	154.6	<b>0.7</b>
Cerebro-vascular disease (430-438)	13.6	114.4	79.2	46.9	<b>1.7</b>
<b>Respiratory disease (460-519)</b>	59.8	222.7	149.9	64.3	<b>2.3</b>
Pneumonia and flu (480-487)	5.2	32.3	57.5	18.3	<b>3.1</b>
Chronic obstructive pulmonary disease (490-496)	49.1	170.5	51.6	37.6	<b>1.4</b>
<b>Gastro-intestinal disease (520-579)</b>	29.3	35.9	54.7	26.5	<b>2.1</b>
Cirrhosis of the liver (571)	6.9	3.5	5.2	7.9	<b>0.7</b>
<b>Congenital anomaly (740-759)</b>	0.9	6.6	3.8	3.3	<b>1.2</b>
<b>Accident, poisoning, trauma (E800-E999)</b>	62.6	210.4	59.3	49.4	<b>1.2</b>
Motor vehicle ((E810-E819)	17.2	29.7	26.7	11.2	<b>2.4</b>
Falls (E880-E888)	8.6	9.5	4.7	7.7	<b>0.6</b>
Suicide (E950-E959)	18.8	81.6	3.2	19.1	<b>0.2</b>
Homicide (E960-E969)	1.9	13.3		1.7	
<b>Alcoholism and cirrhosis of the liver (292; 303; 571)</b>	6.9	10.7	16.8	9.3	<b>1.8</b>
<b>All causes (001-999)</b>	<b>666.4</b>	<b>1203.1</b>	<b>842.0</b>	<b>736.2</b>	<b>1.1</b>

*Note: Mortality rates in Eeyou Istchee are believed to be underestimated. Please see notes under “data sources and quality” (p. 96)*

*Rates for the 5-year period are per 100,000 persons per year (average). ICD-9 codes are in brackets. Canadian mortality rates are, on average, lower than those for Quebec.*

<sup>172</sup> Surveillance de la mortalité au Québec: 1976-1997, Direction générale de la santé publique, Ministère de la Santé et des services sociaux. Compiled from pp. 216

TABLE 4.29: AGE-ADJUSTED MORTALITY RATES FOR ACCIDENTS, POISONINGS, AND TRAUMAS BY SPECIFIC CAUSE, BY REGION 1995-97 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>173</sup>)

1995-97	Accidents, poisonings and traumas (E800-E999)	Motor vehicle (E810-E819)	Suicide (E950-E959)	Other external causes
<b>Eeyou Istchee</b>	<b>69.1</b>	<b>24.8</b>	<b>1.7</b>	<b>42.6</b>
Nord-du-Québec	55	12.6	18.2	24.3
Nunavik	224.1	28.2	91.5	104.4
All of Quebec	49.6	10.9	19.6	19.1

*Note: For three-year period, otherwise see notes under previous table.*

<sup>173</sup> IBID p. 231

TABLE 4.30: AGE-ADJUSTED MORTALITY RATES BY CAUSE, BY SEX, EYYOU ISTCHEE AND QUEBEC COMPARED 1993-97 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>174</sup>)

Deaths per 100,000 per year	Males			Females		
	Eeyou Istchee	Quebec	Eeyou I: Quebec Ratio	Eeyou Istchee	Quebec	Eeyou I: Quebec Ratio
<b>AIDS (042-044)</b>		11.1			1.4	
<b>Cancer (140-208)</b>	158.0	290.2	<b>0.5</b>	144.5	170.5	<b>0.8</b>
Stomach cancer (151)		13.0	<b>0.0</b>		5.8	
Colon or rectal cancer (153--154)	23.3	32.9	<b>0.7</b>	6.8	21.9	<b>0.3</b>
Trachea, bronchial or lung cancer (162)	164.8	76.9	<b>2.1</b>	22.3	36.6	<b>0.6</b>
Prostate cancer among men (185)	27.0	30.9	<b>0.9</b>	N.A.	N.A.	
Breast cancer among women (174)	N.A.	N.A.		20.7	32.6	<b>0.6</b>
Cervical cancer (180)	N.A.	N.A.			2.2	
Leukemia (204-208)	6.4	9.0	<b>0.7</b>	2.1	5.0	<b>0.4</b>
<b>Diabetes mellitus</b>	17.0	22.9	<b>0.7</b>	65.9	16.4	<b>4.0</b>
<b>Circulatory disease (390-459)</b>	212.7	347.1	<b>0.6</b>	256.4	206.0	<b>1.2</b>
Hypertensive disease (401-405)		4.0			4.4	
Ischemic cardiomyopathy (410-414)	100.8	215.3	<b>0.5</b>	99.8	110.1	<b>0.9</b>
Cerebro-vascular disease (430-438)	96.2	53.2	<b>1.8</b>	68.3	42.3	<b>1.6</b>
<b>Respiratory disease (460-519)</b>	172.5	99.4	<b>1.7</b>	137.7	44.7	<b>3.1</b>
Pneumonia and flu (480-487)	61.4	24.8	<b>2.5</b>	53.4	14.8	<b>3.6</b>
Chronic obstructive pulmonary disease (490-496)	66.7	63.6	<b>1.0</b>	44.6	23.2	<b>1.9</b>
<b>Gastro-intestinal disease (520-579)</b>	41.0	33.3	<b>1.2</b>	63.8	21.3	<b>3.0</b>
Cirrhosis of the liver (571)		11.7		8.3	4.8	<b>1.7</b>
<b>Congenital anomaly (740-759)</b>	3.0	3.5	<b>0.9</b>	4.7	3.1	<b>1.5</b>
<b>Accident, poisoning, trauma (E800-E999)</b>	77.3	72.6	<b>1.1</b>	43.2	27.3	<b>1.6</b>
Motor vehicle accident ((E810-E819)	27.6	16.0	<b>1.7</b>	25.8	6.7	<b>3.9</b>
Falls (E880-E888)		8.8	<b>0.0</b>	9.2	6.8	<b>1.4</b>
Suicide (E950-E959)	6.4	30.6	<b>0.2</b>		7.9	
Homicide (E960-E969)		2.4			1.0	
<b>Alcoholism and cirrhosis of liver (292; 303; 571)</b>	19.6	14.2	<b>1.4</b>	14.4	5.3	<b>2.7</b>
All causes (001-999)	<b>892.5</b>	<b>975.5</b>	<b>0.9</b>	<b>805.1</b>	<b>567.0</b>	<b>1.4</b>

*Note: Mortality rates in Eeyou Istchee are believed to be underestimated. Please see notes under “data sources and quality” (p. 96)*

*Rates for the 5-year period are per 100,000 persons per year (average). ICD-9 codes are in brackets. Canadian mortality rates are, on average, lower than those for Quebec.*

<sup>174</sup> IBID p. 217-218

TABLE 4.31A: NUMBER, LENGTH AND AVERAGE LENGTH OF SHORT-TERM HOSPITALIZATIONS FOLLOWING AN INJURY, BY TYPE AND PERIOD (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>175</sup>)

	1982-83			1987-88			1992-93			1997-98		
	Number	Days	ALS	Number	Days	ALS	Number	Days	ALS	Number	Days	ALS
Traffic injury	5	61	12.2	18	185	10.3	16	52	3.3	12	111	9.3
Falls	19	125	6.6	16	69	4.3	32	97	3	29	120	4.1
Suicides and attempts	3	15	5	8	50	6.3	12	29	2.4	16	74	4.6
Homicides & attempts	3	17	5.7	10	33	3.3	15	56	3.7	15	33	2.2
Other	63	410	6.5	70	355	5.1	65	322	5	76	367	4.8
<b>Total</b>	<b>93</b>	<b>628</b>	<b>6.8</b>	<b>122</b>	<b>692</b>	<b>5.7</b>	<b>140</b>	<b>556</b>	<b>4</b>	<b>148</b>	<b>705</b>	<b>4.8</b>

*Note: "Traffic injury" refers to injuries resulting from collisions involving one or more motor vehicles. "Number" refers to the number of hospitalizations. "Days" refers to the total number of hospital days for all patients. "ALS" refers to average length of stay (days).*

*Applies to residents of Eeyou Istchee regardless of location of hospitalization. Also see notes under "Data Sources and Quality" in the Health Service Utilization section.*

TABLE 4.31B: VARIATION IN PERCENT (1982-3 TO 1997-8) OF THE NUMBER, LENGTH AND AVERAGE LENGTH OF SHORT-TERM HOSPITALIZATIONS FOLLOWING AN INJURY, BY TYPE (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>176</sup>)

Variation from 1982-3 to 1997-8	Number	Days	ALS
Motor vehicle related	+140%	+82%	-24%
Falls	+53%	-4%	-37%
Suicides and attempts	+433%	+393%	-8%
Homicides and attempts	+400%	+94%	-61%
Other	+21%	-10%	-26%
<b>Total</b>	<b>+59%</b>	<b>12%</b>	<b>-29%</b>

*See previous note.*

<sup>175</sup> L'hospitalisation pour soins de courte durée au Québec: 1982-83 to 1997-98. MSSS, p. 61-63

<sup>176</sup> IBID

TABLE 4.32: AVERAGE LENGTH OF SHORT-TERM HOSPITALIZATIONS FOLLOWING AN INJURY, BY TYPE AND REGION (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>177</sup>)

Average length of stay (days)	Traffic related	Falls	Suicides & attempts	Homicides & attempts	Other	Total
Cree	9.3	4.1	4.6	2.2	4.8	4.8
Nord du Quebec	6.1	3.8	5.1	2.9	5.3	4.9
Nunavik	4.3	4	4.1	5.1	4.1	4.2
All of Quebec	9.6	10.1	8.6	4.8	6.6	8.3

*Note: Episodes involving more than one hospital (e.g. 2 nights in Chisasibi followed 3 nights in Chibougamau) are counted as separate hospitalizations. Arguably, this phenomenon is more common in the North. The result is an underestimate of the length of stay.*

*“Traffic related” refers to injuries related to collisions involving one or more motor vehicles. Figures apply to residents of Eeyou Istchee regardless of location of hospitalization. Also see notes under “Data Sources and Quality” in the Health Service Utilization section.*

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<sup>177</sup> IBID



TABLE 4.33: HOSPITALIZATIONS FOR INTENTIONAL AND NON-INTENTIONAL INJURIES 1981-86 AND 1986-91 (PUBLIC HEALTH UNIT- JAMES BAY CREE<sup>178</sup>)

Hospitalizations	1981-86	1986-91	Total
Falls	86	105	191
Road vehicle	70	103	173
Assaults	43	68	111
Cutting/piercing wounds	36	54	90
Other unspecified injury	42	33	75
Off-road vehicle	27	39	66
Burns/fires	30	20	50
Suicide attempt	9	30	39
Firearm, unintentional	15	16	31
Firearm, Intent undetermined	15	16	31
Other specified injury	12	18	30
Falling/crushing objects		26	26
Foreign bodies	8	18	26
Late effects of injury	6	19	25
Animal bites, cold, etc.	7	13	20
Medication (unintentional poisoning)	5	11	16
Excessive effort	10	6	16
Gas, vapour (unintentional poisoning)	7	6	13
Pedestrian	4	8	12
Other unclassified	0	2	2

TABLE 4.34: RATE OF POISONINGS BY REGION, 1995 (QUEBEC MINISTRY OF HEALTH AND SOCIAL SERVICES<sup>179</sup>)

	Nord-du-Québec	Nunavik	Eeyou Istchee	Quebec
Number	161	70	123	52197
Rate	795	766	1088 <sup>180</sup>	711

*Note: Includes poisonings related to household products, medication, pesticides and industrial chemicals (in order of importance). Rate is per 100 000.*

<sup>178</sup> Source: *Cree Injury Study*, Public Health Unit and Northern Quebec Module, Montreal General Hospital, 1993.

<sup>179</sup> Indicateurs Sociosanitaires: Le Québec et ses régions, Direction générale de la santé publique (MSSS), May 1997. p. 104-105

<sup>180</sup> The rate originally reported for Eeyou Istchee (1451) was overestimated due to an overestimated population denominator (see "Data Sources and Quality" in section 1.1 for discussion).