Cree Health Survey 2003

Canadian Community Health Survey *Cycle 2.1*

Iiyiyiu Aschii

Health status, life expectancy and limitation of activities

June 2008

Conseil Cri de la santé et des services sociaux de la Baie James
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Cree Board of Health and Social Services of James Bay

Institut national de santé publique Québec

Canadian Community Health Survey, Cycle 2.1
Iiyiyiu Aschii, 2003

Health status, life expectancy and limitation of activities

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PUBLICATION

Cree Board of Health and Social Services of James Bay &
Institut national de santé publique du Québec

The complete text of this document is available on the CBHSSJB's Web site at www.creepublichealth.org and on the INSPQ's Web site at www.inspq.qc.ca

Photo: Elmer Georgekish
Design: Katya Petrov

Document deposited on Santécom (http://www.santecom.qc.ca)
Legal deposit – 2nd trimester 2008
Bibliothèque et Archives nationales du Québec
Library and Archives Canada
ISBN: 978-2-550-52880-7 (PDF)

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FOREWORD

This publication presents the findings of a health survey carried out in 2003 among households of Iiyiyiu Aschii[1]. A similar survey had been undertaken in the region by Santé Québec in 1991 (Santé Québec, 1994). Ten years later, the Public Health Department of the Cree Board of Health and Social Services of James Bay (CBHSSJB) urgently required a new picture of its population's state of health. The purpose of the 2003 survey was to gather up-to-date information on the region's main health problems and related factors in order to improve the planning, administration, and evaluation of various social and health programs.

According to the 2001 Public Health Act (*Loi sur la santé publique*), Quebec's public health departments must periodically assess the health of their respective populations. Since 2000-2001, the province's socio-sanitary regions – with the exception of Iiyiyiu Aschii and Nunavik – have participated in the Canadian Community Health Survey (CCHS) conducted by Statistics Canada.

In 2003 the Public Health Department of Iiyiyiu Aschii decided to take part in this vast project, which was already under way across Canada, and initiated a CCHS-type survey on its own territory (Statistics Canada, 2003). Because the CBHSSJB Public Health Department is connected to the network of Quebec's Department of Health and Social Services (*Ministère de la santé et des services sociaux*, MSSS), it was able to enlist the expert assistance of the *Institut national de santé publique du Québec* (INSPQ) in coordinating the analysis of the results. Professionals drawn from Quebec's health care community and the Public Health Department of Iiyiyiu Aschii, as well as academic experts in the field, were given the task of drafting the publications. The analyses include results on various aspects of health affecting residents of Iiyiyiu Aschii and they also provide comparisons with 1991 data from the region and 2003 data from the rest of Quebec (Santé Québec, 1994; Statistics Canada, 2003). These analyses are relevant for everyone concerned with the health of Iiyiyiu Aschii residents (professionals, administrators, planners, and researchers).

Ten publications were produced as part of this survey:

- *Demographic and social characteristics of the population living in Iiyiyiu Aschii*
- *Food habits, physical activity and body weight*
- *Cigarette consumption*
- *Lifestyles related to alcohol consumption, drugs and gambling*
- *Preventive practices and changes for improving health*
- *Health status, life expectancy and limitation of activities*
- *Injuries and transportation safety*
- *Mental health*
- *Use and perceptions of health services*
- *Survey methods*

A final publication, *Survey highlights*, offers a rapid overall view of the health study's results.

Many people contributed to this study at every stage in its progress. Particularly deserving of mention are the roles played by Jill Elaine Torrie, Director of Specialized Services, and Yv Bonnier-Viger, Director of Public Health of the Cree Board, throughout the planning phase and during operations on the field. Above all, we wish to thank the Cree population for its remarkable level of collaboration.

METHODOLOGY OF THE CANADIAN COMMUNITY HEALTH SURVEY (CCHS), CYCLE 2.1, IIYIYIU ASCHII, 2003

The survey was conducted during the summer of 2003 using a representative sample of residents aged 12 and older from the nine communities in Iiyiyiu Aschii: Chisasibi, Eastmain, Mistissini, Nemaska, Oujé-Bougoumou, Waskaganish, Waswanipi, Wemindji, and Whapmagoostui.

The original 1,000-person sample was randomly selected from residents of private households in the region. The final sample thus included both Aboriginal and non-Aboriginal residents. Most interviews (85%) were conducted in person during the summer of 2003 using computer-assisted interview software. Individuals who were absent during the first data collection period were interviewed by telephone at the end of autumn 2003.

There was a high participation rate. Of the 646 households selected, 581 agreed to participate in the survey (90%). Within these households, 920 of the 1,074 eligible individuals (86%) agreed to answer the questionnaire, for a combined response rate of 78%. The survey results were then adjusted based on the number of people aged 12 and older from Iiyiyiu Aschii living in private households, excluding residents of institutions such as seniors' homes. This survey does not include children under the age of 12. All data presented in this

[1] Please note that the socio-sanitary region for the James Bay Cree Territory is referred to by its Cree name, Iiyiyiu Aschii, throughout this text.

document have been weighted to allow inferences to be made for the population as a whole.

However, it must be noted that the data are from a sample and are therefore subject to a sampling error, which must be taken into account. A coefficient of variation (CV) was used to quantify how precise the estimates were, and Statistics Canada's cut-off points were used to describe the precision of these estimates. An asterisk (*) next to an estimate indicates high sampling variability (CV between 16.6% and 33.3%). Estimates with unacceptable precision rates (CV > 33.3%) or based on fewer than ten respondents have been suppressed and replaced by the letter "U."

Statistical analyses of comparisons among the sexes, age groups and sub-regions were conducted at a threshold of $\alpha = 0.05$. Comparisons with the rest of Quebec were standardized to take into account the differences in age structure between the population of Iiyiyiu Aschii and that of the rest of Quebec, and were conducted at a threshold of $\alpha = 0.01$ (Statistics Canada, 2003).

When the questions asked were similar, the results were compared to those of a 1991 survey carried out in the region (Santé Québec, 1994). In light of differences in the samples between the two surveys, these comparisons are only made among Cree aged 15 and older and have been standardized to compensate for changes in the population's age structure. Only unadjusted rates are presented in the text in order to avoid possible confusion with the standardized rates.

More details on data processing are given in the above-mentioned *Survey methods* report.

INTRODUCTION

Mortality is often used as an indicator in assessing the the health status of a given population. There was no significant difference between the 2000-2003 adjusted mortality rate in Iiyiyiu Aschii and in the rest of Quebec (826/100 000 vs. 728/100 000) (Choinière et al., 2006). But the mortality rate was considerably higher in Iiyiyiu Aschii than in the rest of Quebec among the 0 to 4 age group (202/100 000 vs. 107/100 000) and 65 to 74 age groups (2 303/100 000 vs. 2 006/100 000)[2]. The higher infant mortality rate did not however equate with shorter life expectancy for the Iiyiyiu Aschii population, compared with people living elsewhere in the province (77.4 vs. 79.4), be it for women (79.0 vs. 82.1) or men (75.7 vs. 76.5). But mortality rates linked to both respiratory diseases and unintentional traumas were higher in Iiyiyiu Aschii than in the rest of Quebec (Choinière et al., 2006).

The last health survey conducted among the population of Iiyiyiu Aschii goes back to 1991 (Santé Québec, 1994). That survey showed that 23% of people 25 and over deemed their health status "fair or poor"[3]. That percentage increased with age – elderly people considering themselves in worse health than others – and was higher in inland areas (Levasseur & Ferland, 1994). That survey also used a key household indicator to assess existing health problems. The top five problems reported in 1991 by Iiyiyiu Aschii residents were, in decreasing order and similar proportions as in the rest of Quebec: hearing difficulties, headaches, allergies, arthritis or rheumatism, and back problems. But as many other studies have shown, diabetes was more prevalent in the region in 1991 than in the rest of Quebec (Thouez et al., 1990; Brassard et al., 1993; Dannenbaum et al., 1999). More recently, the Aboriginal People Survey conducted in 2001 by Statistics Canada showed that 12% of Crees 15 and over consider themselves to be in "fair or poor" health (Bobet, 2004). According to this study, prevalence rates reported by residents 15 and over were 19% for cardiovascular problems (including hypertension), 12% for diabetes, 10% for respiratory problems, and 8 % for arthritis or rheumatism. Furthermore, the survey revealed that 30% of Crees had to "sometimes or often" limit their daily activities as a result of a health problem.

This publication is divided in four sections, each relating to a specific module of the 2003 Canadian Community

[2] Given the limited size of the population and the low number of deaths, these rates may vary over time.

[3] The remaining 77% deemed themselves to be in « good, very good or excellent » health.

Health Survey, Cycle 2.1, namely: assessing the health status of Iiyiyiu Aschii residents, existing chronic health problems, restriction of activities as a result of a health problem and oral health.

METHODOLOGICAL ASPECTS

The way people perceive their health status if often used as an indicator to assess the health status of the population. The related question used in this survey comes from the General Health module. Respondents were asked to assess their overall health status based on a "poor" to "excellent" rating. The wording of the 2003 question was quite different from that of the question asked in 1991, which included an age-related factor such as *"... compared to other people your age, do you consider yourself ..."*. Selected answers were split in two classes – "excellent, very good, good" and "fair, poor" – to facilitate comparison between answers given in both surveys.

Life expectancy also provides a good indication of the health status of a given population. While this traditional indicator was initially excluded from the survey, we thought that it should be included in our data as an indicator of healthy living, taking into account existing disabilities. The method used to measure life expectancy, healthy life expectancy and institutional life expectancy is based on that used by Choinière and collaborators (2006) in establishing the Health profile of Quebec and its regions (*Portrait de santé du Québec et de ses régions*). Life expectancy is measured at birth and at the age of 65. Although less precise than life expectancy at birth, life expectancy at 65 does provide data on the relative health of elderly people. Needless to say, life expectancy is closely related to data on mortality, the overall health of the population and existing disabilities.

In regard to chronic health problems, Iiyiyiu Aschii residents could choose from the 33 health problems listed in the Chronic Health Problems module. But problems had to be diagnosed by a health professional and be long-lasting, that is to say ongoing for the last six months or expected to last for six months. It must be noted that these are self-reported problems. In other words, they have not been validated by an independent source during the survey. It is therefore impossible to know the true intensity of the problem or its precise duration. A recall bias must also be considered, especially for less serious problems or problems that occurred years ago and that could lead to a greater ratio of under-reporting. Furthermore, as the survey covers only part of the year (summer), some problems usually associated with winter may also have been under-reported. Differences in the wording of questions asked in the 1991 and 2003 surveys also limit comparisons to some specific health problems. Bear in mind that administering protocols were slightly different for both surveys: questions asked in 1991 targeted only one household member while questions asked in 2003 targeted each individual.

Questions pertaining to the limitation of activities, taken from the Restriction of Activities module, provide information on actual limitations imposed on daily activities as a result of one's health status or of a long-term health problem. These questions relate to the amount or type of activity undertaken by respondents within four areas of daily living: work, school, household activities and other activities (e.g. travel or leisure). Questions were designed to establish an activity limitation index based on three answer categories: "sometimes", "often" and "never". As can be observed, this index provides no indication of the extent of the limitation. It only specifies whether said limitation has a negative impact on the amount or type of activity practiced by the individual. The index provides an estimation of limitations imposed by a specific physical or mental health problem during the survey. This estimation may vary based on the time of year. Bear in mind that the survey was conducted in summer and that some limitations are more obvious in winter.

Finally, the two questions pertaining to oral health are taken from the Oral Health I module, which deals with how respondents rate not only the health of their teeth and mouth but also their capacity to chew solid foods. Answers to the question on dental and oral health were divided in two classes: "good, very good, excellent" and "fair, poor". The question pertaining to the capacity to chew solid foods does not refer to duration or intensity.

RESULTS

HEALTH PERCEPTION

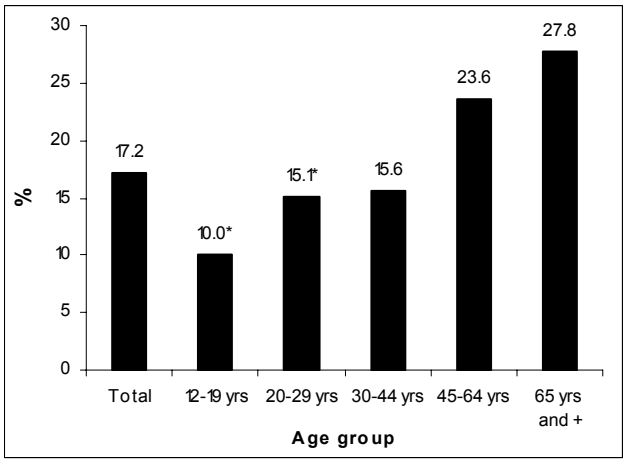
Health perception is a useful indicator of a population's health status that is often used in health surveys. Generally speaking, that perception relates to existing health problems, disabilities, psychological distress, use of health services (Levasseur, 1995; Health Canada, 1999) and general mortality (Kyffin, 2005; O'Reilly, 2005).

In the Iiyiyiu Aschii region, 17% of people 12 and over deem themselves to be in "fair or poor" health. That proportion is significantly greater among people 65 and over (28 %) and the 45-64 age group (24%), compared to the 20-29 (15%*)[4] and 12-19 (10%*) age groups

[4] The asterisk (*) indicates a rough estimate (CV between 16.6% and 33.3%); these data are to be interpreted with caution.

(Figure 1). Health perception does not vary significantly based on gender or sub-regions (coastal vs. inland)[5]. Education[6] does however play a role in health perception: 20% of people of low education level tend to rate their health as poor, compared to 12%* among people of higher education level (Tablea A1, Appendix).

Figure 1
Health perceived as fair or poor by age group (%), people 12 and over, Iiyiyiu Aschii, 2003



* Imprecise estimate. Interpret with caution (CV between 16.6% and 33.3%).
Source: CCHS 2.1-Iiyiyiu Aschii, 2003.

It becomes apparent, when studying data pertaining to the rest of the province, that a greater number of Iiyiyiu Aschii residents deem themselves to be in "fair or poor" health than in the rest of Quebec (17% vs. 11%). This negative perception of one's health had a non significant improvement between 1991 and 2003 among Crees 15 and over, dropping from 26% to 21%[7] (data not shown).

[5] The region of Iiyiyiu Aschii has been divided in two sub-regions for comparison. The coastal sub-region includes the villages of Chisasibi, Wemindji, Eastmain, Waskaganish and Whapmagoostui while the inland sub-region includes Nemiscau, Mistissini, Oujé-Bougoumou and Waswanipi.

[6] Education level is defined according to number of years of schooling. The "lower" education level means less than 7 years (less than a secondary 1). The "middle" education level means 7 to 11 years (completed some or all of high school). The "higher" education level means 12 years or more (at least some college or other postsecondary education).

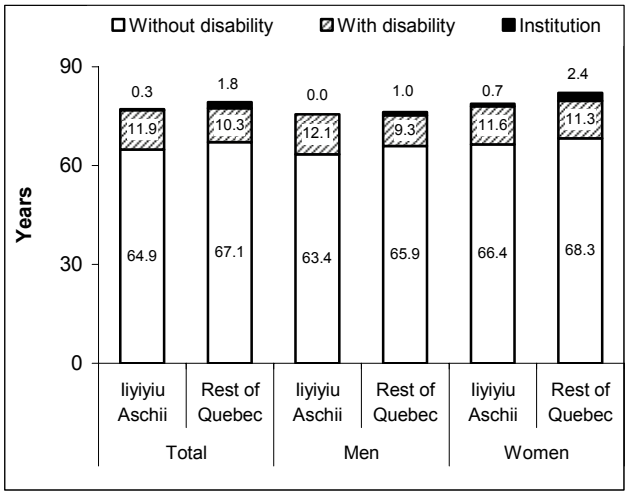
[7] This proportion applies only to Cree residents 15 and over, not to all residents 12 and over.

LIFE EXPECTANCY AND CHRONIC HEALTH PROBLEMS

Other than health perception, life expectancy is also used as an indicator of the population's health status. Life expectancy at birth is based on average mortality rates observed among various age groups. Thus, an infant born in Iiyiyiu Aschii between 1999 and 2003 is expected to live 77.2 years, based on lifelong survival probabilities for the period noted. This overall life expectancy can also be divided according to healthy life expectancy (without disabilities) (64.9 years) and institutional life expectancy (0.3 year). In Iiyiyiu Aschii, life expectancy at birth is lower for men than for women (75.4 vs. 78.7 years). The same applies to healthy life expectancy (63.4 vs. 66.4 years) (Table A2, Appendix). But men from the region tend to live somewhat longer with a disability than women (12.1 vs. 11.6 years) (Figure 2).

While Iiyiyiu Aschii residents in general are expected to live two years less than in the rest of Quebec (77.2 vs. 79.2), the gap is especially significant among women (78.7 vs. 81.9 years in the rest of Quebec) (Figure 2). The number of years spent living free from any disability is significantly lower among residents of the region than in the rest of Quebec (64.9 vs. 67.1). This downward gap in life expectancy without disabilities is also noted between men of Iiyiyiu Aschii and those living elsewhere in Quebec (63.4 vs. 65.9).

Figure 2
Life expectancy at birth based on disabilities, by gender (years), population 12 and over, Iiyiyiu Aschii and rest of Quebec, 2003



Source: CCHS 2.1-Iiyiyiu Aschii and the rest of Quebec, 2003.

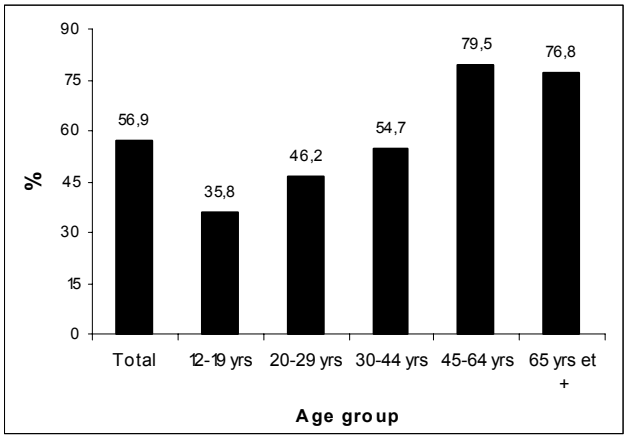
On the other hand, life expectancy at 65 provides valuable information as to the health status of the elderly (Table A2, Appendix). Upon reaching 65, an Iiyiyiu Aschii resident can expect to live on average an

additional 17.2 years; that period seems to be longer for women (18.2 years) than men (15.8 years) (Table A2, Appendix). The number of years spent living free from any disability is quite obviously less at that age, namely 8.7 years with a more than 3-year gap between men and women (10.1 vs. 6.9 years). Life expectancy of Iiyiyiu Aschii residents at the age of 65 is significantly less than in the rest of Quebec (17.2 vs. 18.7 years). But this gap is only significant for women (18.2 vs. 20.5 years). The same applies to life expectancy at 65 without disability, which is significantly less in Iiyiyiu Aschii compared to the rest of Quebec (8.7 vs. 10.1 years), the gap being more important among men (6.9 vs. 9.7 years).

Life expectancy is closely related to a population's health status, which in turn depends on a series of factors, including chronic health problems. For this survey, existing chronic problems (of 6-month minimum duration) were assessed using a list of the most common problems. Bear in mind, once again, that these self-reported problems had to be diagnosed by a health professional. Only the most frequently reported problems are mentioned herein.

Slightly more than half of Iiyiyiu Aschii residents 12 and over reported at least one chronic or long-term health problem (57 %). While the proportion does not vary based on gender, it tends to gradually increase with age, from 36% among the 12-19 age group to a plateau of 80% among the 45-64 age group and 77% among the 65 and over age group (Figure 3). There was no variation in the proportion of reported problems based on sub-region or education level (Table A3, Appendix).

Figure 3
Proportion of people who reported at least one chronic or long-term health problem by age group (%), population 12 and over, Iiyiyiu Aschii, 2003



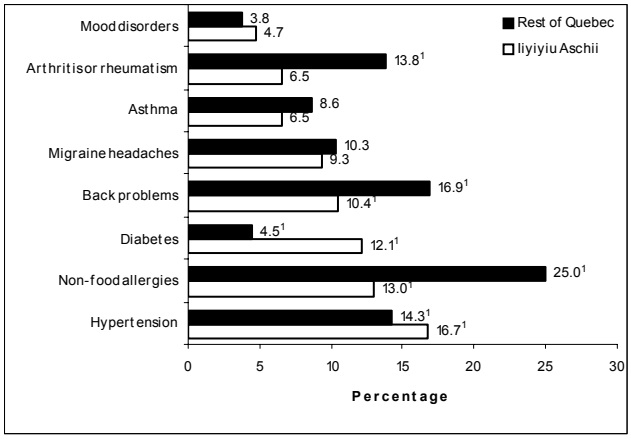
* Imprecise estimate. Interpret with caution (CV between 16.6% and 33.3%).

Source: CCHS 2.1-Iiyiyiu Aschii, 2003.

The main chronic health problems reported by residents 12 and over were, in decreasing order: hypertension (17%), allergies excluding food allergies (13%), diabetes (12%), back problems (10%), migraine headaches (9%), asthma (7%), arthritis or rheumatism (7%), and mood disorders (5%) (Figure 4). It must be noted that a single person could report more than one health problem. A significant greater number of women than men reported suffering from allergies (other than food allergies), diabetes and migraine headaches (Table A4, Appendix). A greater number of residents 45 and over reported suffering from hypertension (36%) and diabetes (25%). There was no significant variation in the proportion of reported problems based on sub-region or education level.

When comparing these results with the rest of the province, a smaller number of Iiyiyiu Aschii residents (57% vs. 67%) reported at least one chronic or long-term health problem (data not shown). Hypertension (17% in Iiyiyiu Aschii vs. 14% in the rest of Quebec) and diabetes (12% in Iiyiyiu Aschii vs. 5 % in the rest of Quebec) are reported considerably more often in the Iiyiyiu Aschii region (Figure 4). Conversely, non food-related allergies (13% Iiyiyiu Aschii vs. 25% in the rest of Quebec), back problems (10% in Iiyiyiu Aschii vs. 17% in the rest of Quebec) and arthritis/rheumatism (7% in Iiyiyiu vs. 14% in the rest of Quebec) are reported considerably more often in the rest of Quebec. Asthma, migraine headaches and mood disorders are reported in similar proportion in Iiyiyiu Aschii and in the rest of Quebec.

Figure 4
Prevalence of the main chronic health problems reported (%), population 12 and over, Iiyiyiu Aschii and the rest of Quebec, 2003



[1] Estimates with the same exponent are significantly different at threshold $\alpha < 0.05$.

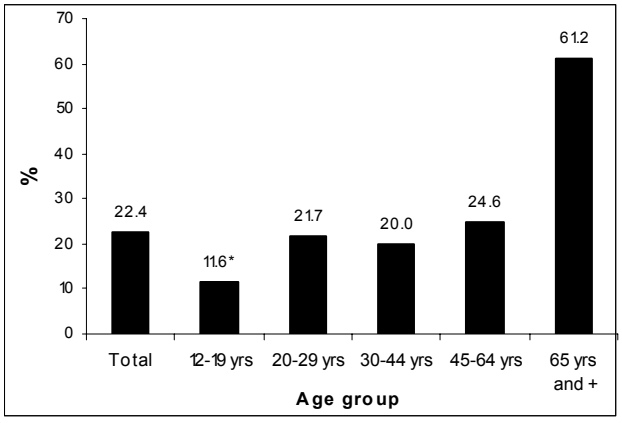
Source: CCHS2.1-Iiyiyiu Aschii and rest of Quebec, 2003.

There seems to have been an increase in some of the reported health problems between the 1991 and 2003 surveys (Table A5, Appendix). Indeed, a significantly greater number of Cree residents 15 and over have reported in 2003 suffering from diabetes (17% vs. 9%), hypertension (24% vs. 11%), asthma, emphysema, chronic bronchitis[8] (11% vs. 4%*) and migraine headaches (10% vs. 7 %), compared to 1991. Interestingly, the prevalence of asthma, bronchitis or emphysema and hypertension has increased over all age groups from one survey to the next. Diabetes has become more prevalent among residents 25 and over while cases of migraine headaches have increased significantly among Cree residents 65 and over (data not shown).

RESTRICTION OF ACTIVITIES

The limitation of activity index is used to measure the impact of long-term health problems on the main aspects of daily living, namely: home, work, school and other activities. Only the "sometimes or often" category is addressed here. Overall, 22% of residents living in the region reported having to "sometimes or often" limit their daily activities as a result of a health problem. While there is no significant variation based on gender, the proportion increases dramatically with age, from the lowest (12%) among youth aged 12 to 19 years to 20% among the 30-44 age group, 25% among the 45-64 age group, and to a stunning 62% among residents 65 and over (Figure 5).

Figure 5
Limitation of daily activities index (sometimes or often) as a result of health status or a long-term health problem, by age group (%), population 12 and over, Iiyiyiu Aschii, 2003



* Imprecise estimate. Interpret with caution (CV between 16.6% and 33.3%).

Source: CCHS 2.1-Iiyiyiu Aschii, 2003.

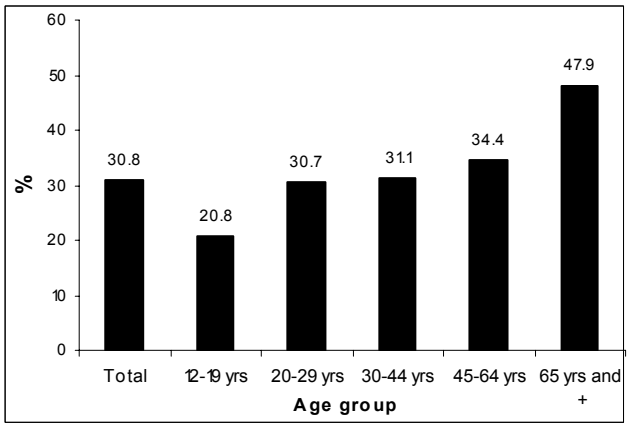
[8] The wording of the question asked in the 1991 survey referred to asthma, emphysema or chronic bronchitis, but only asthma was assessed in the 2003 survey.

A much greater proportion of Iiyiyiu Aschii residents who reported having to "sometimes or often" limit their daily activities as a result of a long-term health problem live in inland areas (28%), compared to coastal areas (19%) (Table A6, Appendix). The limitation of daily activity index does vary according to education level, as people of higher education level represent the smallest proportion (16%) of residents that had to limit their activities. Furthermore, there is no significant noted variance in the activity limitation index between the region and the rest of Quebec.

ORAL HEALTH

Oral health of Iiyiyiu Aschii residents is the last health component to be addressed in this publication. Two indicators are used in that respect: the perception of "fair to poor" dental health and the incapacity to chew solid foods. Slightly less than one third of residents 12 and over (31%) deem their dental health "fair or poor". This proportion does not vary according to gender but does increase with age, from 21% of teenagers – a group quite apart from all others groups – to 31% of adults 20 to 44 and 34% of adults 44-64, eventually affecting nearly one out of two (48%) residents 65 and over (Figure 6).

Figure 6
Oral health perception (fair or poor) by age group (%), population 12 and over, Iiyiyiu Aschii, 2003



Source: CCHS 2.1-Iiyiyiu Aschii, 2003.

Where oral health is concerned, there is no gap between inland and coastal areas. There is however a link between oral health perception and education level, as a greater proportion of residents of lower education level tend to have a self-reported fair or poor oral health (Table A7, Appendix). Furthermore, a greater number of Iiyiyiu Aschii residents report havin fair or poor oral health, compared with the rest of Quebec (data not shown).

Finally, one out of 25 residents (4%) reported being unable to chew solid foods. This proportion, which does not vary according to gender, age group, sub-region or education level, is similar to that observed for the rest of Quebec (Table A8, Appendix).

DISCUSSION AND CONCLUSION

Two general indicators were used to assess the health status of Iiyiyiu Aschii residents: overall health perception and life expectancy (at birth and at 65). Seventeen percent of local residents 12 and over had a negative view of their own health. While this proportion is higher than in the rest of Quebec (11 %), things have improved since the 1991 survey (23% vs. 19% in 2003).

Life expectancy at birth is 77.2 years for Iiyiyiu Aschii residents, which is two years shorter than in the rest of Quebec (79.2 years) (this difference with the rest of Quebec being noted only among women). Compared to other regions in Quebec, the Cree region ranked second to last of all 18 Quebec regions, just ahead of Nunavik, with a life expectancy of 63.3 years (Choinière et al., 2006). The shorter life expectancy of Nunavik stems from a high rate of trauma deaths among the young population, especially a relatively high suicide rate (Choinière et al., 2006). The two-year difference in life expectancy between residents of Iiyiyiu Aschii and those of the rest of Quebec is actually much less than the gap noted in 2000 between all registered Canadian natives and the rest of the Canadian population, namely 7.2 years for men and 5.2 years for women (Health Canada, 2006).

The life expectancy at 65 for Iiyiyiu Aschii residents, namely 17.2 years, is also less than that observed for the rest of Quebec (18.7 years), but the difference is only significant among women. The difference may stem in part from chronic diseases. The high prevalence of diabetes and obesity could very well shorten life expectancy in the coming years, thus negating recent gains made in this respect (Olshansky et al., 2005).

Compared to the rest of Quebec, a much smaller proportion of Iiyiyiu Aschii residents have reported long-term health problems. However, this proportion does increase with age in both regions. But this trend is not linked to the actual age of the population as this factor is accounted for in the comparison. There could however be an information bias, which frequently occurs in this type of survey, as respondents tend to underreport some health problems. The analysis of individually reported problems shows that more residents of Iiyiyiu Aschii report serious problems such as hypertension, allergies, and particularly diabetes, than in the rest of Quebec. Prevalence of these problems has been increasing since the 1991 survey.

In 1989, Thouez and collaborators (1990) measured the prevalence of hypertension among men and women of Iiyiyiu Aschii to be 17% and 22%, respectively. Diabetes remains a worrisome problem within Iiyiyu Aschii. Many publications have addressed diabetes, which led to the establishment in the late 90's of a systematic monitoring system of all known cases in the region (Dannenbaum et al., 1999). The high prevalence of diabetes and the large number of cases of hypertension could have serious consequences for the Cree population. According to a recent study conducted among the Ontario population, the life expectancy of people with diabetes is 12 years shorter than for people without diabetes (Manuel & Schultz, 2004). It has been suggested that, elimination of diabetes in Ontario could increase life expectancy by 2.8 years for men and 2.6 years for women (Manuel & Schultz, 2004). Besides decreased life expectancy, the Ontario study indicated that people with diabetes also experience more mobility issues, long-term disabilities and restrictions of daily activities, and they report themselves to be in poorer health than their non diabetic counterparts (Manuel & Schultz, 2004).

Furthermore, one of five people in Iiyiyiu Aschii reported having limitation of daily activities, similar to the rest of Quebec. This proportion does however increase with age. Taking into account the high prevalence of some long-term health problems, such as diabetes, these disabilities are expected to increase in the near future.

The oral health indicator hints at an unfavourable situation for the region compared to the rest of Quebec, one out of three people having report fair or poor dental health. This is double the proportion observed elsewhere in Quebec.

KEY ISSUES

- One out of six Iiyiyiu Aschii residents reports himself or herself to be in "fair or poor" health.
- Life expectancy at birth of Iiyiyiu Aschii residents is two years less than that of residents of the rest of Quebec (77.2 vs. 79.2 years). The difference is slightly more than 3 years between women of both regions (78.7 vs. 81.9 years).
- More than half (57 %) of Iiyiyiu Aschii residents reported a long-term health problem. The five main problems reported in 2003 were hypertension, non food-related allergies, diabetes, back problems and migraine headaches.

- The prevalence of some of the main chronic health problems reported increased between 1991 and 2003:
  - Asthma, bronchitis or emphysema (4% vs. 11%)
  - Hypertension (11% vs. 24%)
  - Diabetes (9% vs. 17%)
- One out of five respondents reported having had to "sometimes or often" limit his or her daily activities as a result of his or her health status or due to a long-term/chronic health problem.
- A substantially greater number of Iiyiyiu Aschii residents than residents of the rest of Quebec report fair or poor oral health (22% vs. 14%).

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APPENDIX

Table A1
Perception of health as poor or fair based on specific parameters (%), population 12 and over, Iiyiyiu Aschii, 2003

Total	17.2
Gender	
Men	16.3
Women	18.2
Age group	
12-19 years	10.0*[1,2]
20-29 years	15.1*[3]
30-44 years	15.6
45 years and over	23.6[1]
65 years and over	27.8[2,3]
Sub-region	
Coastal	16.0
Inland	18.9
Education	
Lower level	19.7[1]
Middle level	16.7
Higher level	12.2*[1]

[1,2,3] Estimates with the same exponent are significantly different at threshold $\alpha < 0.05$.
* Imprecise estimate. Interpret with caution (CV between 16.6% and 33.3%).

Source: CCHS 2.1-Iiyiyiu Aschii, 2003.

Table A2
Life expectancy at birth and at 65 based on type (years), population 12 and over, Iiyiyiu Aschii and rest of Quebec, 2003

	Life expectancy		
	Total	**Healthy (with no disability)**	**Institutional**
Life expectancy at birth			
Iiyiyiu Aschii			
Total	77.2[1]	64.9[1]	0.3
Men	75.4	63.4[2]	0.0
Women	78.7[2]	66.4	0.7
Rest of Quebec			
Total	79.2[1]	67.1[1]	1.8
Men	76.3	65.9[2]	1.0
Women	81.9[2]	68.3	2.4
Life expectancy at 65			
Iiyiyiu Aschii			
Total	17.2[3]	8.7*[3]	0.4
Men	15.8	6.9[4]	0.0
Women	18.2[4]	10.1	0.7
Rest of Quebec			
Total	18.7[3]	10.1[3]	2.0
Men	16.5	9.7[4]	1.2
Women	20.5[4]	10.4	2.7

[1-4] Estimates with the same exponent are significantly different at threshold $\alpha < 0.05$.
* Imprecise estimate. Interpret with caution (CV between 16.6% and 33.3%).

Source: CCHS 2.1-Iiyiyiu Aschii and rest of Quebec, 2003.

Table A3
Prevalence of at least one chronic or long-term health problem based on specific parameters (%), population 12 and over, Iiyiyiu Aschii, 2003

Total	56.9
Gender	
Men	54.6
Women	59.4
Age group	
12-19 years	35.8[1,2,3]
20-29 years	46.2[4,5]
30-44 years	54.7[1,6,7]
45-64 years	79.5[2,4,6]
65 years and over	76.8[3,5,7]
Sub-region	
Coastal	55.7
Inland	58.7
Education	
Lower level	58.2
Middle level	52.5
Higher level	61.0

[1-7] Estimates with the same exponent are significantly different at threshold $\alpha < 0.05$.

Source: CCHS 2.1-Iiyiyiu Aschii, 2003.

Table A4
Prevalence of main health problems reported based on specific parameters (%), population 12 and over, Iiyiyiu Aschii, 2003

Health problems	Hypertension	Non food-related allergies	Diabetes	Back problems	Migraine headaches	Asthma	Arthritis or rheumatism	Mood disorders
Total	16.7	13.0	12.1	10.4	9.3	6.5	6.5	4.7
Gender								
Men	17.2	9.1[1]	9.0[1]	10.1	6.7[1]	5.8	5.3*	4.7*
Women	16.1	17.3[1]	15.5[1]	10.7	12.1[1]	7.4	7.9	4.7
Age group								
12-19 years	U	9.5*	U	U	4.6*	4.1*	U	U
20-29 years	U	14.4*	5.1*[1,2]	8.9*	7.9*	4.6*	U	6.4*
30-44 years	15.6[1]	15.4	11.3[1]	12.5	10.9*	6.0*	4.9*	6.0*
45 years and over	36.2[1]	11.9*	24.8[2]	13.4	11.5*	9.8*	15.5	5.0*
Sub-region								
Coastal	18.3	14.1	10.5	10.7	10.5	6.6	8.2	3.7*
Inland	14.3	11.5	14.6	10.0	7.3*	6.4*	4.0*	6.3*
Education								
Lower level	19.8	12.6	15.0	13.8	9.7	7.4	-	7.1*
Middle level	11.4	9.6*	8.8*	6.2*	8.6*	5.4*	-	U
Higher level	14.1*	18.0	9.7*	8.9	9.4*	6.7*	-	2.9*

[1,2] Estimates with the same exponent are significantly different at threshold $\alpha < 0.05$.
* Imprecise estimate. Interpret with caution (CV between 16.6% and 33.3%).
U Unpublished data (CV > 33.3 % or fewer than 10 respondents).
\- Data not shown.

Source: CCHS 2.1-Iiyiyiu Aschii, 2003.

Table A5
Prevalence of main health problems reported by survey year (%), Cree population 15 and over, Iiyiyiu Aschii, 1991 and 2003

Health problem	1991	2003
Hypertension	11.4[1]	23.6[1]
Diabetes	8.8[1]	17.1[1]
Back problems	9.3	11.9
Migraine headaches	7.0[1]	10.2[1]
Asthma, bronchitis or emphysema	3.6*[1]	10.8[1]
Arthritis or rheumatism	9.9	10.1

[1] Estimates with the same exponent are significantly different at threshold $\alpha < 0.05$.
* Imprecise estimate. Interpret with caution (CV between 16.6% and 33.3%).

Source: CCHS 2.1-Iiyiyiu Aschii 2003 and Santé Québec survey 1991.

Table A6
Limitation index of daily activities (sometimes or often) as a result of health status or long-term health problem, based on specific parameters (%), population 12 and over, Iiyiyiu Aschii, 2003

Total	22.4
Gender	
Men	20.8
Women	24.1
Age group	
12-19 years	11.6*[1,2,3,4]
20-29 years	21.7[1,5]
30-44 years	20.0[2,6]
45-64 years	24.6[3]
65 years and over	61.2[4,5,6]
Sub-region	
Coastal	18.5[1]
Inland	28.2[1]
Education	
Lower Level	23.7[1]
Middle Level	26.6[2]
Higher Level	15.7[1,2]

[1-6] Estimates with the same exponent are significantly different at threshold $\alpha < 0.05$.
* Imprecise estimate. Interpret with caution (CV between 16.6% and 33.3%).

Source: CCHS 2.1-Iiyiyiu Aschii, 2003.

Table A7
Oral health perception (fair or poor) based on specific parameters (%), population 12 and over, Iiyiyiu Aschii, 2003

Total	30.8
Gender	
Men	32.6
Women	28.9
Age group	
12-19 years	20.8[1,2,3,4]
20-29 years	30.7[1,5]
30-44 years	31.1[2,6]
45-64 years	34.4[3]
65 years and over	47.9[4,5,6]
Sub-region	
Coastal	29.9
Inland	32.2
Education	
Lower Level	37.9[1,2]
Middle Level	24.9[1]
Higher Level	22.6[2]

[1-6] Estimates with the same exponent are significantly different at threshold $\alpha < 0.05$.

Source: CCHS 2.1-Iiyiyiu Aschii, 2003.

Table A8
Unability to chew solid foods based on specifc parameters (%), population 12 and over, Iiyiyiu Aschii, 2003

Total	4.2
Gender	
Men	4.2*
Women	4.3*
Age group	
12-19 years	U
20-29 years	U
30-44 years	4.4*
45 years and over	6.8*
Sub-region	
Coastal	4.1
Inland	4.5
Education	
Lower Level	4.5*
Middle Level	6.2*
Higher Level	U

* Imprecise estimate. Interpret with caution (CV between 16.6% and 33.3%).
U Unpublished data (CV > 33.3 % or fewer than 10 respondents).

Source: CCHS 2.1-Iiyiyiu Aschii, 2003.