Cree Health Survey 2003

Canadian Community Health Survey *Cycle 2.1*

Iiyiyiu Aschii

Preventive practices and changes for improving health

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

Preventive practices and changes for improving health

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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

[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.

children under the age of 12. All data presented in this 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

This publication contains information on three aspects of various preventive health practices potentially implemented by Iiyiyiu Aschii residents. The first section of this publication pertains to pregnancy-oriented practices adopted by women, such as infant breastfeeding, folic acid supplementation, tobacco use and alcohol consumption. Cervical cancer screening and breast cancer screening within the adult female population are also covered in this section. The second section deals with influenza virus vaccination and yearly physical examinations for the overall population of the region. The third and last section relates to individual behaviour changes that may lead to better health and concludes by analyzing some preventive sexual behaviours.

1. MATERNAL EXPERIENCES AND CANCER SCREENING

The pregnancy period and early childhood years are important times in the development of all individuals. The maternal period is unique in that it is a period in which multiple preventive measures can be promoted. It is also a period during which the mother is more receptive to making lifestyle changes beneficial to both herself and her infant.

METHODOLOGICAL ASPECTS

Questions relating to pregnancy and breastfeeding stem from the Maternal Experiences Module. They targeted women from 15 to 55 years of age who had given birth to at least one child in the 5 years preceding the survey. These questions related to folic acid supplementation during pregnancy, the duration of the breastfeeding, as well as tobacco use and alcohol consumption both during pregnancy and breastfeeding.

Data pertaining to breastfeeding duration and exclusive breastfeeding is based on recommendations issued by the World Health Organization (WHO, 2003). It should also be noted that questions related to alcohol consumption refer to the estimated consumption frequency rather than the volume consumed. Furthermore, questions pertaining to tobacco use or alcohol consumption are inevitably affected by response and social biases. Such biases are frequently observed in surveys dealing with specific substances, the consumption frequency and quantity of which respondents clearly tend to underestimate (Sobell & Sobell, 2003). It could also be assumed that additional preventive behaviours assessed in this survey are affected to a lesser degree by said biases.

Questions pertaining to cervical cancer screening stemmed from the PAP Smear Test Module and targeted women 18 and over. Results of breast cancer screening stemmed from the Mammography Module. Results are provided for women 40 and over and for women 50 and over, the age groups generally targeted by such screening programs.

1.1 BREASTFEEDING

In 2003, 38% of women residing in Iiyiyiu Aschii aged 15 to 55 gave birth within the past five years, more than twice as many compared to women in the rest of Quebec (14%). In Iiyiyiu Aschii, two-thirds of women aged 25 to 34 (64%) and almost half (44%) of women aged 15 to 24 gave birth within the past five years. Older women were much less likely to have given birth (15%) within that period. In addition, women of low educational attainment were almost twice as likely to have given birth within the past five years (49%) compared to the most educated (23%) or even those of moderate educational attainment[2] (29%) (Table 1).

Table 1
Proportion of women aged 15 to 55 who gave birth in the past five years by age group and education level (%), Iiyiyiu Aschii, 2003

Total	**37.7**
Age group	
15-24 years	44.0
25-34 years	64.1
35-55 years	14.7
Education	
Lower level	48.6
Middle level	29.4*
Higher level	23.4*

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

Source: CCHS 2.1 – Iiyiyiu Aschii, 2003.

The 2003 CCHS asked mothers in Iiyiyiu Aschii several questions pertaining to preventive health measures during the most recent maternal experience. Questions revolved around four main themes: breastfeeding, folic acid supplementation, tobacco use, and alcohol consumption. Each theme is addressed in turn. Female cancer screening is addressed later on in this section.

[2] 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).

Breastfeeding provides the ideal food for the healthy growth and development of newborns. The World Health Organization (WHO, 2003) recommends that infants be breastfed for the first two years of life or more. The first six months should consist of exclusive breastfeeding, thereafter followed by the introduction of complementary foods. Exclusive and unrestricted breastfeeding from birth provides sufficient milk production, and is possible except for a few medical conditions (WHO, 2003).

In the 2003 CCHS, mothers were asked whether they had breastfed their infants, the duration of breastfeeding, reasons for not breastfeeding or for stopping breastfeeding, and whether they had exclusively breastfed.

One fifth of mothers do not breastfeed

The majority of mothers residing in Iiyiyiu Aschii who gave birth within the past five years breastfeed or try to breastfeed their infants (81%) (Table 2). The proportion breastfeeding resembles that of mothers in the rest of Quebec. Unlike Quebec for which there is no trend across age groups, there is a tendency for breastfeeding to decline with age in Cree mothers. In fact, amongst mothers residing in Iiyiyiu Aschii, 74% aged 35 to 55 breastfeed compared to 88% aged 15 to 24. Furthermore, the tendency is for mothers of lower educational attainment to breastfeed less.

Table 2
Proportion of breastfeeding of last infant by age group and education level (%), women 15 to 55 who gave birth in the past five years, Iiyiyiu Aschii, 2003

Total	**81.2**
Age group	
15-24 years	88.3
25-34 years	79.1
35-55 years	74.4
Education	
Lower level	76.2
Middle level	87.0
Higher level	100.0*

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

Source: CCHS 2.1 – Iiyiyiu Aschii, 2003.

Although one fifth of infants are not breastfed, it is encouraging to know that breastfeeding has gained popularity over time. According to the 1991 Santé Québec survey, only 64% of Cree mothers breastfed their infants (Santé Québec, 1994).

Reasons for not breastfeeding

Mothers who gave birth within the past five years and who do not breastfeed or do not try to breastfeed are split between personal (40%) and medical (48%) reasons for not breastfeeding (data not shown). Personal reasons consist mainly of the belief that bottle-feeding is easier or that breastfeeding is unappealing. Consequently, the promotion of breastfeeding as being desirable and easy could be an important measure to improve breastfeeding rates amongst the Cree. Other less frequent personal reasons include the belief that formula is as good as breast milk, the need to return to work or school, and a father or partner who does not want the mother to breastfeed. Medical reasons for not breastfeeding are primarily due to surgery (cesarean section), followed by premature birth and medical conditions in the mother or infant. Since there is no contraindication to breastfeeding after cesarean section, the promotion of breastfeeding after C-section is another possible route for improving breastfeeding rates.

Few mothers breastfeed long enough

While at the time of survey Health Canada recommended that infants be breastfed until the age of one year, the current recommendation conforms to those of the World Health Organization which recommends that infants be breastfed for the first two years of life or more (Millar & Maclean, 2005). Mothers in Iiyiyiu Aschii fall short from both these targets. Amongst mothers who breastfeed, only a third do so for six months or more (32%). Almost half breastfeed for one to six months (47%), and the remaining quarter breastfeed for less than one month (22%) (Table A1, Appendix). Furthermore, significantly more Quebec mothers breastfeed for more than six months (41%) compared to Iiyiyiu Aschii.

Even though breastfeeding has increased over the past decade in the region, it is unclear whether the duration of breastfeeding has increased. In fact, a comparison to data from the 1991 Santé Québec survey suggests that breastfeeding duration may even have decreased over time (Santé Québec, 1994). In 1991, half of breastfeeding mothers were likely to do so for six months or more (53%) compared to the third that do so in 2003. In 2003, there tends to be more mothers breastfeeding for six months or less compared to a decade prior. However, these data should be interpreted with caution because of differences in the wording of questions between the 1991 and 2003 surveys.

Young mothers stop breastfeeding too early

In Iiyiyiu Aschii, mothers who breastfeed their infants for four months or more tend to be older (66% of 25 to 34 years old). In contrast, only 36%, or about a third, of 15 to 24 years old mothers breastfeed for four months or more (Table A1, Appendix). In addition, there is a tendency for highly educated mothers to breastfeed for four months or more (62%) compared to the least educated (46%).

Reasons for stopping breastfeeding

When asked why they stop breastfeeding, most mothers (55%) report stopping because of problems with breastfeeding (not enough breast milk, inconvenience or fatigue due to breastfeeding, difficulty with breastfeeding technique, or the child weaned itself). Around 15% stop for medical reasons. The weaning is planned in 23% of cases, primarily because the mother is returning to work or school (data not shown).

Exclusive breastfeeding

Based on the World Health Organization definition, exclusive breastfeeding refers to the practice of feeding only breast milk, while allowing the baby to receive vitamins, minerals or medicine. Water, breast milk substitutes, other liquids and solid foods are excluded (Millar & Maclean, 2005). Exclusive breastfeeding is advocated for its positive health effects in both the infant and the mother. In the infant, exclusive breastfeeding is associated with a decreased risk of gastrointestinal and respiratory infectious diseases, a reduced risk of sudden infant death syndrome, and of allergic diseases. There is even an association with improved neurocognitive development and protection against long-term chronic diseases such as diabetes and obesity. Maternal health benefits include possible protection against breast cancer, ovarian cancer, and osteoporosis. Many of these protective effects tend to be enhanced with greater duration and exclusivity of breastfeeding (Kramer & Kakuma, 2002).

At the time of the 2003 CCHS, Health Canada recommended that all infants be exclusively breastfed for the first four months of life. Since then, the Canadian Public Health Agency has extended the recommended period of exclusive breastfeeding to six months in order to conform to the guidelines of the World Health Organization (Millar & Maclean, 2005). In Iiyiyiu Aschii, the proportion of infants breastfed exclusively falls short of both the old and new Canadian targets. More than half of infants are not exclusively breastfed for the first four months (57%) and three-quarters (72%) are not exclusively breastfed for the first six months.

These proportions do not differ significantly from the rest of Quebec, after adjusting for the mother's age (Table A2, Appendix).

Age and education are associated with exclusive breastfeeding

Older mothers aged 35 to 55 are more likely not to breastfeed exclusively for the first four months compared to mothers aged 15 to 24 (78% vs. 51%) (Table A2, Appendix). A difference is also seen between mothers over 35 and those aged 25 to 34 (78% vs. 54% do not breastfeed exclusively for the first four months, respectively). The situation is similar with exclusive breastfeeding for the first six months; 89% of mothers over 35 versus 64% of mothers 15 to 24 do not breastfeed exclusively for the first six months. Even at one month of age, older mothers are twice as likely not to breastfeed exclusively (60%) compared to mothers under 25 (33%). Education also plays a role, particularly at one month of age where 84% of highly educated mothers practise exclusive breastfeeding. In contrast, only 57% of mothers with moderate or low levels of educational attainment practise exclusive breastfeeding.

The good news is that, despite the unfortunate tendencies in older and uneducated mothers, exclusive breastfeeding is more popular in Iiyiyiu Aschii compared to the rest of Quebec. For example, in Iiyiyiu Aschii, 28% of mothers aged 25-34 breastfeed exclusively for the first six months compared to 11% in the rest of Quebec. Similarly, 29% of mothers of low educational attainment living in Iiyiyiu Aschii breastfeed exclusively for the first six months compared with 8% in the rest of Quebec (data not shown).

1.2 FOLIC ACID USE

Neural tube defects are congenital anomalies that occur during early pregnancy. Studies have shown that the vitamin folic acid, when consumed in sufficient amounts, is capable of substantially reducing the risk of neural tube defects in utero (Van Allen, McCourt & Lee 2002). Although folic acid is naturally found in foods such as fresh fruits and vegetables, these dietary sources do not usually result in sufficient levels of folic acid in the body. In order to increase dietary folic acid, Canada has since 1998 fortified white flour, enriched pasta and cornmeal with folic acid (Van Allen *et al*., 2002). Unfortunately though, the fortification of foods is not sufficient to raise levels of folic acid to levels found to be effective in epidemiologic studies. Consequently, oral folic acid supplementation is recommended (Van Allen *et al.,* 2002). In addition, because the dietary patterns of the Cree may be different from the rest of Canadians, supplementation may be particularly important in the former.

In Iiyiyiu Aschii, 36% of mothers who gave birth in the five past years had taken folic acid during their last pregnancy. Although not significantly different from the rest of Quebec, this proportion is concerning because dietary sources of folic acid may be inadequate in the Cree. Folic acid supplementation does not differ significantly between mothers of different age groups. Education is the factor most associated with folic acid supplementation. The most educated tend to supplement more (51%) compared to the least educated (31%) (Data not shown).

1.3 SMOKING DURING PREGNANCY

Tobacco use during pregnancy is far from benign. Infants born to mothers who smoke during pregnancy are of lower birth weight, and more likely to be small for gestational age. The risk of stillbirth, neonatal death, and sudden infant death is also greater (Samet & Yoon, 2001). Breastfeeding tends to be less common or of shorter duration amongst smoking mothers. Smokers who breastfeed may also produce less breast-milk than non-smokers (Samet & Yoon, 2001). Furthermore, second-hand smoke is associated with health effects in the infant, including ear infections, asthma, and diminished lung function (Samet & Yoon, 2001). The 2003 CCHS asked questions concerning tobacco use during pregnancy and breastfeeding, as well as exposure to second-hand smoke.

More than half of young mothers smoke during pregnancy

In 2003, 36% of all mothers in Iiyiyiu Aschii smoked during their last pregnancy. Age is a strong predictor of smoking during pregnancy. More than half (58%) of young mothers aged 15 to 24 smoked during their last pregnancy (Table A3, Appendix). Mothers aged 25-34 smoked relatively less (28%) compared to younger ones. Education is also associated with smoking during pregnancy. The most highly educated are much more likely to be non-smokers during pregnancy (80%) compared to the least educated (59%).

Smoking during breastfeeding is also frequent

The 2003 CCHS asked all breastfeeding mothers how often they smoked during the day. Only 66% of breastfeeding mothers did not smoke during the day. Once again, age is associated with smoking status. While three-quarters of mothers aged 25 to 34 did not smoke, only about half (48%) of mothers under 25 did not smoke. Thus half of young breastfeeding mothers smoke.

Furthermore, mothers under 25 and mothers aged 25 to 34 are much more likely to smoke during breastfeeding (52% and 24%, respectively) compared to those in the rest of Quebec (20% and 12%, respectively).

Many smokers stop during pregnancy

Amongst mothers who have ever smoked in the past, 60% did not smoke during their last pregnancy and 63% did not smoke during breastfeeding. Once again, breastfeeding mothers aged 25-34 are more likely to be non-smokers (72%) compared to younger breastfeeding mothers (48%) (Data not shown).

Unfortunately, the CCHS survey does not differentiate between mothers who stopped because of pregnancy from those who stopped prior to pregnancy for other unrelated reasons. Nevertheless, the pregnancy period is traditionally known as a time when many women stop smoking. Therefore, many of Iiyiyiu Aschii's mothers who had stopped smoking may have done so because of their pregnancy. Practically speaking, these data support the notion that pregnancy is a good time to promote smoking cessation in Iiyiyiu Aschii.

Quitters don't re-start post-partum

Because the proportion of non-smoking mothers remained relatively constant between pregnancy (60%) and the post-partum breastfeeding period (63%), mothers who quit during pregnancy do not re-start while breastfeeding. In fact, smoking does not increase in any of the age groups, and appears to even have decreased in young breastfeeding mothers. Thus smoking cessation during the pregnancy period is associated with long-term cessation in Iiyiyiu Aschii in all age groups. Consequently, the pregnancy period is an ideal time to promote smoking cessation because it is likely to lead to long-term lifestyle changes.

Exposure to second-hand smoke is common

Second-hand smoke is increasingly recognized as an important route of tobacco exposure. In the Iiyiyiu Aschii, a striking 29% of mothers are regularly exposed to tobacco smoke during pregnancy and the first six months post-partum. Mothers under 25 are almost twice as likely to be exposed (42%) compared to mothers over 25 (24%) (Data not shown).

1.4 ALCOHOL CONSUMPTION DURING PREGNANCY

Maternal alcohol consumption during pregnancy is associated with a wide variety of fetal effects, which often have implications for the mother, infant, family, and community. Fetal alcohol spectrum disorder (FASD) is the term used to cover the range of effects characterized by physical, mental, behavioural and learning disabilities with lifelong implications in the offspring. FASD is caused by alcohol use during pregnancy and thus is entirely preventable (Chudley *et al*., 2005).

Some Canadian studies have found the frequency of FASD to be higher in First Nations communities (Chudley *et al*., 2005). Up until now, no study has evaluated the frequency of FASD amongst the Quebec Cree. The 2003 CCHS did, however, ask Cree mothers about alcohol use during pregnancy and breastfeeding.

Alcohol use by young mothers is worrisome

The majority of mothers deny using alcohol during pregnancy (85%) and breastfeeding (89%) (Table 3). Unfortunately, there is a tendency for these proportions to be less favourable in women under 25, of which only 77% deny drinking during pregnancy and 82% during breastfeeding. In addition, compared to other Quebec women, mothers in the Iiyiyiu Aschii aged 15 to 24 are the only age group more likely to drink during pregnancy and breastfeeding. Reported alcohol use by pregnant or breastfeeding Cree region mothers over 25 years is similar to mothers in the rest of Quebec. Amongst mothers in Iiyiyiu Aschii who use alcohol during pregnancy, slightly more than half drink less than once per month (57%) (Data not shown). Unfortunately, the survey design does not permit to determine the frequency of consumption among mothers drinking more than once per month.

Table 3
Proportion of mothers who denied using alcohol during the last pregnancy or breastfeeding period by age group (%), women 15 to 55 who gave birth in the past five years, Iiyiyiu Aschii, 2003

Denied alcohol use during	Pregnancy	Breastfeeding
Total	**85.2**	**89.4**
Age group		
15-24 years	77.4	82.4
25-34 years	87.4	90.9
35-55 years	92.8	100.0

Source: CCHS 2.1 – Iiyiyiu Aschii, 2003.

1.5 FEMALE CANCER SCREENING

The cancers most commonly considered to be preventable in women are cervical cancer and breast cancer. The 2003 CCHS asked women several questions concerning screening for both of these forms of cancer.

1.5.1 Cervical cancer screening

In 2001, the National Cancer Institute of Canada (NCIC) reported 340 new cases of cervical cancer in Quebec for an incidence rate of 8 per 100,000 women. Cervical cancer is the second most lethal cancer in women aged 20 to 44 after breast cancer (SCC & INCC, 2005). When detected early on, cervical cancer is preventable. The PAP test is a screening tool used to detect early forms of cervical cancer. There is no organized screening program in Quebec as of yet. Nevertheless, annual screening is recommended following initiation of sexual activity or at age 18. After two normal smears, screening is recommended every 3 years to age 69 (Morrison, 1994).

Most women have had a pap test

In Iiyiyiu Aschii, 78% of women aged 18 and over reported having a PAP test. Two-thirds of all women had their PAP test within the past three years (45% within the past year and 21% within one to three years). Only 12% had their last PAP test beyond the recommended three-year interval (Table 4). Age, place of residence, and educational attainment are not associated with having had a PAP test within the past three years. In addition, data from the 1991 Santé Québec survey indicates that the proportion of women having had a PAP test has not changed compared to a decade ago (data not shown). About one-fifth (22%) of women have never had a PAP test. Women 65 and over are much more likely to never have had a PAP test (43%*)[3] compared to women aged 25 to 44 (14%).

Table 4
Timing of last Pap test (%), women 18 and over, Iiyiyiu Aschii, 2003

	Less than 1 year	1 to 3 years	3 years or more	Never
Total	**44.8**	**21.4**	**12.2**	**21.6**
Age group				
18-24 years	43.8	23.4*	U	31.1*
25-44 years	51.3	24.6	10,5*	13.6*
45-64 years	39.3	19.7*	16.5*	24.5*
65 years and +	U	U	U	43.4*

* 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.

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

Reasons for not having a PAP test

When women who did not have a PAP test in the past three years were asked why, the majority (72%) give personal reasons. The most frequent personal reason consisted of thinking the test was not necessary, followed by not "getting around to it". Perceptions of dislike, fear, or hate were also amongst common personal reasons given. Medical reasons for not having a PAP test were present in 26% of cases (examples of medical reasons: prior hysterectomy, doctor did not think PAP necessary, woman unable to leave the house because of health problem). Problems accessing a PAP test did not play a role. Lastly, the reasons were not significantly different between age groups or educational categories (data not shown).

1.5.2 Breast cancer screening

Breast cancer is an important cause of morbidity and mortality in women. The mammogram is a radiographic test used to detect early breast cancer. Mortality from breast cancer is reduced in women above 50 who are screened every two years with a mammogram (Ringash, 2001). In Quebec, a systematic program began in 1998 in all regions to screen women between the ages of 50 to 69 (MSSS, 1997). Although breast cancer in women 40 to 49 is also common, the effectiveness of mammography in younger women remains unclear. In Quebec, this age group is not routinely screened (Ringash, 2001).

Demographics of mammography

Overall, 40% of women aged 40 and over in Iiyiyiu Aschii have had a mammogram. Only half of women 50 and over have had one (54%). (Note that the figure has changed since the 2003 survey. In 2006, the region was first compared to other health regions in Quebec with a proportion 85% of women 50 and over). In the 40 to 49 age group, 25% have had mammograms. There is no difference between the mammography coverage of women with different educational attainment (data not shown).

While the data above is somewhat reassuring because it shows that the mammography coverage of women 50 and over is twice as large as those under 50. At the time of the survey, there are fewer women who have had mammograms amongst all age groups in Iiyiyiu Aschii compared to the rest of Quebec, the latter of whom are almost twice as likely to have mammograms (40% vs. 76% in rest of Quebec) (data not shown), but as mention earlier, this situation has changed for better in 2006.

Mammograms are done for reasons related to screening

The reasons for having a mammogram are similar in all age groups in Iiyiyiu Aschii. Two-thirds of women have mammography done for reasons related to the Quebec Breast Cancer Screening Program (63%). In the remaining third (32%), mammography is done for medical reasons (data not shown). While mammograms that are done for medical reasons are still beneficial, these mammograms should not be considered to be "screening" mammograms since their purpose is not to prevent early breast cancer but rather for treatment or prognosis.

Frequency of mammography

The recommended interval between mammograms is two years (MSSS, 1997; Ringash, 2005). Amongst women aged 40 and over who have been tested in Iiyiyiu Aschii, almost two-thirds (72%) had their mammogram within the past two years. This proportion is not significantly different from women in the rest of Quebec (data not shown). When women aged 50 and over are asked why a mammogram was not performed in the past two years, many (61%) give personal reasons such as thinking the test is unnecessary, not getting around to it, or fear. Problems accessing a mammogram are not reported frequently enough to be measurable (data not shown).

1.6 OVERVIEW OF SECTION 1

The pregnancy and breastfeeding period present unique opportunities for health promotion in the Quebec Cree. Future research and/or public health interventions should be developed to address the following key findings of the 2003 CCHS survey:

- One fifth of infants are not breastfed.
- Breastfeeding is often erroneously perceived as being undesirable or inconvenient by a significant proportion of mothers.
- Mothers who have cesarean sections are less likely to breastfeed, despite the fact that there is no contraindication to breastfeeding.
- Few mothers breastfeed long enough and few mothers breastfeed exclusively for the recommended first six months of life.
- Older mothers are less likely to breastfeed.
- The majority (64%) of mothers do not take folic acid supplements during pregnancy.
- Smoking during pregnancy and breastfeeding is very common, especially in young mothers.
- Pregnancy provides a unique opportunity to promote smoking cessation because this period is associated with long-term cessation in Iiyiyiu Aschii in all age groups.
- Many mothers (29%) are exposed to second-hand smoke.
- Alcohol consumption in pregnancy is not uncommon.

The following key findings of the 2003 CCHS are helpful for the planning of cervical cancer screening in the Cree:

- One fifth of adult women in Iiyiyiu Aschii have never had a PAP test.
- Elderly women are those who are the least likely to have had a PAP test. Elderly women are also those who are at high risk of cervical cancer.
- Personal factors or beliefs constitute the primary reasons for not having a PAP test.

Breast cancer screening is an important part of women's health. The 2003 CCHS shows the following findings concerning the use of mammography in Iiyiyiu Aschii:

- Half of women over 50 living in Iiyiyiu Aschii had a recommended mammogram in 2003. This situation has positively changed since the survey due to the efforts public health authorities deployed so that the region is currently first in Quebec with 85% for women 50 and over.
- In 2003, half as many women had mammograms in Iiyiyiu Aschii compared to women in the rest of Quebec.
- Having access to a mammogram is not a problem in Iiyiyiu Aschii. Rather, women state personal factors for not having a mammogram.

2. INFLUENZA VIRUS VACCINATION AND PHYSICAL EXAMINATION

Influenza vaccination and physical examination are two preventive measures that have traditionally been part of public health interventions. The 2003 CCHS asked Cree residents questions concerning both of these preventive measures.

METHODOLOGICAL ASPECTS

Estimation of the influenza vaccination stems from the Flu Shots Module targeting all inhabitants 12 years and over. Vaccination timeframes used are "less than 1 year

ago", "1 year to less than 2 years ago" and "2 years ago or more".

Questions relating to the general physical examination, targeting people 12 and over, stemmed from the General Examination Module. These questions were designed to identify the ratio of people who had passed a general physical examination for no particular health problem versus those that passed such an examination for a specific health problem. The provided questions did not take into account the type of professional seen (doctor, nurse, other).

2.1 FLU VACCINATION

Influenza is a respiratory infection caused by the flu virus associated with outbreaks that occur yearly during the winter months. Infection with this virus is known for its significant morbidity, much of which is preventable through vaccination. In Quebec, an organized campaign of vaccination exists in all regions of the province. The flu vaccine is administered for free to those aged 60 or more, as well as to several other high-risk groups (MSSS, 2005). Although healthy adults are not covered by the vaccination program because they are considered to be at low risk from influenza, the National Advisory Committee on Immunization recommends that all age groups be vaccinated (Orr, 2005).

Fortunately, the Cree region is not limited by the restrictions imposed by the Quebec flu vaccination program. In fact, in Iiyiyiu Aschii, the flu vaccine is available at no cost to all residents. Consequently, a large coverage of the high risk and low risk adult Cree population with the flu vaccine is possible. The 2003 CCHS asked residents of Iiyiyiu Aschii several questions concerning flu vaccination.

Demographics of flu vaccination

More than half of Cree residents aged 12 and over have received the flu vaccine at least once (57%). Amongst the Cree only, men are more likely to be vaccinated (63%) compared to women (53%) (Table A4, Appendix). Despite these differences, both genders are nevertheless more likely to be vaccinated compared to the rest of Quebec (43%).

The residents of Chisasibi and Mistissini tend to be under-vaccinated compared to the rest of Iiyiyiu Aschii [4]. Gender differences are particularly noticeable in Mistissini, where men are more likely to be vaccinated (63%) compared to women (43%) (Table A4, Appendix). While gender differences are not present in the coastal Cree areas, men are more likely to be vaccinated in the inland areas (64%) compared to women (46%)[5]. A closer look shows that it is particularly young inland men under 30 that are more vaccinated (60%) compared to their female counterparts (38%). The gender differences disappear with increasing age.

Age is also associated with vaccination status. The elderly are more likely to be vaccinated compared to those under 50. For example, in coastal areas, the elderly 65 and over are almost twice as likely to have been vaccinated (87%) compared to residents aged 30 to 49 years (47%) (Table A4, Appendix). A similar pattern is seen in inland areas. This difference across age groups happens despite the availability of vaccine at no cost. Consequently, differences in coverage across age groups may be due to the Quebec vaccination campaign and/or targeted promotion.

Interestingly, extremes of educational attainment are associated with vaccination status. That is, Cree individuals within the middle range for educational attainment are less likely to be vaccinated (49%) compared to those of low (63%) or high (64%) educational attainment. This association tends to be present in both genders (data not shown).

Timing of flu vaccine

Because the genetic make-up of the influenza virus changes yearly, a new flu vaccine is developed every year (Orr, 2005). A vaccine received during the previous flu season is not likely to be protective for the present season. Consequently, an updated vaccine must be administered every year.

In Iiyiyiu Aschii, nearly half (48%) of vaccinated individuals received the vaccine within the past year (Table A5, Appendix). This amount is similar to the proportion that received the vaccine within the past year in the rest of Quebec. Another 19% received the vaccine within one to two years prior and the remaining 34% over two years ago. The tendency is for more women to have received the vaccine in the past year (53%) compared to men (44%). So while more men are

[4] Four groups of communities were defined on the basis of each village's population at the time of the survey: (1) Chisasibi (more than 3,000 inhabitants); (2) Mistissini (2,000 to 3,000 inhabitants); (3) medium-sized communities (1,000 to 2,000 inhabitants), i.e. Waswanipi, Waskaganish, and Wemindji; (4) smaller communities (fewer than 1,000 inhabitants), i.e. Whapmagoostui, Eastmain, Nemiscau and Oujé-Bougoumou.

[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.

vaccinated overall, it seems that more women receive their vaccine on time.

In addition, the proportion of residents that received the vaccine in the past year is similar in all parts of Iiyiyiu Aschii. The exception is for residents of mid-size communities (population between 1000 to 2000) who were more likely to have received the vaccine within the past year (55%) compared to residents of Chisasibi (37%).

Reasons for not being vaccinated

When asked why they did not receive the flu vaccine last year, 74% of residents in Iiyiyiu Aschii give personal reasons. The most frequent personal reason given is that the respondent "did not think the vaccine was necessary" (56% of all reasons). Other less frequent personal reasons include respondents who "did not get around to it" and respondents who had a bad reaction to a previous shot (data not shown). Interestingly, residents in Iiyiyiu Aschii were much less likely to give personal reasons for not being vaccinated than residents of the rest of Quebec. Problems accessing the vaccine did not seem to play a significant role.

2.2 PHYSICAL EXAMINATION

An annual general physical check-up has long been thought of as a useful preventive practice, even though its actual efficacy has yet to be confirmed (Claperton, 2005). The Canadian Task Force on Periodic Health Examination published in 1979 a study in favour of a problem-specific strategy based on various age periods (Claperton, 2005; Stachenko, 1994). It is however more difficult to implement physical examinations in the Iiyiyiu Aschii region as a result of the limited number of available family doctors. Yet, these examinations are a great opportunity for inciting patients to make lifestyle changes. The CCHS actually inquired of Iiyiyiu Aschii residents whether or not they had consulted a physician in order to obtain a physical check-up.

Timing of the last medical check-up

It would appear that nearly four out of ten people (39%) of the region passed a physical check-up in the last year, 20% in the last one to three years, and 8% more than three years ago (Table A6, Appendix). Overall, one out of three people (33%) never had a physical check-up. This ratio is not gender-specific but tends to drop as age increases. Consequently, 52% of young people 12 to 19 had never passed a physical check-up as of 2003, compared with 19% for people 45 and over. Such medical checkups seem more frequent in continental communities. There is no significant difference between last year's regional and Quebec ratios for general physical check-ups, other than a more important number of regional residents having never passed such an examination (33% vs. 19%).

Reasons for not having a check-up in the past three years

People who have not had any general physical examination in the last 3 years usually cite personal reasons (75%) (unnecessary, fear, lack of time) more than instrumental (12%) (non-availability of service, too long a waiting time, transport issues) or medical motives (unnecessary according to their doctor) (Data not shown). Cited reasons for not having had a physical examination in the last 3 years do not vary based on gender or age group. It should however be noted that the Canadian Guide to Preventive Clinical Health Care does not necessarily recommend passing a yearly physical check-up (Stachenko, 1994).

2.3 OVERVIEW OF SECTION 2

Future flu prevention activities in Iiyiyiu Aschii should consider the following key points of the 2003 CCHS:

- Young adults, women, and individuals of average educational attainment are those least likely to be vaccinated.
- Chisasibi had a lower level of vaccine coverage.
- The main reason for not being vaccinated is the perception that the flu vaccine is unnecessary.
- More than half of the population have presumably passed a non-specific preventive physical examination in the last 3 years. This medical visit could be an opportunity to promote preventive health measures, including influenza vaccination.

3. CHANGES MADE TO IMPROVE HEALTH AND SEXUAL BEHAVIOR PREVENTION

This third section deals with behaviour changes made or expected to be made by Iiyiyiu Aschii's residents to improve their health. It also addresses some aspects of unhealthy sexual behaviour.

METHODOLOGICAL ASPECTS

The survey shed light on people's intent regarding preventive behavioural changes to improve their health over the 12 months prior to said survey and during the following year. Additional questions dealt with potential obstacles to implementing such behavioural changes.

Questions stemmed from the Changes Made to Improve Health Module and targeted people 12 and over. These questions were not intended to assess the scope or duration of changes made or planned.

Questions pertaining to sexual behaviour stemmed from the Sexual Behaviour Module and targeted people 15 to 49. It should be noted that sexuality remains a delicate and intimate subject, seldom brought up amongst Crees (Reigneau, 1990). The non-response rates to questions relating to sexuality vary from 10% for the generic question about sexual activity to nearly 55% for condom use. These non-response rates also vary according to respondent specificities. For example, the non-response rate tends to increase with age and amongst coastal communities but does not seem to vary based on gender. However, data pertaining to sexual behaviour should be interpreted with caution.

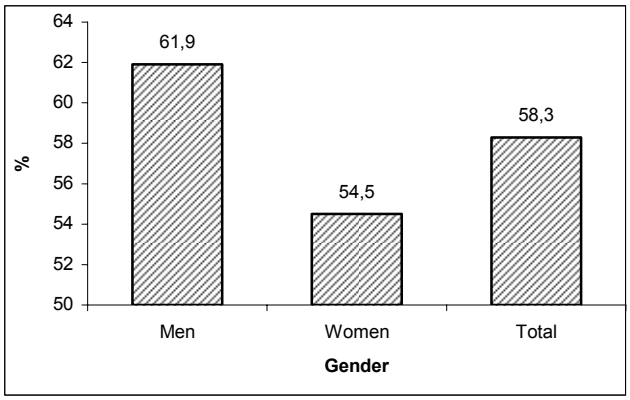
3.1 CHANGES MADE TO IMPROVE HEALTH

The various efforts made to promote health lead to greater awareness of populations and incite people to change their behaviour in the hope of adopting healthier lifestyles. Related information is provided in various ways – i.e. by health educators during medical visits at the community level or by the media – and adapted to the specifics of targeted populations (Lyons & Langille, 2000; Stachenko, 1994). These health-oriented actions and efforts may have an impact on the overall health of populations. It has long been established that making changes to one's behaviour can help reduce the prevalence of many chronic conditions– such as cardiovascular diseases, diabetes, hypertension, some types of cancer, as well as many risk factors for these diseases (smoking, sedentary lifestyle, obesity). In this regard, there is a very high prevalence of diabetes and a significant number of persons suffering from obesity or a weight surplus in the Iiyiyiu Aschii region (Légaré, 2004). Changing behaviours associated with such problems could help reduce the occurrence of these chronic conditions.

The majority of residents took action to improve health

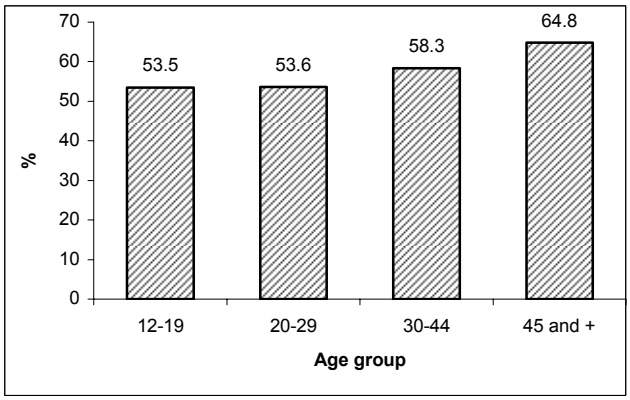
Nearly six out of ten people (58%) reported having changed their behaviour in the year preceding the survey in order to improve their health. A significantly greater number of men and people 45 and over reported having changed their behaviour in order to improve their health (Figure 1). Behavioural changes also varied according to the education level, from 51% for people with the lowest schooling to 71% for those with the highest schooling (data not shown).

Figure 1
Proportion of person who did something to improve their health in the past twelve months by gender (%), population 12 and over, Iiyiyiu Aschii, 2003



Source: CCHS 2.1 – Iiyiyiu Aschii.

Figure 2
Proportion of person who did something to improve their health in the past twelve months by age group (%), population 12 and over, Iiyiyiu Aschii, 2003



Source: CCHS 2.1 – Iiyiyiu Aschii.

Here is the breakdown of people who reported having changed their behaviour in order to improve their physical health: half (50%) reported practicing more physical or sport activities; a quarter (26%) said that they lost weight or changed their dietary habits; and roughly one fifth (18%) reported smoking less or having stopped smoking, or having reduced their alcohol consumption in the last year (Table A7, Appendix). These reported behavioural changes vary according to gender: more women seem to have adopted new dietary habits or lost weight (35% vs. 19%) while more men have presumably reduced their alcohol or tobacco use (22% vs. 14%). There were proportionally more teenagers (12 to 19) who reported having made some behavioural changes who did so through increased physical or sport activities. Thirty

percent of young adults reported that they had reduced their alcohol consumption or tobacco use.

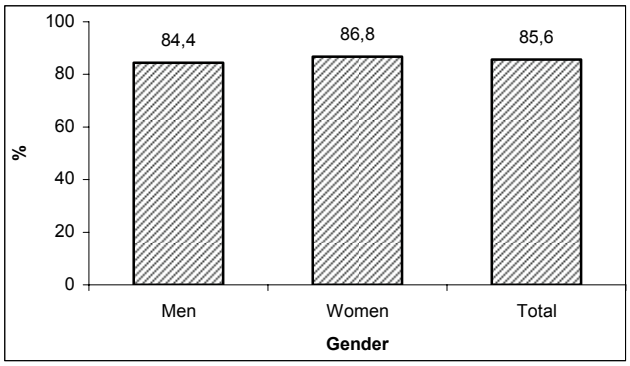
Besides these reported behavioural changes, three quarters of the region's residents (75%) are convinced that they could do more to improve their health. This ratio does not however vary based on gender or age group (data not shown). When asked what other behavioural changes could be made to improve their health, nearly half of the residents (47%) state that they would like to increase their physical activities, one third (33%) would like to lose weight or modify their dietary habits, and 15% would quit smoking (Table A8, Appendix). But intentions do vary with gender: men are more prone to increase physical activity (54% vs. 39%) while women are more eager to lose weight or change their dietary habits (41% vs. 26%). Of respondents who are considering changing their behaviour to improve their physical health, one out of three (32%) believe that some obstacles could prevent them from meeting their new objectives (data not shown). The majority of identified obstacles (86%) are of a personal nature (lack of will-power, too difficult an endeavour, fatigue, lack of time). Only 10% of cited motives stem from a physical disability or a health problem (data not shown).

Even more intend to take future action in the next year

The survey was also designed to assess residents' intentions regarding behavioural changes in the next year. If half of Iiyiyiu Aschii's residents reported having made at least one behavioural change in order to improve their health in the year preceding the survey, an even larger number (86%) were intent on changing their behaviour in the next year in order to improve their health (Figure 2). These numbers do not show any significant variation based on gender but do increase with age, ranging from 76% amongst teens to 90% amongst people 45 and over. Behavioural changes being considered by those intent on improving their physical health in the next year are: starting a physical activity or increasing existing activities (66%), losing weight or improving one's dietary habits (41%), cutting down or quitting smoking (17%), making another behavioural change (17%) (stress management, vitamin intake, etc.) (Data not shown)[6].

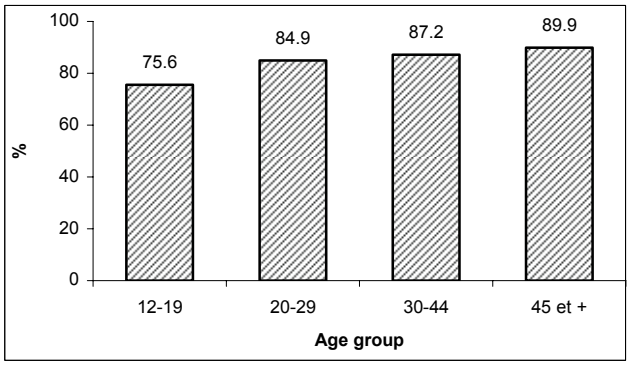
[6] Please note that more than one behaviour could be reported, which explains why the total percentage exceeds 100%.

Figure 3
Proportion of people who intend to improve their health in the next year by gender (%), population 12 and over, Iiyiyiu Aschii, 2003



Source: CCHS 2.1 – Iiyiyiu Aschii, 2003

Figure 4
Proportion of people who intend to improve their health in the next year by age group (%), population 12 and over, Iiyiyiu Aschii, 2003



Source: CCHS 2.1 – Iiyiyiu Aschii, 2003

3.2 SEXUAL BEHAVIOUR PREVENTION

Some forms of sexual behaviour may be detrimental to people's health. Very little data on the sexual practises of native communities is available and most of that data generally relates to blood-related or sexually-transmitted infections (BSTDs) or teen pregnancy (Rotermann, 2005). The CCHS assessed various aspects of the sexual behaviour of Iiyiyiu Aschii's residents, from 15 to 49.

Nearly 9 out of 10 residents 15 to 49 (89%) reported having had sexual intercourse. This percentage does not vary by gender but increases with age, from 65% among the 15 to 19 age group (48% among minors 15 to17) to 95% of adults 30 to 49 (Table A9, Appendix). Of these people, 18% reported having had their first sexual encounter before the age of 15, teens from 15 to 19 presenting the highest ratio (34%) and adults 30 to 49 the

lowest ratio (12%) (Table A10, Appendix). These data seem to indicate that the age of the first sexual encounter has dropped in recent years. There is however no significant variation based on gender or sub-regional location.

Of people having had sexual relations, 84% reported having been with only one partner in the last year, which means that 16% had more than one partner. The ratio of people having had more than one partner does not vary with gender but tends to increase among the younger population, reaching 37% for the 15 to 19 age group compared with only 9% of people 30 to 49 (Table A11, Appendix). These data should however be interpreted with caution because of a 30% non-response rate.

Using a condom is a safe method of protection against several blood-related or sexually transmitted infections (BSTDs). Seven out of ten people (70%) who reported having had more than one partner in the last year actually used a condom during their last intercourse. This percentage does not vary significantly based on gender, age group or sub-region (data not shown). These data are provided for information purposes only and should be interpreted with extreme caution, based on a 70% non-response rate for this specific question.

3.4 OVERVIEW OF SECTION 3

- While many residents report already having made lifestyle modifications (58%), an even larger proportion would like to do the same in the near future (86%).
- The main future behaviour changes being considered are: to be more physically active, to lose weight or change dietary habits, and to cut down or quit smoking. These behaviours have been shown to reduce the prevalence of many chronic conditions such as cardiovascular disease and various types of cancer. Diabetes, a highly prevalent disease in the region, is one of those diseases.
- Obstacles to making such behavioural changes are essentially of a personal nature (lack of will-power, finding it too difficult an endeavour, fatigue, or lack of time), rather than instrumental (availability of or physical access to services).
- People are having their first sexual encounter at a progressively younger age over time. More than one third of teens 15 to 17 and one quarter of young adults 20 to 29 have reported having more than one partner in the last year.

REFERENCES

Chudley, A.E. *et al.* (2005). "Fetal alcohol spectrum disorder: Canadian guidelines for diagnosis". *Canadian Medical Association Journal, 172*, S1-S21.

Claperton, I. (2005). "Pourquoi un numéro sur la prévention au cabinet du médecin?" *Le médecin du Québec, 40*(5), 29-30.

Kramer, M.S. & Kakuma, R. (2002). *The Optimal Duration of Exclusive Breastfeeding. A Systematic Review*. World Health Organisation, Geneva.

Légaré, G. (2004). *Project of Diabetes Surveillance Among the Cree of Eeyou Istchee*, Institut national de santé publique du Québec & Cri Board of Health and Social Services of James Bay, 81p.

Lyons, R., & Langille, L. (2000). *Mode de vie sain: rehausser l'efficacité des approches axées sur le mode de vie pour améliorer la santé*. Dalhousie, Canada : Santé Canada.

Millar, W.J. & Maclean, H. (2005). « L'allaitement maternel ». *Rapports sur la santé, 16*(2), 25-34.

Ministère de la Santé et des Services sociaux (MSSS). (1997). « Programme québécois de dépistage du cancer du sein : Document de références s'adressant aux médecins de première ligne ». In *Bibliothèque nationale du Québec*, [En ligne]. http://www.msss.gouv.qc.ca/sujets/prob_sante/cancer/download.php?id=209347,119,3

Ministère de la Santé et des Services sociaux (MSSS). (2005). « Influenza ». In *Ministère de la santé et des services sociaux*. [En ligne]. http://www.msss.gouv.qc.ca/en/sujets/prob_sante/influenza.html (Page consultée le 29 décembre 2005).

Morrison, B.J. (1994). "Screening for Cervical Cancer". In *Canadian Task Force for Preventive Health Care. Screening for cervical cancer*. [En ligne].

Orr, P. (2005). "Statement on Influenza vaccination for the 2005-2006 season: National Advisory Committee on Immunization". *Canada Communicable Disease Report,* [En ligne]. 31, ACS-6. http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/05pdf/acs-dcc3106.pdf

Reigneau, J.-J. (1990). « La sexualité des Cris ». *L'infirmière canadienne, 86*(9), 38-42.

Ringash, J. (2001). "Canadian Task Force on Preventive Health Care. Preventive health care, update: screening mammography among women aged 40-49 years at average risk of breast cancer". *Canadian Medical Association Journal, 164*(4), 469-476.

Rotermann, M. (2005). "Sex, Condoms and STD's Among Young People". *Health Reports, 16*(3), 39-45.

Samet, J.M. & Yoon S.Y. (2001). "Women and the tobacco epidemic. Challenges for the 21st century". In *World Health Organisation*. [En ligne]. http://whqlibdoc.who.int/hq/2001/WHO_NMH_TFI_01.1.pdf

Santé Québec. Daveluy, C., Lavallé, C., Clarkson, M., & Robinson, E. (dir.) (1994). *A Health Profile of the Cree, Report of the Santé Québec Health Survey of the James Bay Cree 1991*. Montreal : Ministère de la Santé et des Services sociaux, Government of Quebec.

Sobell, T.L. & Sobell L.T. (2003). "Alcohol Consumption Measure in Assessing Alcohol Problems". In *A Guide for Clinicians and Researchers*. [En ligne] http://alcoholism.about.com/gi/dynamic/offsite.htm?zi=1/XJ&sdn=alcoholism&zu=http%3A%2F%2Fwww.niaaa.nih.gov%2F

Société canadienne du cancer (SCC) & Institut national du cancer du Canada (INCC). (2005). *Statistiques canadiennes sur le cancer 2005*. Toronto, Canada.

Stachenko, S. (1994). « Les lignes directrices pour la médecine préventive : leur rôle dans la prévention clinique et la promotion de la santé ». *Guide canadien de médecine clinique préventive*. Ottawa: Groupe Communication Canada.

Statistics Canada. (2003). *Canadian Community Health Survey (CCHS), Cycle 2.1*. Ottawa: Health Statistics Division, Government of Canada. [On-line]. http://www.statcan.ca/english/concepts/health/cycle2_1/index.htm

Van Allen, M.I., McCourt, C. & Lee, N.S. (2002). "Preconception health: folic acid for the primary prevention of neural tube defects. A resource document for health professionals". In *Minister of Public Works and Government Services Canada*. [En ligne]. http://www.phac-aspc.gc.ca/fa-af/pdf/backgrounder_full.pdf.

World Health Organisation. (2003). "Global Strategy for Infant and Young Child Feeding". In *World Health Organisation*. [En ligne]. http://www.who.int/nutrition/publications/gs_infant_feeding_text_eng.pdf (Page consultée le 2 août 2006).

APPENDIX

Table A1
Duration of breastfeeding of last infant by mother's age group and education level (%), women 15 to 55 who gave birth in the past five years and breastfed, Iiyiyiu Aschii, 2003

	Less than 1 month	1 to 6 months	6 months or more	4 months or more
Total	**21.7**	**46.5**	**31.8**	**50.9**
Age group				
15-24 years	U	55.2*	U	35.9
25-34 years	U	41.4*	45.4	66.0
35-55 years	U	U	U	U
Education				
Lower level	25.0*	47.0	28.0*	45.6
Middle level	U	U	46.4*	58,7*
Higher level	U	U	U	62.0*

* 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.

Table A2
Duration of exclusive breastfeeding of last infant by mother's age group and education level (%), women 15 to 55 who gave birth in the past five years and breastfed, Iiyiyiu Aschii, 2003

	1 month or less	4 months or more	6 months or more
Total	**60.6**	**42.9**	**28.0**
Age group			
15-24 years	66.7	48.8*	36.5*
25-34 years	63.6	46.2	28,2*
35-55 years	40.1*	U	U
Education			
Lower level	56.5	41.5	28.8*
Middle level	57.2	44.1*	34.1*
Higher level	83.8	54.9*	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.

Table A3
Smoking during last pregnancy by age group and education level (%), women 15 to 55 who gave birth in the past five years, Iiyiyiu Aschii, 2003

Total	**36.2**
Age group	
15-24 years	58.0
25-34 years	28.4
35-55 years	U
Education	
Lower level	40.6
Middle level	41.1*
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.

Table A4
Proportion ever vaccinated for flu by sub-region, community and age group (%), population 12 and over, Iiyiyiu Aschii, 2003

	Total	Men	Women
Total	**56.6**	**60.5**	**52.3**
Cree only	58.5	63.4	53.2
Sub-region			
Coastal	**57.3**	**58.5**	**56.0**
12-29 years	56.2	59.4	52.7
30-49 years	46.7	49.4	44.1
50-64 years	72,0	62.9	82.2
65 years and +	86,8	96.9	77.1
Inland	**55,5**	**63.5**	**46.1**
12-29 years	49.9	59.8	38.3
30-49 years	51.7	62.2	41.1
50-64 years	76.6	72.5	86.1
65 and years +	83.2	80.8	84.7
Communities			
Chisasibi (over 3,000 people)	50.1	55.7	43.6
Mistissini (2,000 to 3,000 people)	53,3	63.0	42,5
Middle-sized communities (1,000 to 2,000 people)	60.5	59.9	61.2
Smaller communities (under 1,000 people)	62.8	65.6	59.3

Source: CCHS 2.1 – Iiyiyiu Aschii, 2003.

Table A5
Timing of flu vaccine by community and gender (%), population 12 and over ever vaccinated, Iiyiyiu Aschii, 2003

	Less than 1 year ago	1 to 2 years ago	More than 2 years ago
Total Iiyiyiu Aschii[a]	**47.8**	**18.6**	**33.6**
Men	44.0	20.4	35.5
Women	52.6	16.2	31.2
Communities			
Chisasibi (over 3,000 people)	**37.0**	**14.5**	**48.5**
Men	30.9	16.4	54.8
Women	46.4	15.4	38.8
Mistissini (2,000 to 3,000 people)	**50.1**	**14.9**	**34.9**
Men	54.7	14.4	30.9
Women	42.7	15.8	41.5
Middle-sized communities (1,000 to 2,000 people)	**55.3**	**20.0**	**24.7**
Men	45.9	25.0	29.1
Women	64.5	15.1	20.4
Smaller communities	**44.4**	**24.4**	**31.2**
Men	45.0	27.5	27.5
Women	43.6	20.3	36.1

[a] Age standardised.

Source: CCHS 2.1 – Iiyiyiu Aschii, 2003.

Table A6
Time since the last medical check-up by gender, age group, sub-region and community (%), people 12 years and over, Iiyiyiu Aschii and rest of Quebec, 2003

	Time since the last examination			
	Never	Less than 1 year	1 to 3 years	3 years or more
Total	**32.5**	**39.2**	**20.2**	**8.1**
Gender				
Men	33.7	35.0	20.1	11.2
Women	31.3	43.7	20.4	4.2
Age group				
12-19 years	51.9	25.6	18.1*	U
20-29 years	36.4	32.4	23.3	7.9*
30-44 years	31.8	34.2	22.3	11.7
45 years and +	19.2	57.0	17.2	6.6*
Sub-region				
Coastal	37.3	33.7	18.9	10.1
Inland	25.3	47.4	22.3	5.0*
Communities				
Chisasibi (over 3,000 people)	41.6	26.7	22.4	9.4*
Mistissini (2,000 to 3,000 people)	31.8	45.6	19.0	4.4*
Middle-size communities (1,000 to 2,000 people)	31.8	39.4	18.4	10.4
Smaller communities (under 1,000 people)	22.1	48.7	22.0*	7.2*
Rest of Quebec	**18.7**[1]	**38.8**	**25.4**[1]	**17.2**[1]
12-19 years	34.8[1]	27.2	25.6	12.4[1]
20-29 years	25.6[1]	27.5	26.8	26.1[1]
30-44 years	20.1[1]	32.6	26.9	20.4[1]
45 years and +	11.2	49.6	23.2	15.4[1]

[1] Refers to a statistically significant difference.

* 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 and rest of Quebec, 2003.

Table A7
Behavioural changes made in the last year to improve one's health by gender and age group (%), people 12 years and over who reported having made at least one behavioural change, Iiyiyiu Aschii, 2003

	Increased exercise	Weight loss- diet modification	Reduction in alcohol/ obacco consumption	Other
Total	**50.0**	**26.1**	**18.4**	**5.6***
Gender				
Men	53.0	19.2	22.3	5.5*
Women	46.3	34.5	13.6	5.7*
Age group				
12-19 years	64.2	18.9*	15.3*	U
20-29 years	37.6	28.3	30.2	U
30-44 years	45.6	27.6	20.2	6.6*
45 years and +	53.7	27.1	11.5*	7.6*

* 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.

Table A8
Behavioural changes being considered for next year to improve one's health by gender and age group (%), people 12 years and over, Iiyiyiu Aschii, 2003

	Increased exercise	Weight loss- diet modification	Quit smoking	Other
Total	**46.6**	**33.0**	**15.3**	**5.1***
Gender				
Men	54.0	25.7	15.6	4.6*
Women	39.1	40.5	15.0	5.5*
Age group				
12-19 years	43.3	28.0	24.8*	U
20-29 years	40.8	35.2	20.2	U
30-44 years	45.8	32.8	16.3	5.1*
45 years and +	54.0	34.5	U	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.

Table A9
Ratio of people who have been sexually active by gender, age group and sub-region (%), people 15 to 49 years old, Iiyiyiu Aschii, 2003

	Have been sexually active
Total	89.4
Gender	
Men	87.8
Women	91.0
Age group	
15-19 years	64.7
20-29 years	91.1
30-49 years	95.3
15-17 years	48.1
18-29 years	91.2
30-39 years	96.6
40-49 years	93.7
Sub-region	
Coastal	87.5
Inland	91.9

Source: CCHS 2.1 – Iiyiyiu Aschii, 2003.

Table A10
Ratio of people who had their first sexual relation before the age of 15, by gender, age group and sub-region (%), people 15 to 49 years old who have been sexually active, Iiyiyiu Aschii, 2003

	First sexual relation before the age of 15
Total	**17.7**
Gender	
Men	17.9
Women	17.6
Age group	
15-19 years	34.1*
20-29 years	23.2
30-49 years	11.7
15-17 years	45.3*
18-29 years	23.2
30-39 years	14.1*
40-49 years	U
Sub-region	
Coastal	18.8
Inland	16.6

* 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.

Table A11
Sexually active population[a] and number of partners in the last 12 months by gender, age group and sub-region (%), population 15 to 49 years old, Iiyiyiu Aschii, 2003

	1 partner	2 partners and more	Item non-response
Total	**84.0**	**16.0**	30.1
Gender			
Men	78.0	22.0	32.5
Women	89.8	10.2*	27.6
Age group			
15-19 years	62.7	37.3*	37.8
20-29 years	76.6	23.4*	27.4
30-49 years	91.5	8.5*	29.9
Sub-region			
Coastal	82.3	17.7	39.1
Inland	85.7	14.3	18.0

[a] Sexually active individuals.

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

Source: CCHS 2.1 – Iiyiyiu Aschii, 2003.