

*the* Métis  
Nation *of*  
Ontario

# RESPIRATORY DISEASE IN THE MÉTIS NATION OF ONTARIO

**LAY REPORT**  
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## INTRODUCTION

Over 3.5 million Canadians live with respiratory disease. Chronic respiratory disease is a group of diseases that includes asthma, chronic obstructive pulmonary disease (COPD), lung cancer, tuberculosis and cystic fibrosis. They are chronic conditions with a significant disease and economic burden, and they are expected to increase in the population over time, placing a large burden on the health care system. Additionally, lung cancer in 2010 had the second highest rate of new cases among all cancer types in both men and women and the highest death rate overall. Two important risk factors for chronic respiratory disease and lung cancer – tobacco smoke and indoor and outdoor air quality – are, to some degree, preventable. A better understanding of how common these diseases are and what places people at risk for their development may lead to increased opportunities for prevention.

The Métis people represent a significant proportion (approximately 30%) of the Aboriginal population in Canada. In recent years, researchers and health officials have gathered a great deal of information about Canada's Aboriginal populations. However, the research was not geared specifically towards the Métis population (see the Bibliography on page 16 for more details).

The Métis Nation of Ontario (MNO) is the only representative body for the Métis people in Ontario. The MNO sought to conduct research to find out what the actual rate of chronic respiratory disease is in order to identify the extent of the problem. The MNO was also interested in gathering more information on what level of health care services the Métis people received in the treatment of their chronic respiratory disease. Therefore, the MNO launched a research study with funding from the Public Health Agency of Canada.

Unfortunately, Ontario health data do not include identifiers for individuals' ethnic or cultural background and so an alternative way of identifying the Métis population in the data was needed. To obtain data, the MNO worked with the Institute for Clinical Evaluative Sciences (ICES) on this study to look at hospitalizations, physician visits, emergency department (ED) visits and deaths due to chronic respiratory disease during fiscal years 2007 and 2008. To create this report, the citizenship registry of the Métis Nation of Ontario was linked with provincial healthcare records held at ICES. All information that might identify individuals was kept strictly confidential.

This report explains how information on the Métis people was gathered and their rates of respiratory disease. We also present data tables to show what was learned about the disease among the Métis and how their rates of care of respiratory disease compares to the rest of the population in Ontario, from 2007 to 2009.

## THE EXTENT OF THE PROBLEM

Much of the information on chronic respiratory disease in the Métis is provided by a comprehensive report produced by the Manitoba Centre for Health Policy in collaboration with the Manitoba Metis Federation. This report presents the health status and healthcare utilization patterns of the Metis Community in Manitoba. This is a highly detailed report offering information on a number of topics including mortality rates, prevalence of chronic disease conditions, prevalence of prevention and screening and rates of physician services and hospitalizations. Included in this report are statistics on total respiratory morbidity (TRM), an indicator that measures the combined impact of asthma, chronic or acute bronchitis, emphysema and chronic airway obstruction, among Métis in Manitoba for the year 2006/07. These statistics show that Métis have a higher rate of TRM compared with the general Manitoban population (13.6% versus 10.6%). In contrast, other studies using survey data comparing the Aboriginal and non-Aboriginal populations in Ontario demonstrate that asthma diagnosis rates are lower among Aboriginal populations.

Lung cancer is a significant cause of respiratory illness and death in Canada's general population. Unfortunately, we currently lack information about cancer among the Métis and no population-level statistics are available around the incidence of lung cancer among Métis in Canada. As far as we are aware, the report 'Cancer in the Métis Nation of Ontario', co-authored by the MNO and ICES, is the first to present cancer incidence according to administrative data among a sizeable cohort of Métis in Ontario.

## RESEARCH METHODS

### HOW THE INFORMATION WAS GATHERED

This study is based on the citizenship registry of the MNO (updated to August 2009), which represents about 18% of Ontario's total Métis population. Registry files were linked to the database of everyone who is eligible for a health card in Ontario. In all, 14,021 of the 14,480 individuals in the citizenship registry were found in Ontario health records, and 94% of those had a valid Ontario address and were alive on April 1, 2007. This is the Métis population that was studied in this report; in the report, they are referred to simply as "the Métis", or "the Métis population". All other citizens of Ontario were counted as part of the general population, which includes the Métis who are not part of the registry. An important point to note is that individuals under the age of 18 were excluded from this study, as there are very few people in this age group in the MNO population, which limits comparisons with young people in the general Ontario population.

Privacy was protected by substituting coded numbers for real health-card numbers. This kept people anonymous while still allowing us to trace their medical history through Ontario health care records. A combination of databases were used to narrow down the group again, so it included only people who have either asthma, COPD or lung cancer, both in the Métis Nation of Ontario and in the general public. A description of each disease follows:

- Asthma is a chronic or long-term disease that makes it hard to breathe. If you have asthma, your airways are extra-sensitive. When you are around certain substances, your airways can get inflamed, making them red, swollen and full of mucus. This can make it very difficult to breathe. It can also make your airways go into spasm, which means the muscles around your airways squeeze together. This makes your airways narrower, leaving less room for the air to pass through. While it can't be cured, asthma can be managed. With proper treatment, people with asthma can lead normal, active lives.
- COPD, or chronic obstructive pulmonary disease, includes chronic bronchitis and emphysema; many people with COPD have both. COPD slowly damages your lungs, including the breathing tubes that carry air in and out of your lungs. COPD makes airways swollen and partly blocked by mucus. It also damages the tiny air sacs at the tips of your airways. This makes it hard to move air in and out of your lungs.
- Lung cancer refers to cancer that starts in the cells of the lung. There are two main types of lung cancer. Non-small cell lung cancer (NSCLC) is the most common type of lung cancer. It grows more slowly than small cell lung cancer. Small cell lung cancer (SCLC) grows quickly and often spreads to distant parts of the body. Because each type of lung cancer behaves quite differently, they are treated differently. Lung cancer remains the leading cause of cancer death for both men and women in Ontario.

In this report, when the term "general population" is used, it refers to the general public who are not part of the MNO citizenship registry. Once the Métis and general population groups were defined, government health care records were examined for respiratory disease-related entries. These are the databases that were used:

- The Ontario Health Insurance Plan (OHIP), which records payments to Ontario physicians for consultations, visits and procedures.
- The Discharge Abstract Database (DAD), which has detailed information on each hospital stay in Ontario, including diagnoses and procedures performed during the stay.
- The National Ambulatory Care Reporting System (NACRS), which records diagnoses for all visits to Ontario emergency departments.
- The Ontario Cancer Registry (OCR), which records information on all Ontario residents who have been newly diagnosed with cancer ("incidence") or who have died of cancer ("mortality"). The only type of cancer that is not captured in this system is non-melanoma skin cancer. This registry contains information on 95% of Ontarians with cancer.

The number of cases of asthma and COPD was estimated by looking at physician, emergency department, and hospital visits from 2007 to 2008 (fiscal years). The number of cases of lung cancer included in our study was estimated by looking at provincial registry data from 2005 to 2007 (fiscal years).

Because the average age and the distribution of men and woman in the Métis population is different from the Ontario population overall, many of the numbers gathered were “standardized” or adjusted to ensure that when the two groups were compared, it was a fair comparison. For example, some types of cancer are more common in older people. Since the Métis population is known to be generally younger than the Ontario population, just counting cases could result in a false impression of the differences between the two groups. By adjusting the numbers for age and sex, a more accurate comparison between the Métis population and the overall Ontario population can be made. When statistics have not been adjusted, they are technically referred to as “crude” numbers.

## HOW WELL IS CARE WORKING?

One way to measure whether people with asthma or COPD are receiving good care is to look at how many of them are visiting their family doctor or a specialist in a given year. It is also important to look at how many have to visit an emergency department or be hospitalized. Finally, we can look at how many of them died within that period. It is important to remember, however, that poor respiratory disease care is only part of the reason people may suffer these outcomes.

## FINDINGS

### WHO WAS INCLUDED IN THIS STUDY

**Table 1:** Demographic characteristics of the Métis Nation of Ontario citizenship registry versus the Métis population in Ontario identified in the 2006 Census.

Characteristic		Métis Nation of Ontario Citizenship Registry	Ontario Métis people identified in the 2006 Census
Number of persons		13,181	73,605
Median Age (Inter-Quartile Range)		43 (24)	33 (N/A)
Sex	Female	46.5	50.0
	Male	53.5	50.0

The MNO citizenship registry included in this analysis represents approximately 18% of the total Métis population in Ontario, based on self-report in the 2006 Census by Statistics Canada. The people included in the citizenship registry are older and more likely to be male than the Métis census population.

**Table 2:** Demographic characteristics of the Métis Nation of Ontario citizenship registry versus the rest of the general population of Ontario.

Characteristic		Métis Nation of Ontario Citizenship Registry	General population
Number of persons		13,181	13,496,154
Median Age (Inter-Quartile Range)		43(24)	39(34)
Sex (%)	Female	46.5	50.6
	Male	53.5	49.4
Rurality <sup>1</sup> (%)	Urban	69.1	88.5
	Rural	30.9	11.5
Neighbourhood Income Quintile <sup>2</sup> (%)	1	22.4	20.1
	2	21.0	19.9
	3	20.1	19.7
	4	18.5	20.0
	5	17.4	19.9
Local Health Integrated Net- work (LHIN) (%)			
	Erie St. Clair	2.5	5.1
	South West	3.8	7.1
	Waterloo Wellington	2.4	5.5
	Hamilton Niagara Haldimand Brant	5.4	10.5
	Central West	1.4	6.2
	Mississauga Halton	1.7	8.6
	Toronto Central	2.5	9.3
	Central	2.3	13.0
	Central East	5.1	11.8
	South East	2.8	3.7
	Champlain	5.7	9.5
	North Simcoe Muskoka	17.8	3.3
	North East	30.9	4.4
	North West	15.9	1.9

<sup>1</sup>Based on the Statistics Canada definition of rurality (Statistics Canada. Standard Geographical Classification (SGC): Volume 1 - The Classification. Ottawa, ON: 2007). <sup>2</sup>Neighbourhood income is calculated by Statistics Canada and is updated every five years when new census data become available. Ontario neighbourhoods are now classified into one of five approximately equal-sized groups (quintiles), ranked from poorest (Q1) to wealthiest (Q5). These income quintiles are related to population health status and levels of health care utilization. We generated the income quintile distribution for urban areas only.

MNO Citizens are slightly older and have a greater proportion of males than the general population. A much higher proportion of the general population lived in urban areas compared with MNO Citizens. When considering only those residing in urban areas, MNO Citizens were more likely to live in lower income neighbourhoods than the general population. The majority of MNO Citizens lived in the North of the province, with the largest group in the North East.

### HOW FREQUENT IS CHRONIC RESPIRATORY DISEASE AMONG THE MÉTIS??

**Table 3:** Prevalence of chronic respiratory disease per 100 persons during fiscal years 2007 and 2008 among the Métis and the Ontario general population, by disease type.

Prevalence per 100 population	Métis	General population	p-value
Asthma			
<b>2007/08</b>			
Number of Cases	1,789	1,174,351	
Crude Rate	14.00	11.72	
Standardized Rate (CI)	14.49 (13.78, 15.22)	11.71 (11.69, 11.73)	<0.0001
<b>2008/09</b>			
Number of Cases	1,843	1,231,050	
Crude Rate	14.28	12.10	
Standardized Rate (CI)	14.76 (14.06, 15.49)	12.08 (12.06, 12.11)	<0.0001
Chronic Obstructive Pulmonary Disease			
<b>2007/08</b>			
Number of Cases	1,260	701,209	
Crude Rate	14.24	9.91	
Standardized Rate (CI)	16.13 (15.11, 17.19)	9.45 (9.43, 9.47)	<.0001
<b>2008/09</b>			
Number of Cases	1,340	728,250	
Crude Rate	14.76	10.13	
Standardized Rate (CI)	15.85 (14.92, 16.83)	9.55 (9.53, 9.57)	<.0001

CI = 95% Confidence Interval

The prevalence of both asthma and COPD was significantly higher in the Métis than in the general population during both years of study.

The prevalence of asthma was higher among Métis across all age groups up to age 64, but the gap between the Métis and the general population was greatest for males and females age 18-24 (see Appendix 3). The prevalence of COPD was also higher among Métis across all age groups, with the gap increasing with age over age 45.

**Table 4:** Incidence of chronic respiratory disease per 1000 persons during fiscal years 2007 and 2008 among the Métis and the Ontario general population, by disease type.

Prevalence per 100 population	Métis	General population	p-value
Asthma			
<b>2007/08</b>			
Number of Cases	40	30,188	
Crude Rate	3.13	3.01	
Standardized Rate (CI)	3.09 (2.20, 4.23)	3.01 (2.98, 3.04)	0.74
<b>2008/09</b>			
Number of Cases	30	27,343	
Crude Rate	2.33	2.69	
Standardized Rate (CI)	2.30 (1.54, 3.32)	2.68 (2.65, 2.71)	0.46
Chronic Obstructive Pulmonary Disease			
<b>2007/08</b>			
Number of Cases	95	55,525	
Crude Rate	10.70	7.80	
Standardized Rate (CI)	11.16 (8.85, 13.89)	7.62 (7.56, 7.69)	0.0010
<b>2008/09</b>			
Number of Cases	113	59,860	
Crude Rate	12.40	8.33	
Standardized Rate (CI)	12.40 (10.10, 15.00)	8.06 (8.00, 8.13)	<0.0001

CI = 95% Confidence Interval

There was no significant difference in the incidence of asthma between the Métis and the general population during either year of study. The incidence of COPD, however, was 50% higher among Métis during both years. Due to privacy issues, we do not present incidence rates by age or sex here, as the numbers of cases were quite small for some groupings.

## HOW FREQUENT IS LUNG CANCER AMONG THE MÉTIS?

**Table 5:** Frequency and crude incidence of lung cancer per 1000 persons during fiscal years 2005 to 2007 among the Métis and the Ontario general population, by sex..

	Métis		General population	
	Number of cases	Crude Rate (95% CI)	Number of cases	Crude Rate (95% CI)
Total	29	0.74 (0.49, 1.06)	21,563	0.68 (0.67, 0.69)
Males	13	0.62 (0.32, 1.06)	11,546	0.74 (0.73, 0.76)
Females	16	0.88 (0.50, 1.43)	10,017	0.62 (0.61, 0.63)

CI: 95% Confidence Interval

Crude lung cancer rates appear to be similar in the Métis and non-Métis populations.

## WHAT HEALTH SERVICES ARE RECEIVED BY MÉTIS WITH CHRONIC RESPIRATORY DISEASE?

**Table 6:** Primary care and specialist visits among people diagnosed with chronic respiratory disease, fiscal years 2007-2009.

	Métis		General population		
Visits per year	Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	p-value <sup>1</sup>
Asthma					
Overall					
Primary Care	9.88 (12.33)	7.00 (10.00)	10.56 (12.42)	7.00 (11.00)	0.019
Specialist <sup>2</sup>	4.15 (6.83)	2.00 (5.00)	4.83 (8.58)	2.00 (6.00)	<.0001
Asthma-specific					
Primary Care	0.39 (1.15)	0.00 (0.00)	0.48 (1.47)	0.00 (0.00)	0.0049
Specialist	0.08 (0.44)	0.00 (0.00)	0.15 (0.84)	0.00 (0.00)	<.0001
Chronic Obstructive Pulmonary Disease					
Overall					
Primary Care	11.60 (12.20)	9.00 (10.00)	11.90 (12.10)	9.00 (12.00)	0.30
Specialist	5.80 (7.80)	3.00 (7.00)	6.60 (9.00)	4.00 (8.00)	<.0001
COPD-specific					
Primary Care	0.50 (1.80)	0.00 (0.00)	0.50 (1.70)	0.00 (0.00)	0.42
Specialist	0.10 (0.50)	0.00 (0.00)	0.20 (0.90)	0.00 (0.00)	<.0001

SD = Standard deviation; IQR = Interquartile Range

<sup>1</sup>Based on differences in means.

<sup>2</sup>Specialist has been defined to include any physician who is not a general practitioner/family physician

Among asthma cases, the mean number of overall and asthma-specific primary care and specialist visits was significantly lower in the Métis than in the general population. For COPD, there was no significant difference between Métis and the general population in overall or COPD-specific primary care visits; however, the mean number of overall and COPD-specific specialist visits was lower in the Métis.



**Table 7:** Emergency department (ED) visits among people diagnosed with chronic respiratory disease, fiscal years 2007-2009..

	Métis		General population		
<b>ED visits per year</b>	<b>Mean (SD)</b>	<b>Median (IQR)</b>	<b>Mean (SD)</b>	<b>Median (IQR)</b>	<b>p-value<sup>1</sup></b>
Asthma					
Overall	1.70 (2.57)	1.00 (2.00)	1.18 (2.86)	0.00 (1.00)	<0.0001
Asthma-specific	0.066 (0.336)	0.000 (0.000)	0.047 (0.371)	0.000 (0.000)	0.028
Chronic Obstructive Pulmonary Disease					
Overall	2.0 (3.0)	1.0 (3.0)	1.5 (3.1)	1.0 (2.0)	<0.0001
COPD-specific	0.12 (0.57)	0.00 (0.00)	0.11 (0.63)	0.00 (0.00)	0.46

SD = Standard deviation; IQR = Interquartile Range

<sup>1</sup> Based on differences in means

Overall ED visits among those diagnosed with asthma or COPD were, respectively, 40% and 30% higher among the Métis compared to the general population. Asthma-specific ED visits were also 40% higher among Métis, while there was no difference in COPD-specific ED visits.

**Table 8:** Hospitalizations among people diagnosed with chronic respiratory disease, fiscal years 2007-2009.

	Métis		General population		
<b>Hospitalizations per year</b>	<b>Mean (SD)</b>	<b>Median (IQR)</b>	<b>Mean (SD)</b>	<b>Median (IQR)</b>	<b>p-value<sup>1</sup></b>
Asthma					
Overall	0.47 (0.83)	0.00 (1.00)	0.41 (0.87)	0.00 (1.00)	0.011
Asthma-specific	0.00 (0.07)	0.00 (0.00)	0.00 (0.07)	0.00 (0.00)	0.54
Chronic Obstructive Pulmonary Disease					
Overall	0.85 (1.22)	1.00 (1.00)	0.77 (1.21)	0.00 (1.000)	0.018
COPD-specific	0.05 (0.34)	0.00 (0.00)	0.06 (0.37)	0.00 (0.00)	0.48

SD = Standard deviation; IQR = Interquartile Range

<sup>1</sup> Based on differences in means

Hospitalizations among those diagnosed with asthma or COPD were each 10% higher overall among Métis compared with the general population. There was no difference in disease-specific hospitalizations.

**Table 9:** All-cause mortality per 100 persons among individuals with chronic respiratory disease, fiscal years 2007-2009.

Deaths per year	Métis	General Population	p-value
<b>Asthma</b>			
<b>2007/08</b>			
Crude Rate	0.78	1.07	
Standardized Rate (CI)	1.23 (0.62, 2.20)	0.99 (0.97, 1.01)	0.3345
<b>2008/09</b>			
Crude Rate	0.65	1.08	
Standardized Rate (CI)	1.19 (0.56, 2.22)	0.99 (0.98, 1.01)	0.7968
<b>Chronic Obstructive Pulmonary Disease</b>			
<b>2007/08</b>			
Crude Rate	2.62	4.56	
Standardized Rate (CI)	1.86 (1.22, 2.72)	2.18 (2.14, 2.21)	0.5703
<b>2008/09</b>			
Crude Rate	2.69	4.54	
Standardized Rate (CI)	2.34 (1.38, 3.70)	2.17 (2.13, 2.20)	0.6571

CI = 95% Confidence Interval

There was no difference between the Métis and the general population in all-cause mortality among those diagnosed with asthma or COPD.

## LIMITS OF THE STUDY

Getting information on chronic respiratory disease among the Métis people in Ontario is important, but there are some significant limits to the information we have gathered in this study. Researchers use health administration records to understand long-term diseases like chronic respiratory disease because it is an efficient way to get a picture of the impact of the disease – including how many people have it, and how long they live, and how often they have to come back to hospital with it.

However, administrative records are not perfect data sources. Diagnostic data from doctors' billing records are used to find out who has a disease, but billings are not routinely checked for accuracy. Hospital records are a little more reliable, but they are not perfect either. Fortunately, this data has been previously studied and found to be accurate specifically for asthma and COPD.

The hospitalizations database was relied upon heavily for data for this report. Previous studies have found that the hospitalizations database captures information for about 75% of all hospital visits. This report also relied on data from the OCR. This data source has a lot of limitations, including lack of information on the seriousness of each diagnosis and not having information on some types of cancer (for instance, one type of skin cancer and another common type of breast cancer).

The data produced in this report contain very small numbers of cases, given the small size of the MNO Citizenship Registry. This limited our analysis, particular in terms of rates of new cases (incidence). Furthermore, it is important to note the Métis Nation of Ontario may not represent the entire Métis population in the province. It is possible individuals whose citizenship is not registered with the Métis Nation of Ontario may be quite different in their age, behaviour or use of healthcare from registered MNO citizens, so generalizing these results to all of the Métis people in Ontario may not be appropriate.


## DISCUSSION

Our study found that rates of asthma and of COPD were significantly higher among registered citizens of the Métis Nation of Ontario compared to the rest of the Ontario general population, even after accounting for age and sex differences between these two populations. This study also showed statistically similar rates of lung cancer between the Métis and the general population, although the rates were unstable due to a small number of cases. Finally, there seemed to be differences in the type of care accessed by Métis diagnosed with asthma or COPD compared to people diagnosed with these conditions in the general population, in that rates of physician visits by Métis were lower and hospitalization rates were higher.

These findings about patterns of care suggest that Métis who have been diagnosed with these diseases may not be managed as well as others in a primary care setting and are instead requiring emergency care when symptoms become severe. These findings are similar to a previous study that compared Aboriginal people to non-Aboriginal people in Alberta, where it was found that Aboriginal people were more likely to visit emergency departments and less likely to visit specialists. The authors suggested that this was a reflection of barriers to health care for Aboriginal people.

While our findings did not suggest significant differences in all-cause mortality between Métis and the general population who have been diagnosed with asthma or COPD, a previous study of Aboriginal adults showed that death due to specific causes, including respiratory diseases, tended to be higher among Métis compared with the general population. This study's findings suggest that our different findings may be due to our small study population or examining less specific outcomes.

Based on the small numbers of cases of respiratory disease in this study, our findings are only suggestive and need to be confirmed by more comprehensive studies involving larger numbers of Métis studied over longer periods. Future studies may also want to include persons under 18 in the analysis, as respiratory diseases such as asthma



tend to have greater prevalence in children than in adults. However, it should not be assumed that the Métis in the MNO Registry have lower rates of respiratory disease. Furthermore, lung cancer and chronic respiratory disease rates are expected to rise among the Aboriginal population in Canada in coming years, based upon past trends and what we know about the behaviour of those in this group. For example, smoking rates in the Métis population of Canada are estimated at about 37% compared to 22% for the general population. With these numbers, it is likely that we will see more cases of respiratory disease among the Métis in the future versus the general population. The Métis community would certainly benefit from more awareness of the risk factors for respiratory disease and support changes in behaviour and lifestyle to reduce the risk.

## **CONCLUSION**

Citizens of the Métis Nation of Ontario had higher rates of asthma and COPD from 2007-2009 compared with the Ontario general population, based on Ontario healthcare data. The study also suggests differences in the care that is accessed by Métis who have been diagnosed with asthma and COPD compared with the general population.

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**APPENDIX 1:** Chronic respiratory disease types and corresponding definitions for incident and prevalent cases.

DISEASE	DEFINITION	ICD-9 CODES (OHIP)	ICD-10 CODES (DAD & NACRS)	Sensitivity/Specificity
<b>Asthma</b>	<p>Incident: OHIP claims (2 claims in 2 consecutive years) or DAD (1 claim/year)</p> <p>Prevalent: OHIP claims (1 claim/year) or DAD (1 claim/year)</p>	493	J45, J46	<p>Children (0-17): Sensitivity: 89% Specificity: 72%</p> <p>Adults (18+): Sensitivity: 84% Specificity: 76%</p>
<b>Chronic Obstructive Pulmonary Disease</b>	DAD or SDS (1 claim/year) or OHIP claims (1 claims/year) in persons ≥ 35 years of age	491, 492, 496	J41, J43, J44	Sensitivity: 85.0% Specificity: 78.4%

**APPENDIX 2:** Lung cancer ICD-9 codes and corresponding descriptions.

	ICD-9	DESCRIPTION
<b>Lung</b>	1620	MALIGNANT NEOPLASM OF THE TRACHEA
	1622	MALIGNANT NEOPLASM OF THE MAIN BRONCHUS
	1623	MALIGNANT NEOPLASM OF THE UPPER LOBE, BRONCHUS OR LUNG
	1624	MALIGNANT NEOPLASM OF THE MIDDLE LOBE, BRONCHUS OR LUNG
	1625	MALIGNANT NEOPLASM OF LOWER LOBE, BRONCHUS OR LUNG
	1628	MALIGNANT NEOPLASM OF OTHER PARTS OF BRONCHUS AND LUNG
	1629	MALIGNANT NEOPLASM OF BRONCHUS AND LUNG UNSPECIFIED

**APPENDIX 3:** Prevalent cases of respiratory disease per 100 persons, by age and sex, fiscal years 2007-2008.

Cases per 100 population	Métis			General Population		
	Count	Rate	95% Confidence Interval*	Count	Rate	95% Confidence Interval*
<b>Asthma</b>						
2007/08						
<b>Males</b>						
18-24 years	144	21.6	(18.606,24.833)	114,478	18.1	(18.001,18.191)
25-34 years	160	11.8	(10.220,13.665)	83,172	9.9	(9.793,9.920)
35-44 years	143	10.1	(8.624,11.761)	79,247	7.9	(7.841,7.946)
45-54 years	157	9.4	(8.093,10.896)	76,081	7.8	(7.728,7.835)
55-64 years	93	9.2	(7.553,11.116)	54,888	7.9	(7.815,7.942)
65-74 years	48	9.0	(6.886,11.782)	39,694	9.5	(9.416,9.594)
75-84 years	14	8.5	(5.153,13.818)	29,230	11.5	(11.378,11.627)
85 years+	< 5*	16.7	(5.837,39.222)	7,758	11.7	(11.505,11.997)
<b>Overall</b>	762	11.2	(10.426,11.918)	484,548	9.9	(9.877,9.930)
<b>Females</b>						
18-24 years	155	21.5	(18.681,24.677)	101,278	16.8	(16.668,16.857)
25-34 years	232	19.4	(17.271,21.753)	115,808	13.4	(13.363,13.507)
35-44 years	187	15.6	(13.699,17.818)	124,894	12.6	(12.496,12.627)
45-54 years	208	14.8	(13.015,16.722)	125,415	12.8	(12.702,12.834)
55-64 years	144	18.3	(15.712,21.098)	94,944	13.1	(13.024,13.180)
65-74 years	69	15.3	(12.299,18.955)	63,296	13.5	(13.398,13.594)
75-84 years	26	16.0	(11.124,22.346)	47,044	13.6	(13.466,13.694)
85 years+	6	22.2	(10.607,40.757)	17,124	12.1	(11.958,12.298)
<b>Overall</b>	1027	17.3	(16.330,18.251)	689,803	13.5	(13.432,13.491)
2008/09						
<b>Males</b>						
18-24 years	132	21.7	(18.585,25.119)	126,471	19.7	(19.594,19.789)
25-34 years	179	13.2	(11.468,15.063)	90,066	10.6	(10.492,10.623)
35-44 years	144	10.4	(8.898,12.116)	79,204	8.1	(8.008,8.116)
45-54 years	164	9.7	(8.368,11.188)	80,578	8.0	(7.948,8.053)
55-64 years	97	9.2	(7.567,11.048)	57,790	8.0	(7.963,8.089)
65-74 years	49	8.5	(6.483,11.050)	40,979	9.5	(9.422,9.597)
75-84 years	18	9.3	(5.950,14.188)	29,908	11.5	(11.378,11.623)
85 years+	< 5*	16.7	(6.679,35.853)	8,430	11.9	(11.615,12.090)
<b>Overall</b>	787	11.4	(10.676,12.176)	513,426	10.3	(10.309,10.363)

**APPENDIX 3 (Continued):** Prevalent cases of respiratory disease per 100 persons, by age and sex, fiscal years 2007-2008.

Cases per 100 population	Métis			General Population		
	Count	Rate	95% Confidence Interval*	Count	Rate	95% Confidence Interval*
<b>Females</b>						
18-24 years	144	22.5	(19.434,25.894)	109,001	17.7	(17.638,17.829)
25-34 years	253	20.9	(18.665,23.234)	119,827	13.7	(13.629,13.774)
35-44 years	177	15.3	(13.351,17.502)	124,742	12.8	(12.685,12.817)
45-54 years	224	15.4	(13.642,17.352)	130,942	13.0	(12.929,13.060)
55-64 years	149	17.8	(15.340,20.514)	100,385	13.4	(13.289,13.443)
65-74 years	77	16.4	(13.312,19.999)	65,869	13.7	(13.577,13.771)
75-84 years	27	13.5	(9.447,18.929)	48,274	13.8	(13.715,13.944)
85 years+	5	16.7	(7.337,33.564)	18,584	12.4	(12.270,12.605)
<b>Overall</b>	1056	17.6	(16.654,18.581)	717,624	13.8	(13.754,13.813)
<b>Chronic Obstructive Pulmonary Disease</b>						
	Count	Rate	95% Confidence Interval*	Count	Rate	95% Confidence Interval*
2007/08						
<b>Males</b>						
35-44 years	38	2.7	(1.959,3.657)	18,981	1.9	(1.864,1.917)
45-54 years	174	10.4	(9.044,11.976)	64,184	6.6	(6.516,6.614)
55-64 years	215	21.2	(18.817,23.848)	82,647	11.9	(11.787,11.939)
65-74 years	154	29.0	(25.304,33.001)	83,481	20.0	(19.868,20.111)
75-84 years	71	43.3	(35.949,50.944)	73,103	28.8	(28.590,28.942)
85+ years	11	61.1	(38.619,79.695)	22,247	33.7	(33.332,34.053)
<b>Overall</b>	663	13.8	(12.828,14.775)	344,643	10.1	(10.056,10.120)
<b>Females</b>						
35-44 years	41	3.4	(2.539,4.621)	19,592	2.0	(1.943,1.998)
45-54 years	154	10.9	(9.412,12.675)	65,436	6.7	(6.612,6.711)
55-64 years	190	24.1	(21.228,27.186)	80,416	11.1	(11.025,11.169)
65-74 years	135	30.0	(25.950,34.389)	78,852	16.8	(16.706,16.920)
75-84 years	66	40.5	(33.258,48.161)	76,802	22.2	(22.032,22.308)
85+ years	11	40.7	(24.515,59.273)	35,468	25.1	(24.892,25.344)
<b>Overall</b>	597	14.8	(13.744,15.936)	356,566	9.7	(9.717,9.778)



**APPENDIX 3 (Continued):** Prevalent cases of respiratory disease per 100 persons, by age and sex, fiscal years 2007-2008.

Cases per 100 population	Métis			General Population		
	Count	Rate	95% Confidence Interval*	Count	Rate	95% Confidence Interval*
2008/09						
<b>Males</b>						
35-44 years	45	3.2	(2.437,4.320)	19,764	2.0	(1.984,2.040)
45-54 years	189	11.2	(9.751,12.753)	66,691	6.6	(6.573,6.670)
55-64 years	224	21.2	(18.799,23.714)	87,233	12.1	(12.039,12.190)
65-74 years	166	28.8	(25.226,32.594)	85,702	19.9	(19.768,20.007)
75-84 years	79	40.7	(34.053,47.750)	74,508	28.6	(28.475,28.822)
<b>85+ years</b>	12	50.0	(31.427,68.573)	23,717	33.3	(32.994,33.687)
<b>Overall</b>	715	14.5	(13.542,15.507)	357,615	10.3	(10.268,10.332)
<b>Females</b>						
35-44 years	41	3.5	(2.625,4.776)	19,956	2.0	(2.012,2.068)
45-54 years	154	10.6	(9.112,12.278)	68,090	6.8	(6.708,6.806)
55-64 years	200	23.9	(21.104,26.868)	85,347	11.4	(11.292,11.436)
65-74 years	144	30.6	(26.642,34.949)	81,582	16.9	(16.830,17.042)
75-84 years	77	38.5	(32.033,45.400)	77,817	22.3	(22.154,22.430)
85+ years	9	30.0	(16.665,47.876)	37,843	25.3	(25.104,25.545)
<b>Overall</b>	625	15.1	(14.011,16.188)	370,635	10.0	(9.940,10.001)