

**Knowledge Translation Reports**

*March 2012*

# CHRONIC DISEASES

in the *Métis Nation of Ontario*

**Chronic Disease Surveillance Program**

*Métis Nation of Ontario*

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# PRESIDENT'S MESSAGE

**Gary Lipinski**, PRESIDENT, Métis Nation of Ontario

One of the key tenants of the Métis Nation of Ontario (MNO) Statement of Prime Purpose is “to promote the improved health and wellness of the individual, the family and the whole Métis community;” It is with this in mind that it is a pleasure to be presenting to you the Métis Nation of Ontario’s Knowledge Translation report. This report outlines key findings of Chronic Disease Surveillance in the Métis community, a groundbreaking initiative focused on Métis-specific data on health and healthcare. The report outlines knowledge generated through research in the areas of Diabetes, Cancer, Cardiovascular and Respiratory diseases and is the first of its kind in Ontario.

The MNO Chronic Disease Surveillance project is a Public Health Agency of Canada funded initiative to develop much-needed health status and care information about Métis in Ontario. The initiative brings together partners from the Métis Nation of Ontario, the Institute for Clinical Evaluative Sciences (ICES) and researchers from various academic institutions in a coordinated, collaborative research effort.

Gaps in Métis-specific data on chronic and other diseases have been a significant obstacle to developing targeted health-care and health-promotion initiatives for the Métis community. In 2005 the MNO began exploring ways it could derive Métis focused data that could be used by researchers, health officials and policy-makers. Today, the MNO is pleased to report on the results of our partnerships and is committed to applying the knowledge gained to the development of effective community-based and client-centred interventions. The research represents the first critical step in an ongoing process designed to build the evidence and knowledge base required to support better health outcomes for Métis people.

In keeping with our *Statement of Prime Purpose*, the MNO supports a comprehensive, holistic approach to Métis health and wellness. It is committed to quality health prevention and promotion interventions that are based on sound research, community evidence and effective practices.

Thank you for your interest in Métis health research.

# INTRODUCTION

**O**ver 73,000 people in Ontario identified themselves as Métis in the 2006 Canadian Census. Métis people are descendants of relationships forged between European men and First Nations women.

The children of these unions were of mixed ancestry. The genesis of a new Aboriginal people called the Métis resulted from the subsequent intermarriage of these mixed ancestry individuals. The Métis are a distinct Aboriginal people with a unique history, culture and language.

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**The Métis Homeland consists of the provinces of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario and the Northwest Territories.**

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The Métis Homeland also includes parts of the northern United States specifically Michigan, Wisconsin and northeast Minnesota (Great Lakes Métis). The Métis were once valued as peacekeepers and leaders of the hunt for food. Unfortunately the decline of the fur trade, the changing political landscape in Canada since the 19th century and discrimination against Aboriginal people led the Métis to be devalued and marginalized. Colonialist attitudes and attempts to assimilate Aboriginal people into mainstream society kept Métis people in Canada from being recognized as a distinct Indigenous People. Section 35 of the Constitution Act, 1982 finally identified Métis people as one of the three Aboriginal groups in Canada. But the legacy of discrimination has taken its toll on Métis people as a gap in

education, income and health exists between them and the non-Aboriginal population [Chartrand 2011].

## THE MÉTIS NATION OF ONTARIO

The Métis Nation of Ontario (MNO) is the only representative body for the Métis people in Ontario that is recognized by the Métis National Council (MNC) [MNC website]. Founded in the early 1990's, by the will of Ontario Métis, the MNO represents the collective aspirations, rights and interests of Métis people and communities throughout Ontario. The MNO has a democratic, province-wide governance structure. *The Statement of Prime Purpose* is the principal governing document of the MNO. A copy of the *Statement of Prime Purpose* can be found in the back of this report. Every four years Métis citizens have the opportunity to choose their provincial and regional leadership, by voting in province-wide ballot box elections. The MNO delivers a range of programs and services in the areas of health, labour market development, education and housing. The MNO has eight branches: Education and Training, Healing and Wellness, Housing, Intergovernmental Relations, Communications, Finance, Registry and Lands, Resources and Consultations. For more information on the MNO please see the website: [www.metisnation.org](http://www.metisnation.org).

## MÉTIS ACCESS TO HEALTH CARE

The Métis population is scattered across the province. In terms of accessing health care, Métis people are at times excluded from both Aboriginal and non-Aboriginal health systems. First Nation and Inuit people access funding through Health Canada's First Nations and Inuit Health Branch and Indian and Northern Affairs Canada. These federal departments do not have mandates to provide programs for Métis people in Canada. Although Aboriginal health centres open their doors to Métis, some are turned away because the needs of First Nations clients are great. Also, since Métis people do not have status rights, some Aboriginal centres feel that Métis people should be receiving health care from mainstream service providers. Métis access their health care primarily through the provincial health systems which offer some Aboriginal-specific services. The majority of health programming accessed is pan-Aboriginal and not designed to meet the specific needs or realities of Métis people. The result is programs that are not responsive to and are poorly developed from a Métis perspective.

## THE CHRONIC DISEASE SURVEILLANCE PROJECT

The MNO has been concerned for some time

that very few Métis-specific health studies have been conducted in Ontario or elsewhere in Canada [NCCAHA Report 2010]. In the past, most research about Aboriginal health and health care practices used a pan-Aboriginal view where the studies presented results that were almost entirely about First Nation and Inuit peoples. The MNO needs Métis-specific information to develop programs that will address the health and health care needs and social and economic determinants of health of Métis people. In 2008, the MNO launched its Chronic Disease Surveillance Project (CDSP) with funding from the Public Health Agency of Canada. The Métis Nation of Ontario's CDSP's main goal is to develop and gather information about the health and health care of Métis people in Ontario. The MNO collaborated with the Institute for Clinical Evaluative Sciences (ICES) to study the rates of diabetes, cancer, cardiovascular disease and respiratory disease among Métis registered with the MNO (Technical, Lay Reports and Fact Sheets on all four chronic diseases are available on the MNO's Website). These studies also looked at access to care and, when possible, outcomes of care.

The MNO Citizenship Registry was used in these studies. The Registry was established in 1994 to identify and register Métis citizens and harvesters who are eligible rights holders in the province of Ontario. Métis people who

are ordinarily residents of Ontario can make an application for citizenship to the MNO. The applications are assessed by an independent Registrar who approves citizenship for those applicants who meet the criteria set out in the National Definition for Métis, adopted at the Métis National Council's 18th General Assembly in 2002 and subsequently accepted by the MNO. The Registry includes approximately 14,000 Métis citizens who have met the National Definition.

## CHARACTERISTICS OF THE MNO REGISTRY POPULATION

MNO citizens are older than the province's general population (average age of 43 years old versus 38 years old) and also more likely to be male (54% compared to 50%). This population is more likely to be poor, and more likely to live in northern Ontario than the province's general population.

## HOW WAS THE INFORMATION GATHERED?

The MNO is trying to identify how many Métis people in Ontario have cancer, cardiovascular, diabetes and respiratory diseases. To accomplish that goal, MNO through ICES cross referenced the MNO Citizenship Registry with the Ontario Health Card database [Jutte 2011; Iron

2011]. All measures were taken to ensure the complete confidentiality of the data. Approximately 14,000 Métis from the MNO Registry were linked with their Ontario Health Records. In this report, the group that was studied is referred to as “the Métis population” or “the Métis.” All other Métis, who are not part of the MNO Registry, were counted as part of the general population.

## PROVINCIAL LINKED HEALTH ADMINISTRATIVE DATABASES

Provincial level administrative health databases can provide valuable information for examining health service patterns over time [Jutte et al. 2011, Iron et al. 2011]. Provincial Health Administrative Databases can be used to conduct surveillance of chronic diseases among Aboriginal peoples, including the Métis. The databases that can be examined include continuing care, physician claims, hospital visitations and vital statistics. These databases can be linked at the individual level using unique identifiers so that health services use can be tracked across health areas. These databases should only be seen as one source of information to inform service delivery and public health policy decision making.

Administrative records do not always provide adequate detail on the measures people are

being told to take to cope with chronic disease, such as exercising, eating properly and quitting smoking and whether or not they are getting help to do so. As mentioned above, when doctors’ billings are studied, they will only reflect services provided by a physician that are billed for through the Ontario Health Insurance Plan (OHIP) and do not specify other services provided by other healthcare providers. The records also do not record drugs used by people under 65 or details of laboratory tests.

## LIMITS OF THE STUDY

Getting information on cancer, cardiovascular, diabetes and respiratory diseases among the Métis population in Ontario is important but there are some significant limits to the information gathered in the study. Researchers use health administration records to understand long-term diseases like cancer, cardiovascular, diabetes and respiratory diseases because it is an efficient way to get a picture of the impact of the diseases – including how many people have it, how long they live, and how often they have to come back to hospital for treatment. But administrative records are not perfect sources. For example, using diagnostic data from doctors’ billing records allows researchers to find out who has a disease, but billings are not routinely checked for accuracy and they can include errors.

## ACKNOWLEDGEMENTS

The Métis Nation of Ontario acknowledges with gratitude, the Public Health Agency of Canada, the Institute for Clinical Evaluative Sciences (ICES) (Ontario), and their staff for their support and assistance in conducting this study.

Funding provided under the Enhanced Surveillance for Chronic Disease Program at the Public Health Agency of Canada.

*The views expressed herein do not necessarily represent the views of the Public Health Agency of Canada.*

*To view all reports published under the The Chronic Disease Surveillance Project visit:  
[www.metisnation.org](http://www.metisnation.org)*



# CARDIOVASCULAR DISEASE

**T**his part of the report focuses on the findings of the cardiovascular (CVD) disease study.

This part of the report focuses on the findings of the cardiovascular (CVD) disease study. The study identifies the burden of this disease as well as access to care for MNO citizens. It considers whether there are differences in the treatment MNO citizens received versus the general population in Ontario. A comparison of outcomes of care was also done. The burden of cardiovascular disease among MNO citizens was determined by cross-referencing six types of cardiovascular disease and Ontario health administrative databases for the fiscal years 2006 to 2009 (three-year period). Once overall rates in the MNO Registry and general population were obtained, age- and sex-adjusted rates were determined to facilitate comparison of rates in the two groups. For chronic diseases, incidence was assessed only when cases were identified

in the previous 5 years. To allow for one year of follow-up, only two years (fiscal years 2006 and 2007) were assessed for incident rates. For diseases that are more acute in nature, prevalence was assessed; because no follow-up information was assessed on prevalence rates, three years of data were utilized for prevalence (fiscal years 2006 to 2008).

## WHAT IS CARDIOVASCULAR DISEASE?

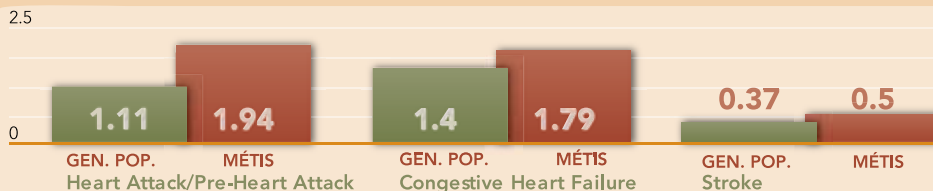
CVD (heart and circulatory disease) is the leading cause of death and disability in Canada, accounting for 36% of deaths. Cardiovascular disease is caused by disorders of the heart and blood vessels, and includes coronary heart disease (heart attacks), cerebrovascular disease (stroke), raised blood pressure (hypertension), peripheral artery disease, rheumatic heart disease, congenital heart disease and heart failure.

# FINDINGS

**H**ow widespread is cardiovascular disease among the Métis?

## CARDIOVASCULAR DISEASE CASES

OUT OF EVERY 100 PEOPLE (APR 1, 2006 - MAR 31, 2007)



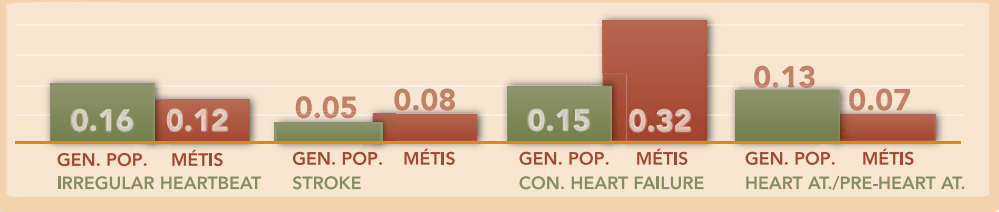
*Rates of heart attack and pre-heart attack and congestive heart failure were 1.8 and 1.3 times higher in the Métis while the rates of strokes were similar.*

**NEW CASES OF: IRREGULAR HEARTBEAT**  
 OUT OF EVERY 100 PEOPLE (APR 1, 2006 - MAR 31, 2008)



*Incidence of irregular heartbeat was 1.7 times higher in the Métis during the two year period.*

**HOSPITAL READMISSIONS**  
 WITHIN ONE YEAR OF INDEX EVENT PER 100 PERSONS  
 (APR 1, 2006 TO MAR31, 2008)



*Readmission rates for congestive heart failure were over two times higher among the Métis compared with the general population, while no significant differences were found for heart attack and pre-heart attack, stroke, and irregular heartbeat.*

# HOW WELL IS CARE WORKING?

One way to measure whether people with cardiovascular disease are receiving appropriate care is to look at how many have to return to the hospital within one year of their first disease event and also how many died within that period. It is important to remem-

ber, however, that poor cardiovascular disease care is only part of the reason people may suffer these outcomes. Hospital readmissions are usually considered indicative of breakdowns in disease management and care processes.

## CARDIOVASCULAR DISEASE: DEATHS PER 100 PEOPLE (APR 1, 2003 - MAR 31, 2009)



Congestive Heart Failure

25.71

21.84



Heart Attack and Pre-Heart Attack

17.55

16.91



Irregular Heartbeat

STATISTICALLY  
**9.44**

SIGNIFICANT  
**30.95**



Stroke

28.53

26.65

GEN. POP.

MÉTIS

*The mortality rate for irregular heartbeat was 3.3 times higher in the Métis population compared with the rest of the population. There were no significant differences in mortality secondary to congestive heart disease, stroke, or heart attack and pre-heart attack between the two groups.*


# CONCLUSIONS

This analysis identified both incidence of cardiovascular disease (the proportion of the population that were newly-diagnosed with CVD) and prevalence rates (the proportion of persons living with CVD) among MNO citizens and the general Ontario population. The most worrying information from this study is the gap in incidence rates of heart attacks and pre-heart attacks between the two groups. The rate in MNO citizens was 70% higher than in the general population. Put another way, for every 120 MNO citizens, followed for 3 years, an extra person will be found to have coronary disease compared with the general population. For the entire population that translates into a large number of cases and a great deal of suffering. For congestive heart failure that number is 250. This information is in accordance with the diabetes portion of this study. Diabetes is a risk factor for these conditions and the study has shown that MNO citizens have higher rates of diabetes.

In this report, another striking finding is the discrepancy between rates of acute coronary syndrome (acute myocardial infarction and unstable angina) in the MNO citizens versus the rest of the Ontario population. After adjusting for age and sex, the prevalence of acute coronary syndrome in the Métis was 1.8

times higher than the rest of the population, at 194 persons per 10,000 Métis, versus 111 per 10,000 in the rest of the population during our three year study period. This means the rate of acute coronary syndromes in the Métis is 75% higher than the rest of the population, a rate that has not been previously reported in the literature. The corresponding report on diabetes mellitus found a higher rate of diabetes among MNO citizens compared to the rest of the Ontario population; because diabetes is a significant risk factor for acute coronary syndromes, this finding is consistent with the finding of more acute coronary syndromes in the Métis. Rates of other risk factors (including smoking, hypercholesterolemia and hypertension) in the Métis are not known and would be an excellent area for future study.

The prevalence of congestive heart failure was also higher in the Métis, afflicting 179 per 10,000 Métis compared to 140 per 10,000 in the rest of the population, a 28% relative increase, or 1.3 times higher. Atrial fibrillation is the most common cardiac arrhythmia and may increase the risk of stroke several fold. The incidence rate of atrial fibrillation was significantly higher in the Métis relative to the rest of the population, at 19 new cases per 10,000 Métis relative to 11 per 10,000 in the



rest of the population, a 72% relative increase, or 1.7 times higher. The increased rate in atrial fibrillation in the Métis did not result in a higher rate of strokes: the prevalence rates of cerebrovascular disease were not statistically different between the groups, although there was a trend toward more strokes in the Métis.

The high rates of smoking in the Métis could be another reason for this difference. A recent Statistics Canada publication [June 2010] reported the most recent and relevant data on smoking prevalence of the Métis in Canada (national level data) compared to the general population of Canada. The smoking prevalence for Métis in Canada is 33% compared to 18% in the Canadian general population, nearly twice that of the Canadian general population (18.3%).

In another recent study, the MNO collaborated with Statistics Canada and Cancer Care Ontario (CCO) to analyze data on the Ontario Métis. The report released in August 2011 reported smoking prevalence of the Métis in Ontario (provincial level data) compared to the general population of Ontario. Prevalence of self-reported smoking was significantly higher among Métis compared to the general population. This was consistent across all age

groups and both sexes. The analysis showed that 37% of male Ontario Métis reported daily or occasional smoking compared to 30% in males from the Ontario general population. The analysis also showed that 36% of female Ontario Métis reported daily or occasional smoking compared to 22% in females from the Ontario general population. Tobacco smoking is a known “risk factor” for developing CVD.

The Métis community would benefit from more awareness of the risk factors surrounding CVD, especially smoking, and from support that would encourage changes in behavior and lifestyle that would reduce the risk.

# DEFINITIONS

**Acute myocardial infarction & unstable angina** - When the blood supply to the heart is slowed or stopped because of a blockage, a heart attack occurs.

**Atherosclerosis** - The narrowing of coronary arteries due to plaque build-up, causes most heart attacks, though they may also happen when a coronary artery temporarily contracts or goes into a severe spasm, effectively shutting off the flow of blood to the heart.

**Angina** - Occurs when your heart doesn't get as much blood and oxygen as it needs due to a blockage of one or more of the heart's arteries. This blockage causes pain in the chest.

**Congestive heart failure** - A common condition that develops after the heart becomes damaged or weakened by diseases of the heart including heart attacks, chronic high blood pressure and other medical conditions. Atrial Fibrillation – is the most common type of arrhythmia, which is a condition involving an irregular heart rhythm.

**Congenital heart disease** - Occurs at birth, due to a defect that happens when the heart or the blood vessels near the heart don't develop normally before birth

**Rheumatic heart disease** - Describes a group of acute (short-term) and chronic (long-term) heart disorders that can occur as a result of rheumatic fever. One common result of rheumatic fever is heart valve damage.

**Rheumatic fever** - An inflammatory disease that may affect many connective tissues of the body, especially those of the heart, joints, brain or skin.



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A blue-tinted microscopic image showing several large, flat, circular cells with internal structures, likely representing biological tissue or cells related to the topic of diabetes.

# DIABETES

**T**his part of the report focuses on the findings of the Diabetes study.

This part of the report focuses on the findings of the diabetes study. Prevalence of diabetes (the proportion of persons living with diabetes) as of April 1, 2007 and incidence of diabetes (the proportion of the population that were newly-diagnosed with diabetes) between April 1, 2006 and March 31, 2007 were calculated for the Métis population by cross-referencing the MNO Citizenship Registry with the Ontario Diabetes Database (ODD). Because the demographics

of MNO citizens are different from that of the general Ontario population, rates were standardized according to age and sex. The study focused on identifying the burden of this disease as well as the access to care received by MNO citizens with diabetes to determine possible differences in the treatment they may have received versus the general population in Ontario. A comparison of outcomes of care was also part of the study.

## WHAT IS DIABETES?

Diabetes is a long-term disease that prevents the body from turning sugar from food into energy: the unused sugar builds up and can lead to several very serious health problems including heart disease, stroke, kidney failure blindness and amputation.

The Ontario Diabetes Database (ODD) was used for this study, and it has been tested for accuracy. However, the accuracy of this database was not checked specifically for the Métis population. If Métis use healthcare differently than the general population, the diabetes database might



be less accurate for the Métis population. We know that administrative records do not always give a complete picture of the care that people receive. It is assumed by diabetes healthcare professionals that as many as 30 % of all cases of diabetes are not diagnosed, so, there may be many more people with the disease than the databases indicate.

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# FINDINGS

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**H**ow widespread is diabetes among the Métis?

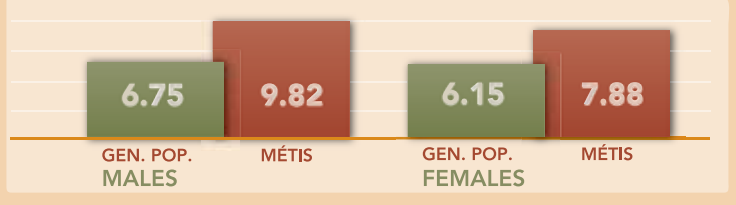
**CASES OF DIABETES: OVERALL**  
(OUT OF EVERY 100 PEOPLE AS OF APRIL 2007)



*The rate of diabetes is nearly 25% per cent higher in the Métis population in comparison to the general Ontario population.*

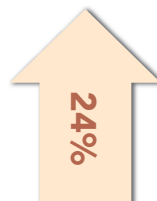


**CASES OF DIABETES: BY SEX**  
 DIABETES CASES IN ONT. AT APRIL 1, 2007



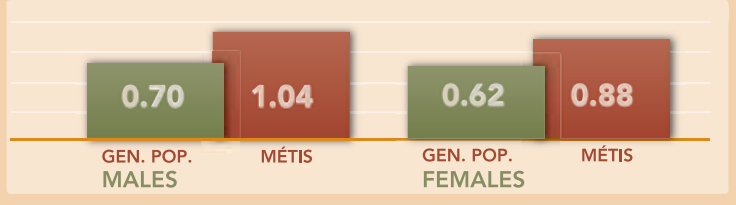
The number of cases of diabetes in the Métis population is higher in both sexes.

**NEW DIAGNOSIS OF DIABETES: OVERALL**  
 OUT OF EVERY 100 PEOPLE (APR 1, 2006 - MAR 31, 2007)



The rate of people who are diagnosed with diabetes is 24% higher among the Métis than in the general population.

**NEW DIAGNOSIS OF DIABETES: BY SEX**  
 FOR EVERY 100 PEOPLE (APR 1, 2006 - MAR 31, 2007)



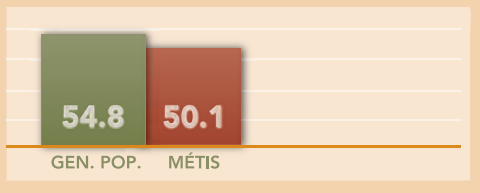
Getting diagnosed with diabetes is more common in the Métis population for both sexes.

# ACCESS TO DIABETES CARE AND QUALITY OF CARE

People with diabetes usually stay healthier longer when they and their doctors (and other health professionals) keep a close watch on their symptoms. We can learn a lot about who is getting good care by keeping track of certain tests that people with diabetes should have regularly. These tests include how much

sugar they have in their blood, measuring blood pressure and checking their eyes for blood clots and other signs of damage. Another good measure of care is whether or not patients are getting all of the medications recommended to control the effects of diabetes.

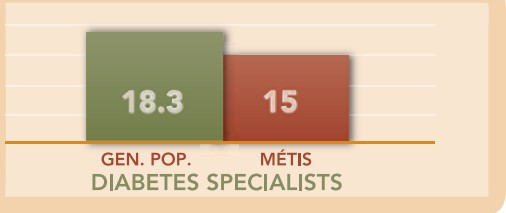
**FREQUENCY OF: DOCTOR VISITS**  
(APR 1, 2007 - MAR 31, 2008)



*There were small differences in how often members of both groups in the study saw a primary care doctor. The Métis were less likely to have frequent primary care doctor visits (5 or more visits during the measurement period).*

*These findings do not take into consideration differences in places of residence between the two groups (rural/remote vs. urban) which may have played a role in frequency of doctor visits.*

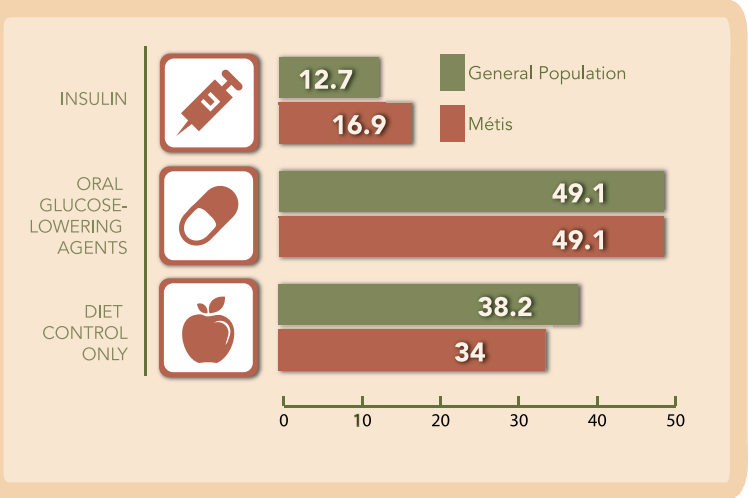
**SPECIALISTS CARE VISITS: OVERALL**  
 EVERY 100 DIABETICS (APR 1, 2007 - MAR 31, 2008)



*The Métis were 18% less likely to receive care from a diabetes specialist during the measurement period. These findings do*

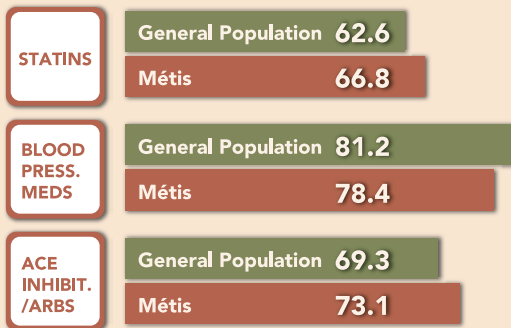
*not take into consideration differences in places of residence between the two groups which may have affected results.*

**USE OF DRUGS OR DIET: DIABETIC SENIORS**  
 TO CONTROL BLOOD SUGAR (APR 1, 2007-MAR 31, 2008)



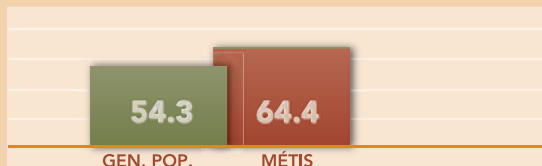
*Métis seniors were more likely to use insulin and less likely to try to control their diabetes just by watching what they ate than seniors in the general population.*

**PRESCRIBED DRUGS: DIABETIC SENIORS**  
 OUT OF EVERY 100 PEOPLE (APR 1, 2007-MAR 31, 2008)



*Métis seniors were less likely to get medication for high blood pressure than the general population, but differences in the use of drugs to lower cholesterol in these Métis seniors compared to others were not significant.*

**SELF-MONITORING: DIABETIC SENIORS**  
 OF BLOOD SUGAR PER 100 PPL. (APR 1, 2007 - MAR 31, 2008)



*Métis seniors were 19% more likely to test their own blood sugar levels than other seniors.*





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## HOW WELL IS CARE WORKING?

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One way to measure whether people with diabetes are getting good appropriate care is to look at how many of them are admitted to hospital or treated elsewhere for health problems that are linked to

diabetes (heart conditions, kidney failure, eye damage and amputation of the feet). High rates of hospitalization are usually considered indicative of breakdown in disease management and care processes.

**DIABETIC COMPLICATIONS**  
PER 100 PEOPLE (APR 1, 2007 - MAR 31, 2008)

	Congestive Heart Failure	1.35	1.14
	Eye Complications	1.39	1.02
	Heart Attack	<b>0.73</b> STATISTICALLY	<b>1.36</b> SIGNIFICANT
			
	Hypo or hyperglycaemia	1.22	1.35
	Kidney dialysis	0.57	0.90
	Lower extremity amputation	0.16	0.10
	Procedures to re-open blood vessels	0.81	1.30
	Stroke	0.34	0.34
		<b>GEN. POP.</b>	<b>MÉTIS</b>

*Métis people with diabetes were 86% more likely to be hospitalized due to a heart attack or pre-heart attack than people with diabetes in the general population. There was no other statistically significant difference between the Métis and the general population in the remaining diabetes care categories studied.*

# CONCLUSIONS

The study focused on identifying the burden of this disease as well as access to care provided to MNO citizens with diabetes to see if there were differences in the treatment they received versus the general population in Ontario. A comparison of outcomes of care was also done.

In the Diabetes Report both incidence (the proportion of the population that were newly-diagnosed with diabetes) and prevalence (the proportion of persons living with diabetes) were determined for diabetes rates for Ontario Métis and general population. The age- and sex-standardized prevalence and incidence of diabetes was about 25% higher in the Métis population compared to the general Ontario population. Prevalence was 8.13% for the Métis versus 6.45% for the general population, whereas annual incidence was 0.82% for the Métis population and 0.66% for the general population. Prevalence and incidence were also higher in virtually all age- and sex-specific groups. This increased frequency of diabetes may be in part attributable to the slightly lower socioeconomic status of the Métis population compared to the general Ontario population. This means that for every 60 MNO citizens there is one extra person with diabetes compared with the general population.

Some differences in care exist between MNO citizens and members of the general public, but no clear patterns of unequal care were found. For example, MMNO citizens who are seniors are 19% more likely to test their own blood sugar levels than other seniors. MNO citizens who are seniors are also more likely to use insulin. They were less likely to try to control their diabetes just by watching what they ate than seniors from the general population. The use of medications to lower the risk of heart disease was the same in both groups. MNO citizens and the general population also received similar access to eye specialists. Unfortunately, MNO citizens were 18% less likely to get care from a diabetes specialist and also less likely to have frequent visits with primary care doctors than the general population. These differences may well be related to the fact that MNO citizens are concentrated in northern Ontario where there are fewer doctors.

There were almost no differences in care between MNO citizens and the general population in the following categories: visits to emergency or hospital stays for high or low blood sugar problems; eye complications; kidney dialysis; congestive heart failure; clogged arteries; strokes; and foot amputations. But, MNO citizens with diabetes were 86% more likely to

be hospitalized for a heart attack than people with diabetes in the general population.

The higher rates of diabetes place a disproportionate burden of disease on the Métis and highlight the importance of ensuring that our citizens receive optimal diabetes care. This can be difficult in the North where there are fewer doctors, prevention programs and other health care support. Accordingly it will be important to train more Métis doctors, nurses and diabetes educators and provide them with culturally appropriate resources and tools to support this work with Métis people. The Métis community would certainly benefit from more awareness of risk factors for diabetes and support to make changes in behaviour and lifestyle to reduce the risk of developing the disease.

# DEFINITIONS

**Hypo or hyperglycemia** - Having blood sugar levels that are too low (hypo) or too high (hyper).

**Hypoglycemia** - Low blood sugar can cause confusion, clumsiness or fainting or even lead to seizures, coma and death.

**Hyperglycemia** - High blood sugar causes frequent urination, thirst and unhealthy weight loss.

**Kidney Failure** - The strain of diabetes causes kidneys to “give out”; people with severe diabetes often need Dialysis treatments to stay alive.

**Heart Disease** - Diabetes is linked to many kinds of heart problems such as heart attacks, congestive heart failure, etc.

**Congestive Heart Failure** - Fluid build-up, (because the heart isn’t pumping properly) is another common complication of diabetes.

**Clogged Arteries** - Diabetes increases the risk of having plaque build up in arteries.

**Stroke** - Disrupted blood flow to the brain is a common risk for people with diabetes.

**Amputation of Extremities** - Poor circulation of the blood can mean that diabetics must have their feet or legs surgically removed.

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# CANCER

**T**his part of the report focuses on the findings of the Cancer study.

This part of the report focuses on the findings of the Cancer study. The study identifies the burden of this disease as well as access to care for MNO citizens. It considers whether there were differences in the treatment MNO citizens received versus the general population in Ontario. A comparison of outcomes of care was also done. The number of cases of each of the cancer types included in this study was estimated by looking at the provincial cancer registry data from 2005 to 2007 (fiscal years). Person-time incidence rates of cancer (the number of persons newly

diagnosed with cancer over a given period of time among a specified population) for the period 2005-2007 were calculated for both MNO citizens and the general Ontario population. Since the demographic structure of the MNO Citizens Registry is different from that of the general Ontario population, overall rates were indirectly standardized according to age and sex. Rates were calculated overall and by age, sex and cancer type. The types of cancer considered are listed in Table 1.

## WHAT IS CANCER?

Cancer is a disease that starts when cells in the body begin to divide and grow uncontrollably. Cancer cells that spread to other parts of the body are called metas-

tases. Cancers are named after the part of the body where they start. For example, cancer that starts in the bladder but spreads to the lung is called bladder can-



cer with lung metastases. Many cancers are preventable or treatable in their early stages so it is important to look at who is at risk of getting it so as to off-set its development or 'catch it early'.

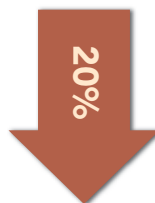
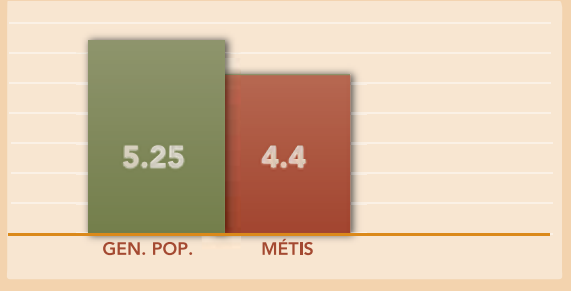
While this research represents an essential first step in understanding cancer rates among the Métis, caution is warranted in interpreting the results. This report relied solely on data from the Ontario Cancer Registry. The data source has additional limitations including lacking information on the seriousness of each diagnosis, and on some types of cancer (for instance, one type of skin cancer and another common type of breast cancer). Finally, the data refer to newly diagnosed cancer cases only during the measurement period. The overall number of people living with cancer was not assessed.



## FINDINGS

**W**hat types of cancer exist among the Métis and how widespread is cancer in this group?

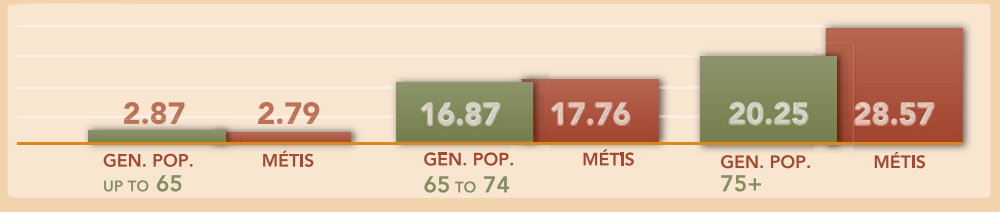
**NEW DIAGNOSIS OF CANCER: OVERALL**  
(OUT OF EVERY 1000 PEOPLE 2005 - 2007)



When combining all data over all years and looking only at crude/unstandardized rates of newly diagnosed cancers, the incidence

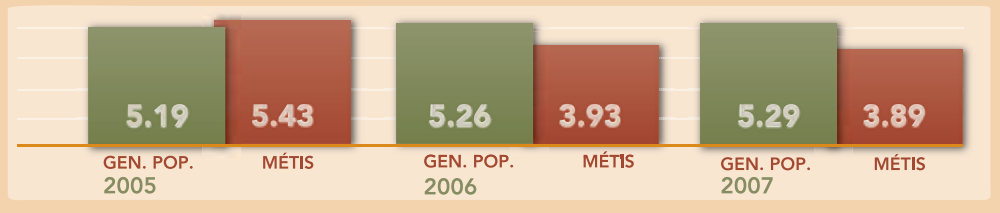
in the general population was 1.19 times higher than for the registered Métis.

**NEW DIAGNOSIS OF CANCER: BY AGE**  
(OUT OF EVERY 1000 PEOPLE 2005 - 2007)



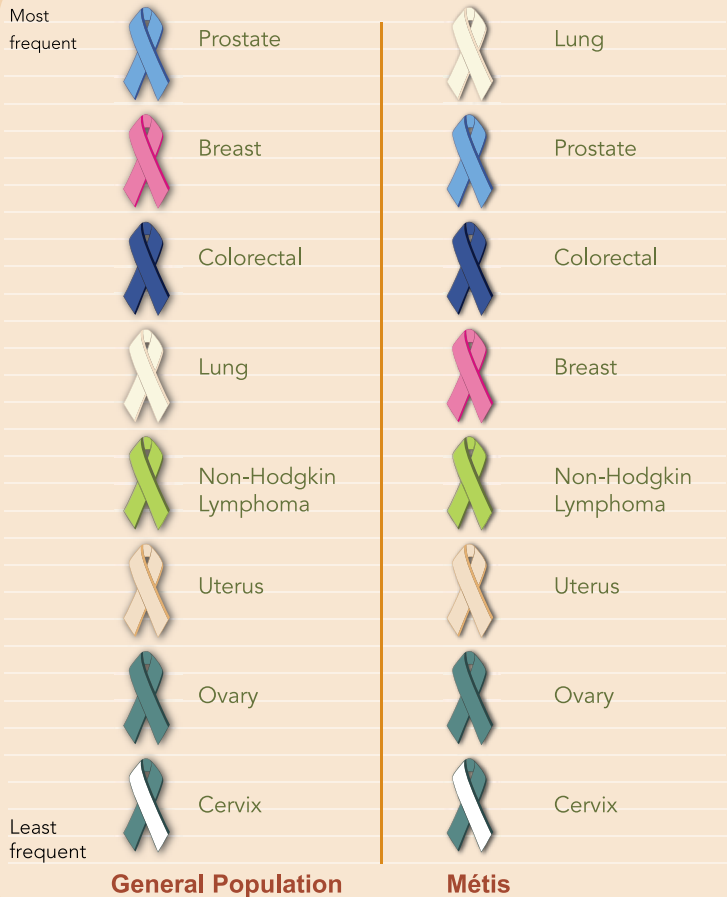
*The overall incidence rate of cancer was higher among the Métis than the general population for persons over age 65. The gap widens in the 75 + years age group.*

**NEW DIAGNOSIS OF CANCER: OVERALL**  
(OUT OF EVERY 1000 PEOPLE 2005 - 2007)



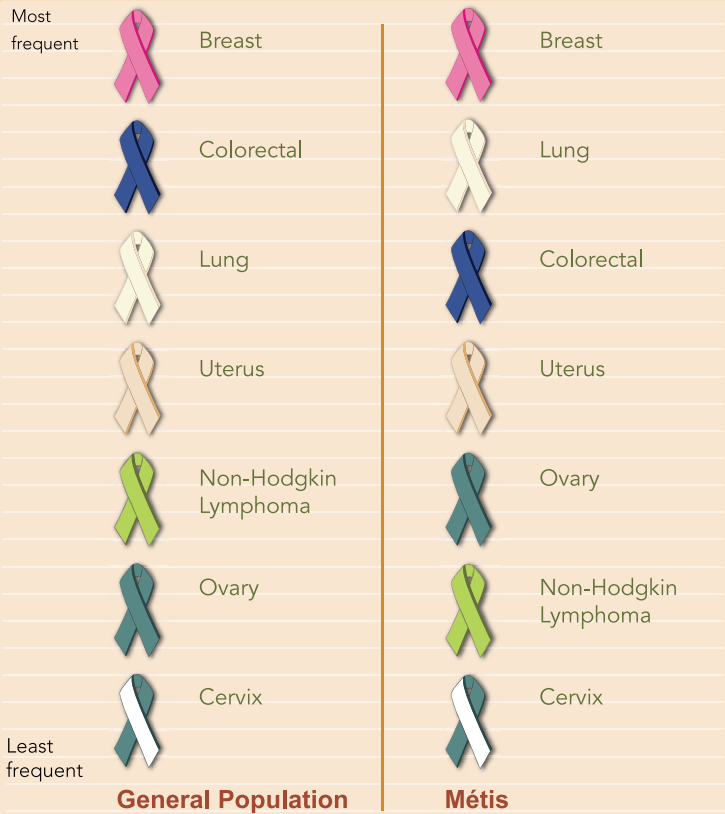
*Incidence rates differed by year. In 2005, cancer incidence was slightly higher among the Métis whereas in 2006 and 2007 it was 1.3 times higher in the general population relative to the Métis.*

**FREQUENCY RANKING OF CANCER  
OVER ALL DURING 2005-2007**



*The most frequent types of cancer among the Métis population in descending order were lung, prostate, colorectal and breast.*

**FREQUENCY RANKING OF CANCER  
FEMALES DURING 2005-2007**



*The most frequent types of cancer among Métis females compared to females in the Ontario general population show slight differences in order.*

**FREQUENCY RANKING OF CANCER  
MALES DURING 2005-2007**

Most  
frequent



Prostate



Lung



Colorectal



Non-Hodgkin  
Lymphoma

Least  
frequent

**General Population**



Prostate



Lung



Colorectal



Non-Hodgkin  
Lymphoma

**Métis**

*The most frequent types of cancer among Métis males and males in the Ontario general population are the same.*

# CONCLUSIONS

This analysis found that the overall incidence of cancer (the proportion of the population that were newly-diagnosed with different types of cancers) among the Métis population was slightly lower than the general population with the greatest differences being noted during the two most recent years of the study, 2006 and 2007. However, these rate estimates were based on very small numbers of cases in the Métis population, suggesting that little significance can be attributed to the finding. Furthermore, when the rates were broken down by age and sex, they were lower only among Métis men under the age of 75.

The study found that cancer was slightly less common among MNO citizens versus the rest of the Ontario population. The differences between MNO citizens and the general population were small and not statistically significant. Only newly diagnosed cases of cancer over the 2 year study period were examined as data. It should not be assumed that the MNO citizens have lower rates of this disease. Furthermore, cancer 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 and there is good reason to suspect that this will also be the case for the Métis population specifically.

A recent Statistics Canada report [June 2010] reported the most recent and relevant data on smoking prevalence of the Métis in Canada (national level data) compared to the general population of Canada. The smoking prevalence of the Métis across Canada (33%) was nearly twice that of the Canadian general population (18.3%).

In another recent study, the MNO collaborated with Statistics Canada and Cancer Care Ontario (CCO) to analyze data on the Ontario Métis. The study completed in August 2011, reported smoking prevalence of the Métis in Ontario (provincial level data) compared to the general population of Ontario. Prevalence of self-reported smoking was significantly higher among Métis compared to the general population. This was consistent across all age groups and both sexes. The analysis showed that 37% of male Ontario Métis reported daily or occasional smoking compared to 30% in males from the Ontario general population. The analysis also showed that 36% of female Ontario Métis reported daily or occasional smoking compared to 22% in females from the Ontario general population.

Tobacco smoking is the greatest risk factor for developing lung cancer. The elevated smoking prevalence among the Ontario Métis is a

plausible explanation as to why lung cancer is the most common type of cancer among MNO citizens. These numbers suggest there will be more cases of lung cancer among the Métis versus the general population in the future. It is clear from this initial series of studies that more research is clearly needed to fully understand

the incidence and prevalence of different types of cancer among the Métis of Ontario. It is also apparent that the Métis community would benefit from more awareness of the risk factors surrounding cancer, especially smoking, and from support that would encourage changes in behaviour and lifestyle to reduce the risk.

## DEFINITIONS

**Prostate** - Starts in the cells of the prostate gland. The prostate is part of the male reproductive system. It is the most common cancer among Canadian men and often grows slowly and can often be cured or treated successfully.

**Breast** - Starts in the cells of the breast. It is the most common cancer among Canadian women. One in nine women is expected to develop breast cancer during her lifetime and one in 28 will die of it. Breast cancer death rates have declined in every age group since at least the mid 1990s.

**Colorectal** - Most start in the cells that line the inside of the colon or the rectum. The colon and rectum make up the large intestine (large bowel). The large intestine is the last part of the digestive system. Colorectal cancer is the second leading cause of cancer-related death

among Canadian men and women combined. It usually grows slowly and in a predictable way, and is curable when diagnosed at an early stage.

**Lung** - 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.

**Non-Hodgkin Lymphoma** - A cancer that starts in the lymphocytes, the cells of the lymphatic system. The lymphatic system works



with other parts of the immune system to help fight infection and disease. It can begin in almost any part of the body and can form tumors. It usually starts in a group of lymph nodes in one part of the body, most often the neck. Eventually, it can spread to almost any tissue or organ in the body through the lymphatic system or the bloodstream. There are over 20 types of non-Hodgkin lymphoma.

**Uterine** - The uterus (or womb) is part of a woman's reproductive system. Cancer that starts in the lining inside the uterus is called uterine cancer (or endometrial carcinoma).

**Ovarian** - Starts in the cells of the ovary or ovaries. The ovaries are two small, oval-shaped organs that lie deep in the pelvis on either side of the uterus (womb), close to the end of the Fallopian tubes. The ovaries are part of the female reproductive system.

**Cervical** - Cervical cancer starts in the cells of the cervix. The cervix is the narrow, lower part of the uterus (or womb). It is the passageway that connects the uterus to the vagina. The cervix is part of a woman's reproductive system.

**Dysplasia** - Precancerous changes of cervical cells.



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# RESPIRATORY DISEASE

**T**his report is about chronic respiratory disease among the Métis people in Ontario, Canada. Over 3.5 million Canadians live with Respiratory Disease.

## WHAT IS RESPIRATORY DISEASE?

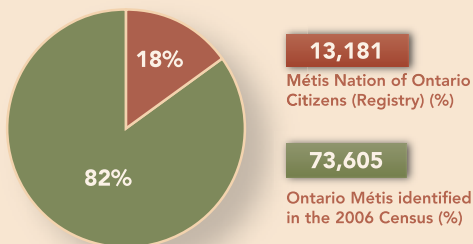
Chronic Respiratory Disease is a group of chronic diseases that include asthma, chronic obstructive pulmonary disease (COPD) lung cancer, tuberculosis and cystic fibrosis. They are chronic conditions with a significant disease and economic burden on both families and on the health care system. They are expected to increase in the Métis 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.

In the present report, the term “general population” is used to refer to the general public who are not part of the MNO citizenship registry. Once the Métis and general population groups were defined, government health records were examined for respiratory disease related entries. The number of cases of asthma and COPD were estimated by looking at physician, emergency departments and hospital visit from 2007 to 2008. The number of cases of lung cancer included in this study was estimated by looking at the provincial registry data from 2005 to 2007.

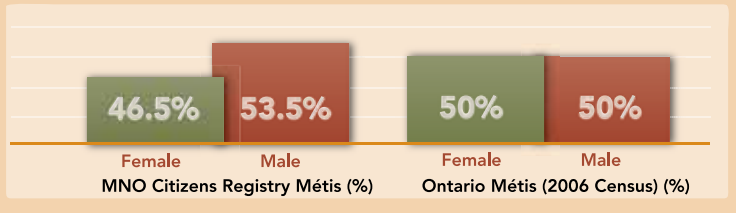
# FINDINGS

## MNO REGISTERED CITIZENS AS PERCENTAGE OF THE ONTARIO MÉTIS POPULATION (CENSUS 2006)



*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.*

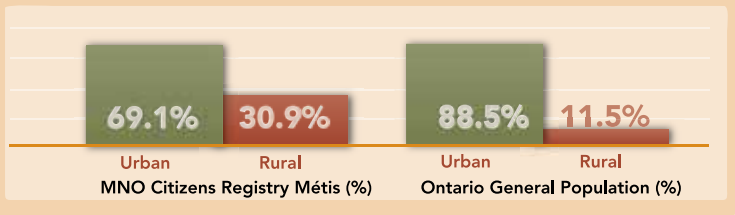
**PERCENTAGE OF METIS: BY GENDER**  
**IN MNO REGISTRY VS ONTARIO METIS (2006 CENSUS)**



The Métis people included in the MNO's citizenship registry are older and more likely to be male than the Métis census population.

*Demographic characteristics of the Métis Nation of Ontario citizenship registry versus the Métis population in Ontario identified in the 2006 Census. Gender Differences.*

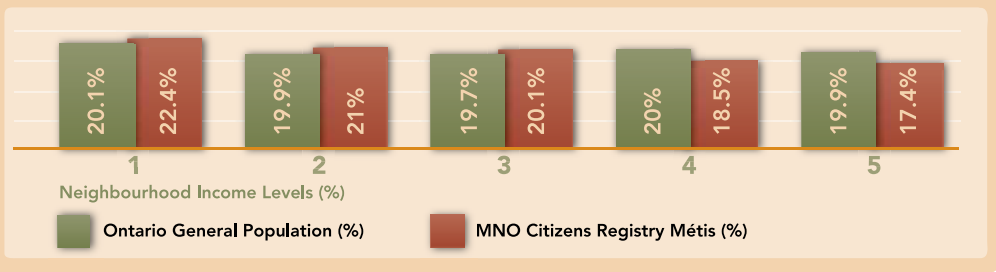
**PERCENTAGE OF METIS:**  
**CITY LIVING VS COUNTRY LIVING**  
 MNO REGISTRY VS ONTARIO GEN. POP. (2006 CENSUS)



A much higher proportion of the general population lived in urban areas compared with registered Métis citizens. The majority

of MNO Citizens lived in the North of the province, with the largest group in the North East.

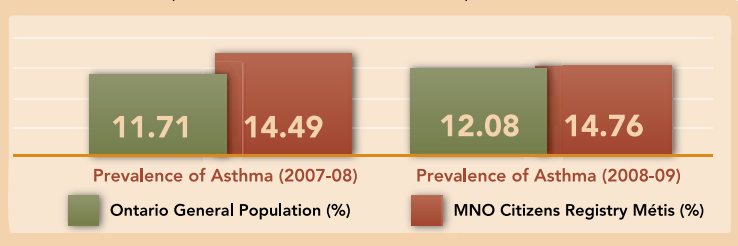
**NEIGHBOURHOOD INCOME LEVEL (%)**  
 MNO CITIZENS VS ON POP



When considering only those residing in urban areas, MNO citizens were more likely to live

in lower income neighbourhoods than urban Ontarians in the general population.

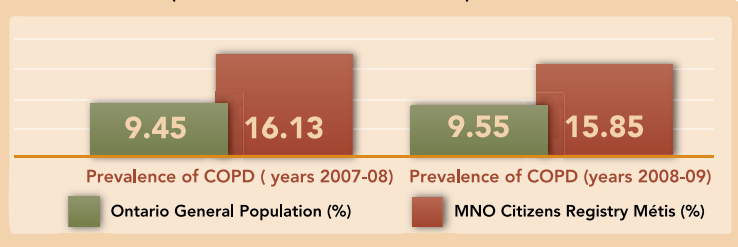
**PREVALENCE OF ASTHMA** (2007-08 & 2008-09)  
PER 100 PERSONS (MNO MÉTIS CITIZENS VS ON POP)



The prevalence of asthma was significantly higher (95% CI) in the Métis than in the general population during both years of study (2007-08, 2008-09). 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 (data not shown).

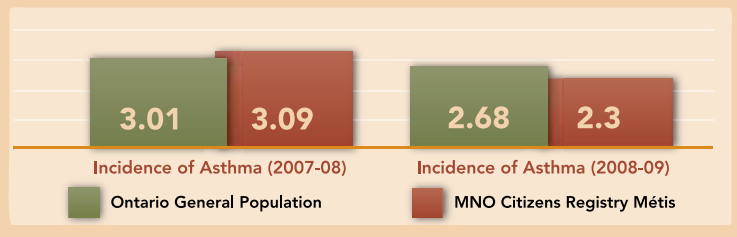
**PREVALENCE OF CHRONIC LUNG DISEASE**  
PER 100 PERSONS (MNO MÉTIS CITIZENS VS ON POP)



The prevalence of COPD was significantly higher in the Métis than in the general population during both years of study (2007-08, 2008-09). The prevalence of COPD was also

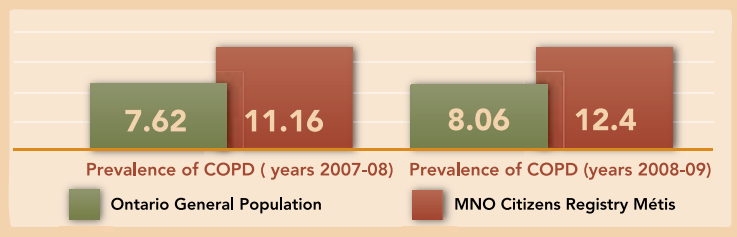
higher among Métis across all age groups, with the gap increasing with age over age 45 (data not shown).

**INCIDENCE OF ASTHMA** (2007-08 & 2008-09)  
PER 1000 PERSONS (MNO MÉTIS CITIZENS VS ON POP)



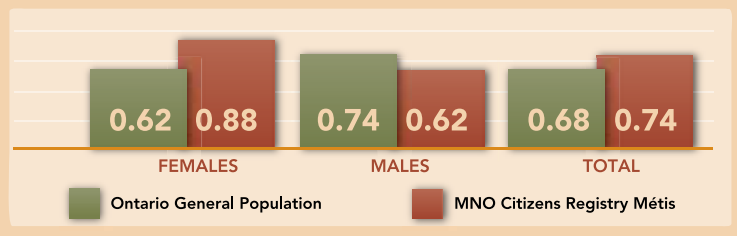
*There were no significant differences in the incidence rates of newly diagnosed cases of asthma between the MNO Métis and the general population during either year of study.*

**INCIDENCE OF COPD**  
PER 1000 PERSONS (MNO MÉTIS CITIZENS VS ON POP)



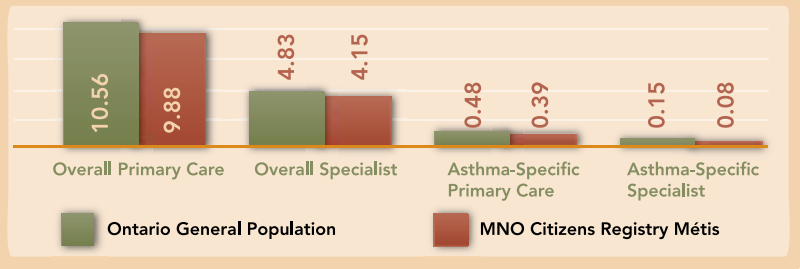
*The incidence of COPD was 50% higher among registered Métis during both years (2007, 2008).*

**INCIDENCE OF LUNG CANCER: BY SEX**  
PER 1000 PERSONS (2005-2007)



*Crude lung cancer rates appear to be different for females and males, with Métis females having a rate 1.4 times that of the general Ontario population.*

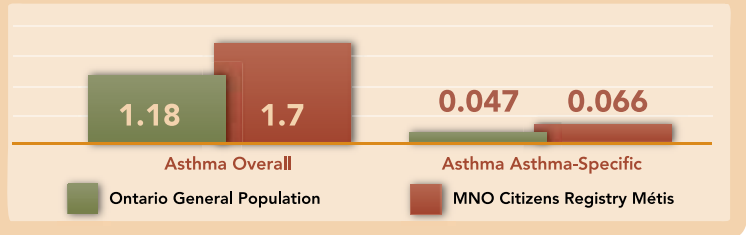
**PRIMARY CARE AND SPECIALIST VISITS:  
PEOPLE WITH ASTHMA ( 2007-2009)**



Among asthma cases, the mean number of overall and asthma-specific primary care and specialist visits was significantly lower among registered Métis than in the general population.

**Note:** Specialist has been defined to include any physician who is not a general practitioner/family physician.

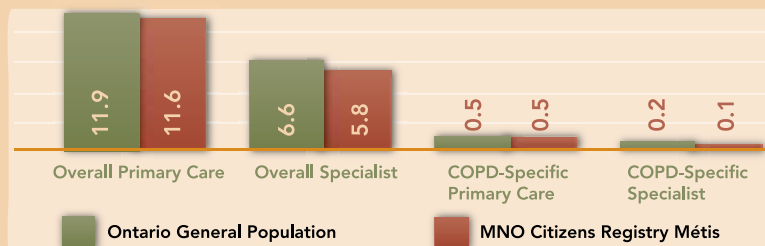
**EMERGENCY DEPARTMENT (ED) VISITS  
PEOPLE WITH ASTHMA (2007-2009)**



Overall ED visits among those diagnosed with asthma were 40% times higher among the registered Métis compared to the general population. Asthma-specific ED visits were also 40% higher among registered Métis.



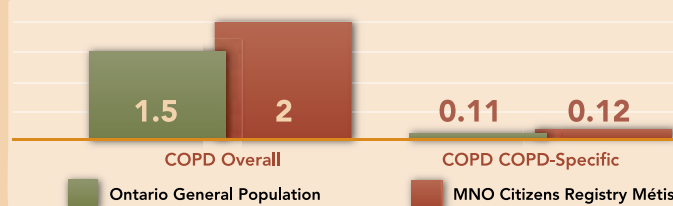
**PRIMARY CARE AND SPECIALIST VISITS:  
PEOPLE WITH COPD ( 2007-2009)**



*For COPD, there was no significant difference between registered Métis and the general population either in overall or in COPD-specific primary care visits; however, the mean number of overall and COPD-specific specialist visits was lower in the Métis.*

**Note:** *Specialist has been defined to include any physician who is not a general practitioner/family physician.*

**EMERGENCY DEPARTMENT (ED) VISITS  
PEOPLE WITH COPD (2007-2009)**



*Overall ED visits among those diagnosed with COPD were 30% higher among the registered Métis compared to the general population. There was no difference in COPD-specific ED visits.*

### HOSPITALIZATIONS

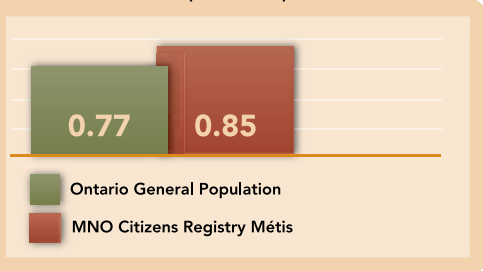
PEOPLE WITH ASTHMA (2007-2009)



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

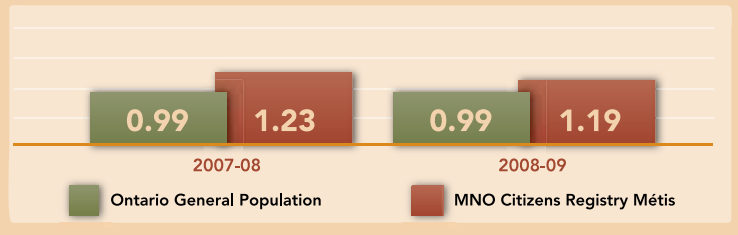
### HOSPITALIZATIONS

PEOPLE WITH COPD (2007-2009)



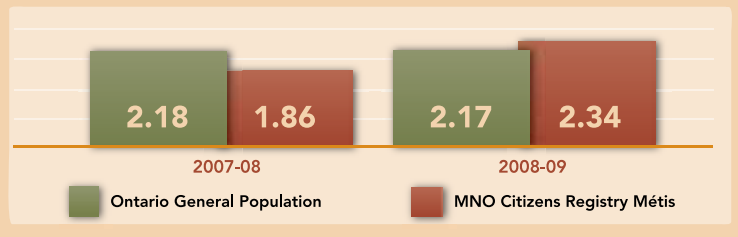
*Hospitalizations among those diagnosed with COPD were 15% higher overall among MNO Métis compared with the general population. There was no difference in COPD-specific hospitalizations.*

**ALL-CAUSE MORTALITY**  
PER 100 PEOPLE WITH ASTHMA (2007-2009)



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

**ALL-CAUSE MORTALITY**  
PER 100 PEOPLE WITH COPD (2007-2009)



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



# 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.

The high rates of smoking in the Métis (Garner et al. 2010) could be a reason for this difference. It is reported that smoking rates in the Métis population of Canada are about 37% compared to 22% for the general population.

Because of the small numbers of cases of respiratory disease in this study, what we found is only suggestive and we would need to confirm this through research with larger numbers of Métis people studied over longer periods.

Lung cancer and chronic respiratory disease rates are expected to rise among the Aboriginal population in Canada in the coming years, based upon past trends and what we know about the behavior of Aboriginal people. 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 compared to the general population. The Métis community would certainly benefit from more awareness and education regarding the risk factors for respiratory disease and provided with supports aimed at helping Métis people make healthier behavior and lifestyle choices to reduce the risk.

# DEFINITIONS

**Chronic Respiratory Disease (CRD)** - Refers to respiratory diseases that are chronic, long-term in duration, and is not infectious, such as tuberculosis. CRD is Asthma and COPD in this study.

**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.

**Asthma** - 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, swollen and full of mucus. This can make it very difficult to breathe. It can also make your airways go into spasm. 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 is a chronic and progressive condition characterized by gradual airway obstruction, shortness of breath, cough and sputum production. Cigarette smoking is the principal underlying cause of COPD and is responsible for about 80% of deaths from COPD. (PHAC 2011)

**Emphysema** - Along-term, progressive disease of the lungs that primarily causes shortness of breath. In people with emphysema, the tissues necessary to support the physical shape and function of the lungs are destroyed. Emphysema is most often caused by tobacco smoking and long-term exposure to air pollution.

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## THE MÉTIS NATION OF ONTARIO

# STATEMENT OF PRIME PURPOSE

### *Who We Are As a People*

*We, the Métis are a people of the lands which gave rise to our history, tradition and culture.*

*We call those lands the Métis Homelands. The homelands stretch from the lakes and rivers of Ontario; cross the wide prairies; traverse the mountains into British Columbia and into the northern reaches of the Northwest Territories. They include the hills and valleys of the north-central American States.*

*These are our lands. They are Métis lands. They are the lands of our past which nurture us today and which we value as the precious foundation of our future.*

*As Métis who live in the homelands, we hold it to be a fundamental truth that we are one of the Aboriginal peoples of the Americas.*

*The Métis Nation continues today to be the embodiment of our past, the source of sustenance for our present while giving rise to our hopes and aspirations for the future.*

*We are a Nation, born of independence, and self-sufficiency whose teachings are founded on the values of honesty and truth. We are proud of our rich heritage. We are inspired by the values and traditions of our ancestors. The strength of our society is based on democracy, freedom, fairness, equality, generosity, justice and the customary and written law of our people. Above all, we cherish harmony and peace.*

*As Aboriginal people we hold sacred the right of the individual and of the collective. We have respect for each other, for the land and for the animal and plant life that surrounds us. We are people who honour and respect the family, our elders who hold the key to the past, and our children who are our future.*

*Guided by our spiritual values we aspire to attain our highest potential.*



## Now Therefore We Declare As Follows:

*We, the Métis Nation, are a distinct Nation among the Aboriginal peoples in Canada and, as such, our Aboriginal and treaty rights are recognized and affirmed under Section 35 of the Constitution Act, 1982.*

*We, the Métis Nation, have the inherent right of self-determination and self-government.*

*We, the Métis who live within the Métis Homelands of Ontario, desiring to bind our people together to collectively promote our common cultural, social, political, and economic well-being, have founded the Métis Nation of Ontario, to be our representative body with the following aims and objectives:*

*To research, publish and promote the genealogical documentation of the Métis, and to establish and maintain a registry of the Métis citizens of Ontario;*

*To establish democratic institutions based on our inherent right of self-government;*

*To encourage the full participation of all Métis in the Métis Nation;*

*To promote and foster community development;*

*To re-establish land and resources bases;*

*To develop prosperity and economic self-sufficiency within the Métis Nation;*

*To provide care and support necessary to meet the fundamental needs of the citizens of the Métis Nation;*

*To establish effective means of communications for the Métis Nation;*

*To encourage academic and skills development and to enable citizens of the Métis Nation to attain their educational aspirations;*

*To promote the history, values, culture, languages and traditions of the Métis Nation and to create an awareness of our proud heritage;*

*To promote Métis artistic and cultural achievement;*

*To ensure that Métis can exercise their Aboriginal and Treaty rights and freedoms and, in so doing, act in a spirit of cooperation with other Aboriginal and non-Aboriginal people;*

*To establish good relations with all Aboriginal peoples for the pursuit of our common interests and goals;*

*To continue our affiliation with the Métis National Council for the representation of the interests of the Métis Nation in Ontario at the National and International levels;*

*To gain the recognition and respect of the Métis as a Nation and a people.*