



Population Health in Canada's Largest Cities

A Cancer System
Performance Spotlight Report

SEPTEMBER 2013



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About CPAC and System Performance Reporting

The Canadian Partnership Against Cancer (CPAC) works with Canada's cancer community to reduce the burden of cancer through co-ordinated system-level change. Grounded in and informed by the experiences of those most affected by cancer, the organization plays a unique role working with partners to support multi-jurisdictional uptake of the knowledge emerging from cancer research and best practices in order to optimize cancer control planning and drive improvements in quality of practice across the country. Partners include provincial and territorial cancer programs; federal organizations and agencies; First Nations, Inuit and Métis organizations; national health and patient organizations; and individual experts who provide strategic cancer control insight and advice from both patient and professional perspectives.

Through sustained effort and a focus on the full cancer continuum from prevention and treatment through to survivorship and end-of-life care, CPAC supports the collective work of the broader cancer control community in achieving long-term outcomes that will have a direct impact on the health of Canadians: reduced incidence of cancer, less likelihood of Canadians dying from cancer, and an enhanced quality of life of those affected by cancer.

Having objective measures on the performance of the cancer control systems across Canada helps in identifying best practices and opportunities for quality improvements. CPAC's System Performance Initiative works with provincial, territorial and national partners to develop and report on pan-Canadian system performance indicators across the cancer control continuum. The System Performance Initiative produces annual reports that present performance indicators spanning the various dimensions of cancer control (prevention, screening, diagnosis, treatment, patient experience and end-of-life care, research and long-term outcomes), cancer sites and the Canadian

population. In addition to the annual System Performance reports, CPAC produces spotlight reports that provide a focused update and detailed look at selected dimensions of the cancer control continuum.

This System Performance spotlight report presents indicators for selected cancer risk factors and cancer screening rates for the largest metropolitan areas in Canada. For comparison purposes, indicator results are also shown for all other urban centres combined and for rural communities combined as well as at the overall provincial or territorial level. This report is a collaborative effort with a number of partners at the national and provincial or territorial levels. Provincially, the System Performance Steering Committee and Technical Working Group, each comprising locally appointed representatives from all 10 provinces, guided the planning and development of this report. Consultations with a subgroup of the Urban Public Health Network also informed the work. Data for the indicators in this report was obtained from the Canadian Community Health Survey (CCHS) maintained by Statistics Canada.

Why report on metropolitan areas?

Many of the policies and interventions aimed at reducing personal modifiable behaviours that increase the risk of cancer (such as smoking, unhealthy eating habits and inadequate exercise) and reducing other risk factors (such as environmental exposures) are enacted through municipal legislation and budget decisions. Several provinces have laws meant to reduce risk behaviours; examples include bylaws aimed at limiting exposure to second-hand smoke in public places and banning use of tanning beds by minors. The impact of such legislation on modifiable risk factors can therefore be evaluated by measuring subsequent drops in the prevalence of the risk factor. Comparing risk factor prevalence rates across metropolitan areas that include municipalities with different legislation or varying times of enactment can also be useful in elucidating opportunities for impact.

In addition to behavioural risk factors, built environments in cities can influence cancer risk. Urban planning and land use policies such as official plans and zoning regulations can help promote increased physical activity (e.g., through access to facilities such as parks, athletic fields, bicycle and running trails/paths, and community pools and gyms), promote access to healthy food (e.g., in public school lunch rooms and other city-owned food outlets) and limit exposure to environmental hazards (e.g., through adequate separation of industrial and residential zones, environmental reporting or community right-to-know bylaws).

While municipal policies and legislation can directly influence cancer prevention, another pillar of population health – cancer screening – is in all cases a provincially or territorially co-ordinated endeavour. In addition to provincial or territorial programs, some jurisdictions' public health units are mandated to raise awareness of and promote the use of cancer screening programs among the eligible population. Previous system performance

analyses have suggested, however, that participation rates in cancer screening programs are lower in neighbourhoods with relatively high numbers of recent immigrants, lower socio-economic status or both. Given the concentration of immigrant communities and, in many cases, lower-income populations in the larger Canadian cities, comparing screening participation rates among large metropolitan areas, and between metropolitan areas and smaller urban centres and rural communities, can yield information that could help identify and fill gaps in screening program planning and delivery. In the fall of 2013, a special focus report will closely assess the effects of socio-economic status (income) on cancer control patterns and will highlight issues related to patient residence geography (including rural, remote and northern communities) and new immigrants.

While the majority of studies to date have focused on differences in health status among provinces and territories, this report examines differences in risk factors and health behaviours between the largest cities in Canada. To identify variations in risk factors and behaviours between large metropolitan areas, cities with relatively large populations across Canada were chosen for the analyses to ensure a large enough sample size (Table 1).

This report aims to stimulate the generation of new knowledge and to help accelerate the sharing of existing knowledge about cancer control across Canada. This report is a starting point to mobilize municipal action by highlighting some of the initiatives and local practices taking place across the country. It also aims to raise awareness among Canadians, in particular municipalities and their citizens, of the factors that contribute to good health. This in turn will help advance CPAC's mandate to reduce the risk of cancer and increase the effectiveness and efficiency of the cancer control domain.

This report aims to address some of the following questions:

- Which urban communities in Canada have the lowest and highest prevalence of cancer risk factors?
- Are there differences in risk factor prevalence among cities in the same province?
- What is the relationship between known municipal bylaws and other policies relevant to cancer risk, and the prevalence of risk factors in those communities?
- Are there differences in access to cancer screening among cities in the same province?

How this report is organized

This report is organized into two main sections, followed by synthesis and conclusions. The first section, Prevention, presents and discusses a set of indicators examining the prevalence of modifiable risk factors as well as second-hand smoke exposure. The second section, Screening, examines self-reported screening rates for colorectal, breast and cervical cancer. The synthesis and conclusions offers a detailed discussion of the results and presents the prevention and screening results and associated confidence intervals for each indicator for all metropolitan areas and other geographic units examined in the report. The source data for all indicators is the CCHS, using combined data from 2010 and 2011 for all prevention indicators (unless otherwise indicated) and 2008 data for all screening indicators.

For each indicator, results are shown in charts or tables. Where appropriate, statistical confidence intervals are presented to help indicate the precision of the measures. Results with large confidence intervals should accordingly be interpreted with caution and are indicated with an “E.”

Discussion of the context and results for each indicator is organized as follows:

- **What are we measuring?** The indicator is defined in this section.
- **Why are we measuring this?** This section provides the rationale for reporting on the indicator, along with any relevant contextual information.
- **What do the results mean?** This section discusses the results, highlighting notable trends and patterns, and also compares similar data from other jurisdictions where appropriate.
- **What are some steps being taken?** This portion of the discussion provides information on just some examples of unique or widespread initiatives currently underway aimed at addressing the aspect of performance being measured.

Near the end of the report, Table 4 shows the rank by indicator for each of the metropolitan areas for all prevention and screening indicators. Indicator results are also shown by province and territory for comparison.

Figure 1 provides the geographic categories for which indicator results are presented in this report. Table 1 lists the large metropolitan areas for which results are given. For a list of the census subdivisions (cities/municipalities) within each census metropolitan area^a (CMA), please refer to the Appendix. Unless otherwise

indicated, results in this report are presented from west (British Columbia) to east (Newfoundland and Labrador).

An online technical appendix provides full details on indicator data and methodologies. It can be viewed or downloaded at www.cancerview.ca/systemperformancereport.

FIGURE 1

Geographic units of analysis for this report

Indicator results are shown by:

- **Large metropolitan areas:**
 - Top 20 census metropolitan areas (CMAs) by population based on the 2011 Canadian census
 - » Note that the cities of Vancouver, Toronto, Montreal and Ottawa are shown separately from their CMAs
 - Moncton CMA (to include the largest metropolitan area in New Brunswick)
 - Urban PEI (to include all communities in PEI classified as urban by Statistics Canada as Charlottetown alone would not yield sufficient results for inclusion)
- **Other urban areas:** Includes all other communities considered urban by Statistics Canada (excluding the territories)
- **Rural areas:** Includes all communities considered rural by Statistics Canada (excluding the territories)
- **Provinces and territories**

a) A census metropolitan area is formed by one or more adjacent municipalities centred on an urban core. A CMA must have a total population of at least 100,000, of which 50,000 or more must live in the urban core.

TABLE 1

Census metropolitan area rank and geographic name, 2011 census

CMA rank	Geographic name	Population size	CMA rank	Geographic name	Population size
1	Toronto (ON)	5,583,064	10	Kitchener-Cambridge-Waterloo (ON)	477,160
	City of Toronto	2,615,060	11	London (ON)	474,786
	Greater Toronto Area*	2,968,004	12	St. Catharines-Niagara (ON)	392,184
2	Montreal (QC)	3,824,221	13	Halifax (NS)	390,328
	City of Montreal	1,649,519	14	Oshawa (ON)	356,177
	Greater Montreal Area*	2,174,702	15	Victoria (BC)	344,615
3	Vancouver (BC)	2,313,328	16	Windsor (ON)	319,246
	City of Vancouver	603,502	17	Saskatoon (SK)	260,600
	Greater Vancouver Area*	1,709,826	18	Regina (SK)	210,556
4	Ottawa-Gatineau (ON/QC)	1,236,324	19	Sherbrooke (QC)	201,890
	City of Ottawa	883,391	20	St. John's (NL)	196,966
	Greater Ottawa Area**†	352,933	29	Moncton (NB)	138,644
5	Calgary (AB)	1,214,839	N/A	Urban PEI (PE)	65,543
6	Edmonton (AB)	1,159,869	N/A	Other urban areas	6,057,848
7	Quebec (QC)	765,706	N/A	Rural areas	5,979,720
8	Winnipeg (MB)	730,018	N/A	Territories‡	62,003
9	Hamilton (ON)	721,053	N/A	Canada	33,476,688

CMA = census metropolitan area

* The greater metropolitan areas include all municipalities/cities within the respective CMA, excluding the cities of Toronto, Montreal, Vancouver and Ottawa. Refer to the Appendix for a full list of cities and municipalities in each CMA.

† The majority of the Greater Ottawa Area is located in the Province of Quebec.

‡ Excludes census areas of Yellowknife and Whitehorse.

Prevention

Smoking Prevalence	12	Second-hand Smoke Exposure	16	Fruit and Vegetable Consumption	27
Smoking Cessation	15	Alcohol Consumption	24	Physical Activity	29
				Adult Overweight and Obesity	31



Prevention

The World Cancer Research Fund estimates that approximately one-third of cancers can be prevented by not smoking and another third can be prevented through a combination of eating nutritious food, limiting alcohol consumption, participating in regular physical activity and maintaining a healthy body weight.¹ These estimates suggest that several modifiable health-related behaviours influence the risk of cancer. In addition to personal modifiable risk behaviours, environmental exposures (such as exposure to second-hand smoke) are also important modifiable risk factors for cancer. Understanding the role of risk factors and their prevalence in the population or in communities can therefore help guide prevention efforts and assess current prevention policies and strategies.

Prevention policies (courses of action or inaction chosen by public authorities to address given problems or interrelated sets of problems²) are enacted at the federal, provincial or territorial, and municipal level. While most studies to date have focused on provincial and territorial differences in cancer risk factors and population health, this report examines variations among the largest cities in Canada. It is important to measure city-level data because policies enacted at this level may affect the health and well-being of city residents. Any differences observed will require further examination into health determinants that influence the health of residents in each of the cities/CMAs, such as socio-economic status, physical environment and social characteristics.

It is beyond the scope of this report to discuss all policies related to each of the indicators discussed; rather, this section highlights a few examples that may positively influence the health of Canadians. It is important to note that

the effectiveness of the policies mentioned has not been examined; therefore, the implications of improving the risk factor outcomes through policy change should be considered with caution.

Indicators measuring the following risk factors are presented in this section:

- Tobacco use and exposure
 - Smoking prevalence
 - Smoking cessation rates
 - Second-hand smoke exposure rates
- Alcohol consumption
 - High-risk alcohol consumption rates^b
 - Alcohol abstinence rates
- Fruit and vegetable consumption
- Physical activity
- Overweight and obesity

b) High-risk alcohol consumption rates are based on cancer-specific risk studies and as such are different (lower) than more recent Canadian general alcohol consumption guidelines.

The above is not a comprehensive list of cancer control risk factors, behavioural or environmental. Some risks, such as the use of tanning beds and exposure to environmental hazards such as radon, have been reported on in previous system performance reports, but are excluded from this report because of data limitations, resource constraints or both.

The Prevention section presents key indicators that can inform strategies aimed at reducing the burden of cancer through targeted cancer prevention and health promotion activities.

Results highlights

In Prevention, the results identified substantial differences in the prevalence of risk factors in different metropolitan areas across Canada. There is generally a fair level of consistency in the performance of each metropolitan area across the prevention/risk factor measures. While many provinces had cities at both ends of the spectrum, the general trend was that urban communities in the western parts of the country had better cancer risk profiles than did communities in the eastern parts.

Smoking Prevalence

What are we measuring?

- *This indicator measures the percentage of the population aged 12 years or older reporting daily or occasional smoking in 2010 and 2011.*

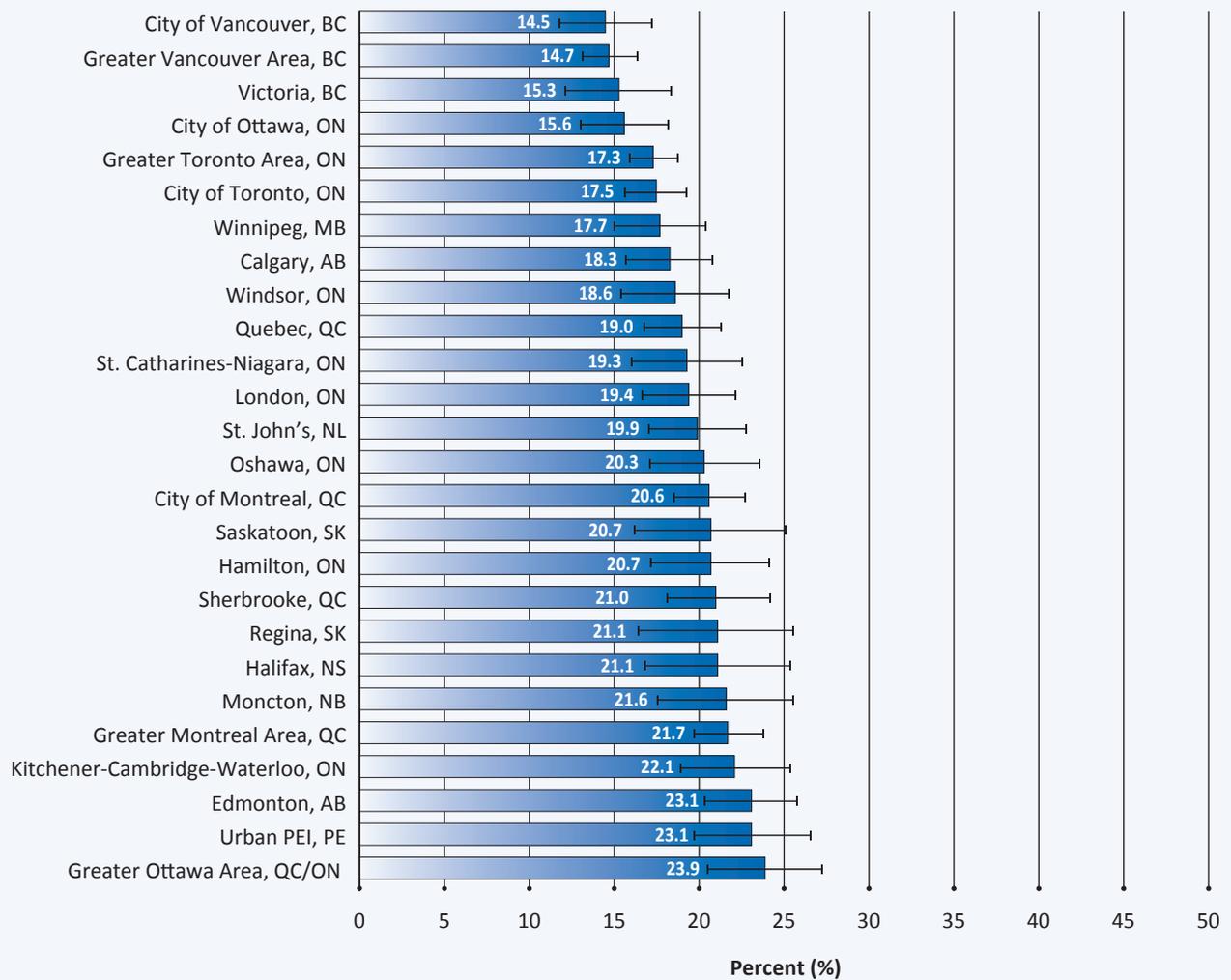
Why are we measuring this?

- A full one-third of all cancers could be avoided through the elimination of tobacco use.¹ In fact, tobacco use is said to cause 30% of all cancer deaths and 85% of lung cancer deaths each year in Canada.³
- Since the mid-1960s, the prevalence of smoking in Canada has declined substantially. In 1965, about half of all Canadians smoked daily or occasionally, compared with 17% in 2011, according to data from the Canadian Tobacco Use Monitoring Survey, but the decline has slowed in recent years.⁴
- The decline in smoking in Canada is largely due to a complex mix of public awareness and policy interventions in the 1960s, followed by municipal smoking bylaws in the 1970s and tax increases and substantive legislation in the 1980s.⁵

What do the results mean?

- According to 2010–11 data, large metropolitan areas in British Columbia showed the lowest percentages in Canada of daily or occasional smoking (14.5% in the City of Vancouver and 14.7% in the Greater Vancouver Area). In contrast, smoking prevalence was highest in the Greater Ottawa Area, with 23.9% of residents 12 or older reporting daily or occasional smoking (Figure 2A).
- Smoking rates often varied widely among large metropolitan areas in the same province. For example, the Greater Toronto Area had among the lowest smoking rates (17.3%), while the Kitchener-Cambridge-Waterloo area had among the highest, at 22.1%. Similarly, in Alberta, Calgary's smoking rate was almost five percentage points lower than Edmonton's (Figure 2A).
- While socio-economic and cultural factors may contribute to these intra-provincial differences, the gaps point to opportunities to focus on smoking prevention and cessation efforts in urban communities with higher rates.

FIGURE 2A

Percentage of population (aged ≥ 12) reporting daily or occasional smoking, by large metropolitan area—CCHS 2010–11

95% confidence intervals are indicated on figure.

Data source: Statistics Canada, Canadian Community Health Survey

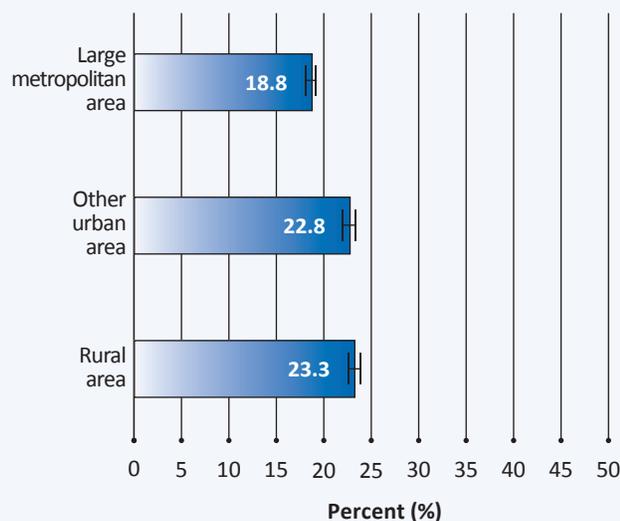
- People living in large metropolitan areas were less likely to be daily or occasional smokers than were those living in smaller urban and rural areas (excluding the territories) (18.8% compared with 22.8% and 23.3%, respectively) (Figure 2B).
- Compared with the self-reported national average (20.3%), British Columbia reported the lowest percentages (16.6%) and Saskatchewan the highest (23.3%) of daily or occasional smoking. The territories all had higher smoking prevalence rates than the provinces (Figure 2C).

What are some steps being taken?

- Tobacco use in youth is linked to tobacco use in adulthood.⁶ The Canadian Public Health Association recently released a position paper recommending that “municipalities expand from smoke-free bylaws to also banning the sale of tobacco products near schools,” which would help reduce smoking initiation among youth.⁷
- In 2012, the City of Saskatoon, Saskatchewan, passed a policy^c banning advertisements on Saskatoon Transit that promote tobacco products or alcoholic beverages because such ads contradict the City’s goal of promoting healthy lifestyles.⁸

FIGURE 2B

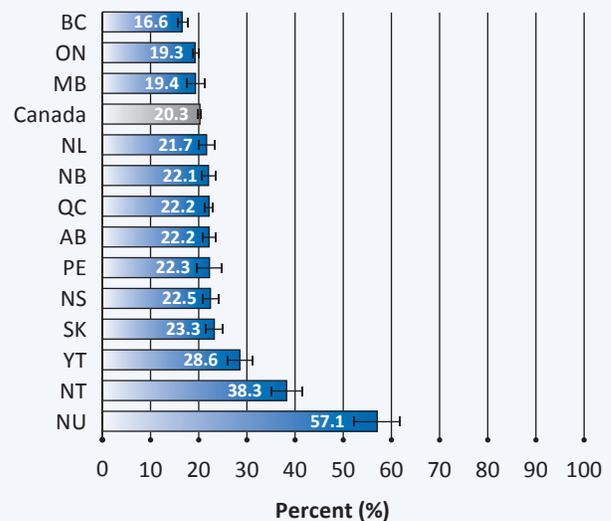
Percentage of population (aged ≥ 12) reporting daily or occasional smoking, by large metropolitan area/other urban/rural—CCHS 2010–11



95% confidence intervals are indicated on figure.
Data source: Statistics Canada, Canadian Community Health Survey

FIGURE 2C

Percentage of population (aged ≥ 12) reporting daily or occasional smoking, by province/territory—CCHS 2010–11



95% confidence intervals are indicated on figure.
Data source: Statistics Canada, Canadian Community Health Survey

c) For more information about tobacco control policies within provinces, territories and specific municipalities see <http://www.cancerview.ca/cv/portal/Home/PreventionAndScreening/PSPProfessionals/PSPPrevention/PreventionPoliciesDirectory>

Smoking Cessation

What are we measuring?

- ***This indicator measures the percentage of recent smokers^d aged 20 or older who reported quitting smoking in the past two years and were non-smokers at the time of the survey.***

- ***It is important to be cautious when interpreting some of the results for this indicator because some of the jurisdictions reported low numbers, resulting in high variations in the estimates. This is indicated with an “E” next to the results.***

Why are we measuring this?

- The greatest impact on cancer mortality in the medium term can be achieved through getting smokers to quit.¹ Benefits can be realized regardless of age when quitting.⁹
- Municipalities have a role in smoking cessation programs through measures such as smoke-free environment policies and the provision of tobacco-use cessation services for priority populations. Measuring cessation rates by urban centre can help inform policies and interventions and evaluate their impact.

What are some steps being taken?

- A number of cessation initiatives, including quit-smoking support phone lines, have been established across the country to support those who want to quit. These measures may also encourage others to think about quitting. For example, Alberta Quits provides a helpline, online service, text service and group counselling service designed to support all Albertans who have a desire to quit smoking. Nationally, Smokers' Helpline serves six provinces and one territory: Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia, Prince Edward Island and Yukon.
- The Canadian Action Network for the Advancement, Dissemination and Adoption of Practice-informed Tobacco Treatment has developed Canadian evidence-based smoking cessation guidelines, resources and tools and made them available to health professionals, including physicians.¹⁰
- The Ottawa Heart Institute has developed the Ottawa Model for Tobacco Cessation, focusing on hospital-based tobacco cessation.¹¹ The model is being used in 144 hospitals across Canada and is being introduced into primary care.

What do the results mean?

- The percentage of recent smokers (who had been daily or occasional smokers) 20 or older who reported quitting smoking in the past two years in Canada varied among large metropolitan areas, ranging from 8.9% in Saskatoon and 12.2% in the City of Toronto to 24.5% in Victoria and 24.7% in St. John's (Table 5A).
- Rates varied substantially between CMAs in Saskatchewan. In Saskatoon, the quit rate was 8.9%, while in Regina it was 18.7% (Table 5A).
- People living in rural areas (excluding the territories) were as likely to have recently quit (17.3%) as those living in smaller urban areas (17.2%) and large metropolitan areas (16.6%) (Table 5A).

d) Who had been daily or occasional smokers

- The Cancer Advocacy Coalition of Canada noted in its annual report card that smoking cessation products such as nicotine patches, gum and inhalers help individuals to quit smoking.¹²

All provinces and territories, except New Brunswick and Newfoundland and Labrador, offer public funding through health insurance plans for smoking cessation therapies.

Second-hand Smoke Exposure

What are we measuring?

- *This indicator examines the percentage of non-smokers aged 12 years or older who reported being routinely exposed to smoke in the home, in a vehicle or in a public place in 2010 and 2011.*

- Many Canadian jurisdictions have introduced legislation limiting exposure to second-hand smoke. Monitoring reductions in exposure over time by municipality allows for evaluation of the impact of these measures at the municipal level.

Why are we measuring this?

- In Canada, more than 1,100 deaths among non-smokers are attributed to second-hand smoke annually, of which over 360 are from lung cancer (the remaining 746 died from ischemic heart disease).¹³
- Second-hand smoke appears to be the second-leading cause of lung cancer after smoking itself.¹⁴
- According to the 2006 U.S. Surgeon General's Report, more than 50 epidemiologic studies have addressed the association between second-hand smoke exposure and the risk of lung cancer among lifetime non-smokers. Pooled evidence from these studies suggests a 20% to 30% increase in the risk of lung cancer from second-hand smoke exposure associated with living with a smoker.¹⁵

What do the results mean?

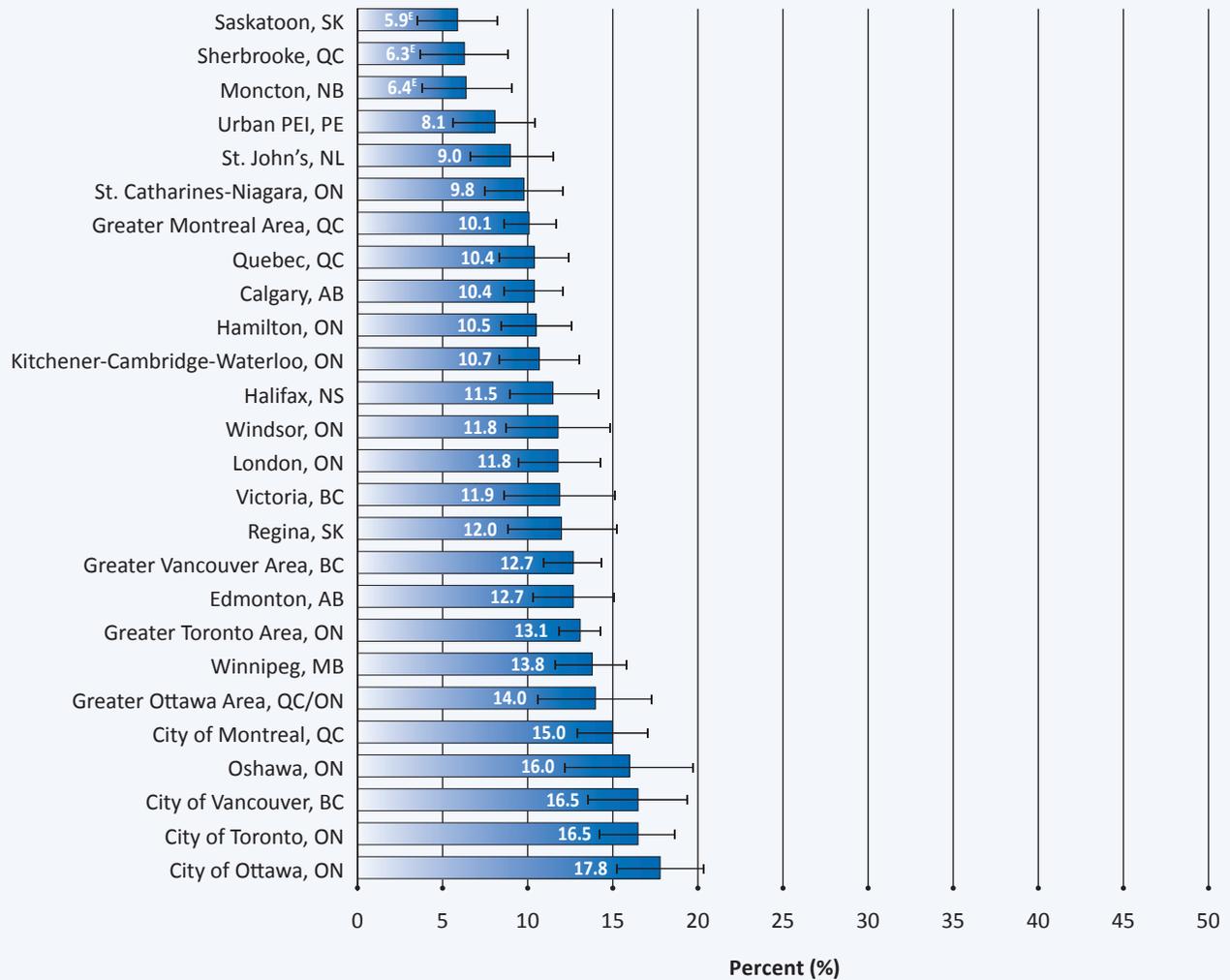
- The percentage of non-smokers aged 12 or older who reported being exposed to smoke in a public place every day or almost every day in 2010 and 2011 varied among large metropolitan areas, from 5.9% in Saskatoon to 17.8% in the City of Ottawa (Figure 3A). Home exposure also varied among large metropolitan areas, ranging from 2.0% in Victoria to 9.3% in the Greater Montreal Area (Table 5A).
- Vehicle exposure ranged from 4.1% in Victoria to 10.3% in Windsor and the Greater Ottawa Area (Figure 4A).
- Second-hand smoke exposure varied among large metropolitan areas within a province. For example, in Saskatoon, the percentage of non-smokers 12 or older who reported exposure to smoke in a public place was 5.9%, compared with 12.0% in Regina (Figure 3A).

- A lower proportion of those living in rural areas (excluding the territories) were exposed to second-hand smoke in public places than those in smaller urban areas and large metropolitan areas (Figure 3B). In contrast, a higher proportion of people living in rural areas (excluding the territories), followed by smaller urban areas, were exposed to second-hand smoke in the home or in vehicles than those living in large metropolitan areas (Table 5A and Figure 4B). For all of Canada, 11.8% reported exposure to second-hand smoke in public places, 6.7% in vehicles and 5.7% in homes (Figures 3C and 4C and Table 5A).
- *It is important to be cautious when interpreting some of the results for this indicator because some of the jurisdictions reported low numbers, resulting in high variations in the estimates. This is indicated with an “E” next to the results.*
- Over the five years (2008–12) during which the majority of provinces banned smoking in vehicles with children present, a one-third reduction in children’s exposure to second-hand smoke in vehicles was observed.¹² The largest reduction was observed in Ontario, at approximately 38%. Ontario was the second province to ban smoking in vehicles with children present.
- Edmonton’s Public Places Bylaw 14614 regulates tobacco smoking in public and was amended in April 2012 to expand the prohibition to within 10 metres of playgrounds, seasonal skating rinks, skateboard parks, sports fields or water spray parks (above provincial legislation). Previously, the bylaw had banned smoking inside buildings, on patios, inside public vehicles and within 5 metres of doorways, windows or air intakes of buildings and patios.⁸
- Hamilton’s Bylaw 11-080, passed in March 2011, prohibits smoking on beaches, parks, playgrounds, recreation centre property, arena and stadium property, sports and playing fields, skateboard parks, outdoor pools and leash-free dog parks.⁸

What are some steps being taken?

- Second-hand smoke exposure is municipally regulated through bylaws that prohibit tobacco smoking in public places. While banning smoking in indoor public places is commonplace across Canada, many municipal governments are expanding their bylaws to include a variety of outdoor public venues as well, including parks and playgrounds, recreational and sport fields and outdoor facilities, restaurant patios and beaches.⁸ Table 2 lists the municipalities and cities that have bylaws regulating second-hand smoke exposure in public places that exceed provincial legislation as of June 2012.¹⁶
- Second-hand smoke exposure in vehicles has been addressed through legislation in most provinces and territories, except Alberta, Quebec, Northwest Territories and Nunavut (Table 3).⁸ Recently, the Quebec Cancer Society launched a high-profile effort calling for the enactment of legislation banning smoking in private vehicles with children on board.¹⁷

FIGURE 3A

Percentage of non-smoking population (aged ≥ 12) reporting second-hand smoke exposure in public places, by large metropolitan area—CCHS 2010–11

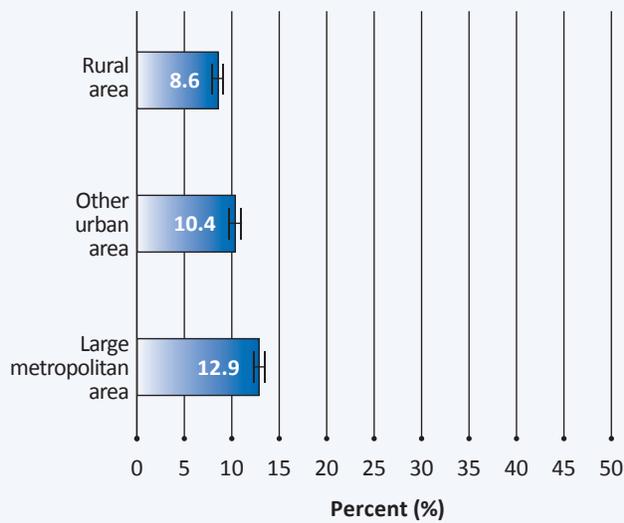
^fInterpret with caution due to a large amount of variability in the estimate.

95% confidence intervals are indicated on figure.

Data source: Statistics Canada, Canadian Community Health Survey

FIGURE 3B

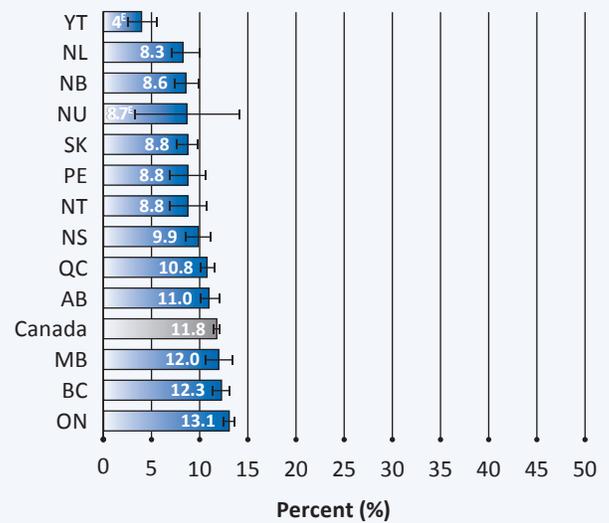
Percentage of non-smoking population (aged ≥ 12) reporting second-hand smoke exposure in public places, by large metropolitan area/other urban/rural—CCHS 2010–11



95% confidence intervals are indicated on figure.
Data source: Statistics Canada, Canadian Community Health Survey

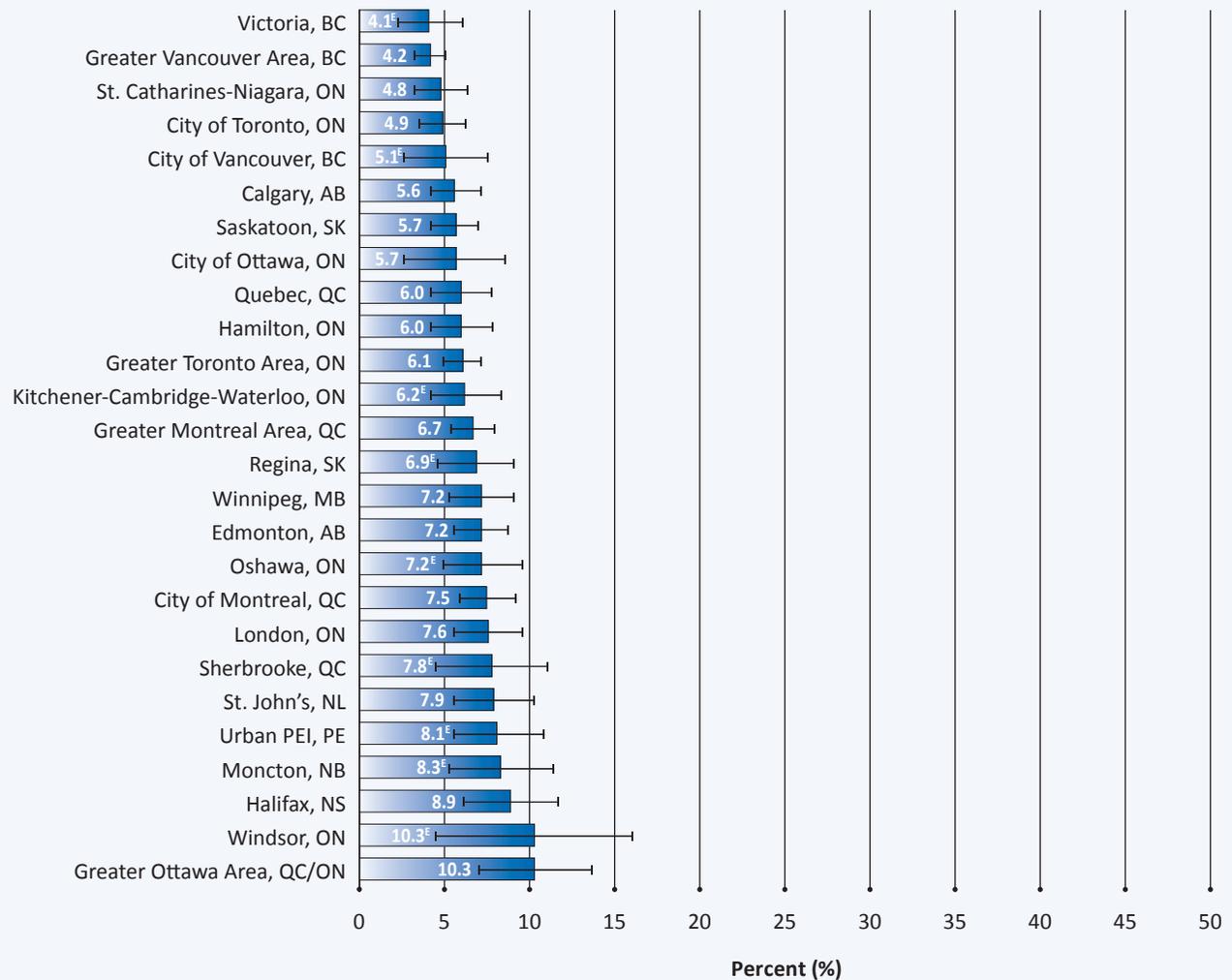
FIGURE 3C

Percentage of non-smoking population (aged ≥ 12) reporting second-hand smoke exposure in public places, by province/territory—CCHS 2010–11



† Interpret with caution due to a large amount of variability in the estimate.
95% confidence intervals are indicated on figure.
Data source: Statistics Canada, Canadian Community Health Survey

FIGURE 4A

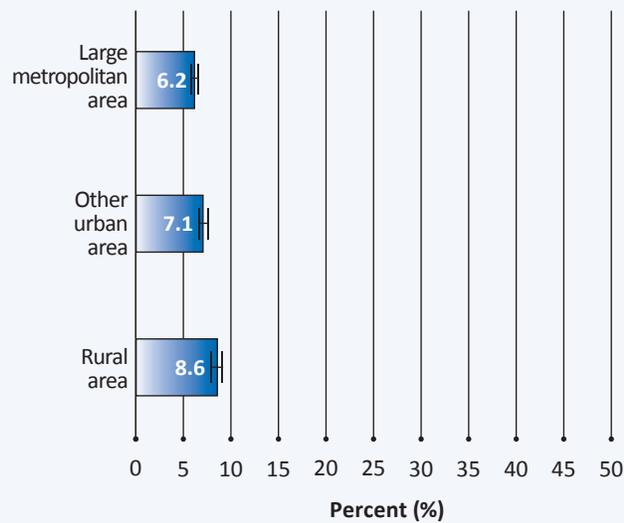
Percentage of non-smoking population (aged ≥ 12) reporting second-hand smoke exposure in vehicles, by large metropolitan area—CCHS 2010–11

[‡]Interpret with caution due to a large amount of variability in the estimate.
95% confidence intervals are indicated on figure.

Data source: Statistics Canada, Canadian Community Health Survey

FIGURE 4B

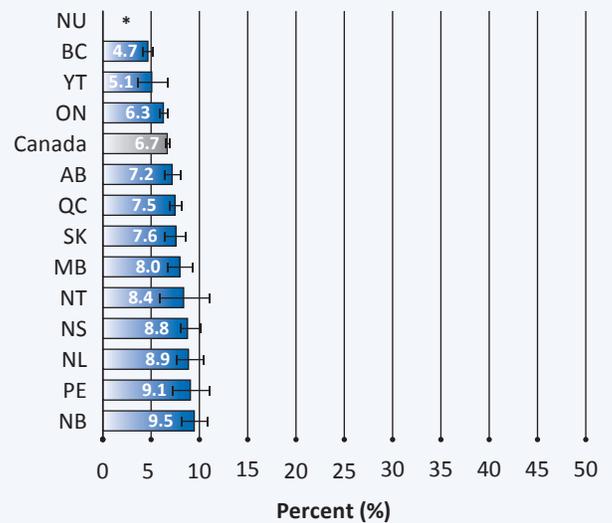
Percentage of non-smoking population (aged ≥ 12) reporting second-hand smoke exposure in vehicles, by large metropolitan area/other urban/rural—CCHS 2010–11



95% confidence intervals are indicated on figure.
Data source: Statistics Canada, Canadian Community Health Survey

FIGURE 4C

Percentage of non-smoking population (aged ≥ 12) reporting second-hand smoke exposure in vehicles, by province/territory—CCHS 2010–11



* Suppressed due to statistical unreliability caused by small numbers.
95% confidence intervals are indicated on figure.
Data source: Statistics Canada, Canadian Community Health Survey

TABLE 2

Municipal bylaws on second-hand smoke in public places

Percent of CMA population covered by municipal bylaws*	Census metropolitan area	Municipalities/cities [†] that have bylaws exceeding provincial legislation
100	Victoria, BC	Saanich, Victoria, Langford, Oak Bay, Esquimalt, Colwood, Central Saanich, Sooke, Sidney, North Saanich, View Royal, Metchosin, Capital H, Highlands
91	Winnipeg, MB	Winnipeg
87	Edmonton, AB	Edmonton, Strathcona County, St. Albert, Leduc, Beaumont, Devon
85	Saskatoon, SK	Saskatoon
84	Calgary, AB	Calgary, Airdrie
79	Vancouver, BC	Vancouver, Surrey, Richmond, Coquitlam, Delta, North Vancouver, Port Coquitlam, West Vancouver, Port Moody, Langley, White Rock, Pitt Meadows, Anmore, Belcarra
79	Toronto, ON	Toronto, Oakville, Milton, Halton Hills, Georgina, New Tecumseth, Bradford–West Gwillimbury, Orangeville, Uxbridge, Mississauga, Brampton, Caledon
76	Hamilton, ON	Hamilton, Grimsby
73	Ottawa-Gatineau, ON/QC	Ottawa, Russell
66	Windsor, ON	Windsor
54	St. John's, NL	St. John's
34	St. Catharines-Niagara, ON	Niagara Falls, Welland
2	Quebec, QC	L'Ancienne-Lorette
<1	Montreal, QC	Côte-Saint-Luc
0	Kitchener-Cambridge-Waterloo, ON	N/A
0	Halifax, NS	N/A
0	Oshawa, ON	N/A
0	Regina, SK	N/A
0	Sherbrooke, QC	N/A
0	Moncton, NB	N/A

* The percentage of municipal bylaw coverage does not include First Nation reserves; CMA municipal bylaw coverage was calculated as the proportion of the municipal/city population covered by a bylaw to the total CMA population.

[†] Refer to the Appendix for a full list of cities and municipalities in each CMA.

TABLE 3

Provincial/territorial legislation on second-hand smoke in private vehicles

Province	Year	Provincial/territorial legislation coverage
British Columbia	2008	Children present < 16 years
Alberta*	N/A	N/A
Saskatchewan	2010	Children present < 16 years
Manitoba	2010	Children present < 16 years
Ontario	2009	Children present < 16 years
Quebec	N/A	N/A
New Brunswick	2009	Children present < 16 years
Nova Scotia	2002	Children present < 18 years
Prince Edward Island	2009	Children present < 19 years
Newfoundland and Labrador	2011	Children present < 16 years
Yukon	2008	Children present < 18 years
Northwest Territories	N/A	N/A
Nunavut	N/A	N/A

* Partial *municipal* coverage only (Edmonton CMA); 2011, children present < 18 years. Provincial act in place but has not yet been proclaimed.

Alcohol Consumption

What are we measuring?

- ***This indicator measures the percentage of adults aged 18 or older who report the following alcohol consumption behaviours:***
 - Exceeding an average of two drinks per day for men and one drink per day for women. The CCS alcohol consumption recommendation for reducing the risk of cancer uses the same cut-off as the World Cancer Research Fund's (WCRF) guidelines,^{1,18} although the CCS recommendation is *less than* one drink per day for women and *less than* two drinks per day for men, whereas the WCRF guideline is one drink *or less* per day for women and two drinks *or less* per day for men. The latter WCRF indicator is presented twice, using the most recently available data that covers the entire population (2005) and more recent data (2010–11) that covers only large metropolitan areas in provinces participating in that survey.
 - Consuming no alcohol in the past 12 months.
- This report uses the WCRF drinking guidelines for reducing the risk of cancer. The Canadian Centre on Substance Abuse has released higher low-risk drinking cut-off guidelines (two drinks or less per day for women, up to 10 drinks per week; and three drinks or less per day for men, up to 15 drinks per week) for the general population not specifically focused on cancer risk.¹⁹

Why are we measuring this?

- Convincing evidence exists that drinking alcohol increases the risk of cancer of the esophagus, mouth, throat (pharynx and larynx), breast (pre- and post-menopausal), colon and rectum. Evidence also suggests that alcohol consumption probably increases the risk of liver cancer.¹
- Convincing evidence also exists that excessive alcohol consumption is a cause of cirrhosis of the liver, which predisposes some individuals to liver cancer.¹
- It is very important to note that at high levels of consumption, the effects of alcohol are likely to be confounded by other risky behaviours. For instance, heavy drinkers may have diets that are deficient in nutrients known to protect against cancer.¹
- Several municipal bylaws may effectively support lower alcohol consumption by reducing the opportunity for residents to drink. For example, some bylaws prohibit the consumption or sale of alcohol in parks, limit the sale of beverage tickets per person at events and limit the hours that alcohol is available, in both licensed premises and to take away.

What do the results mean?

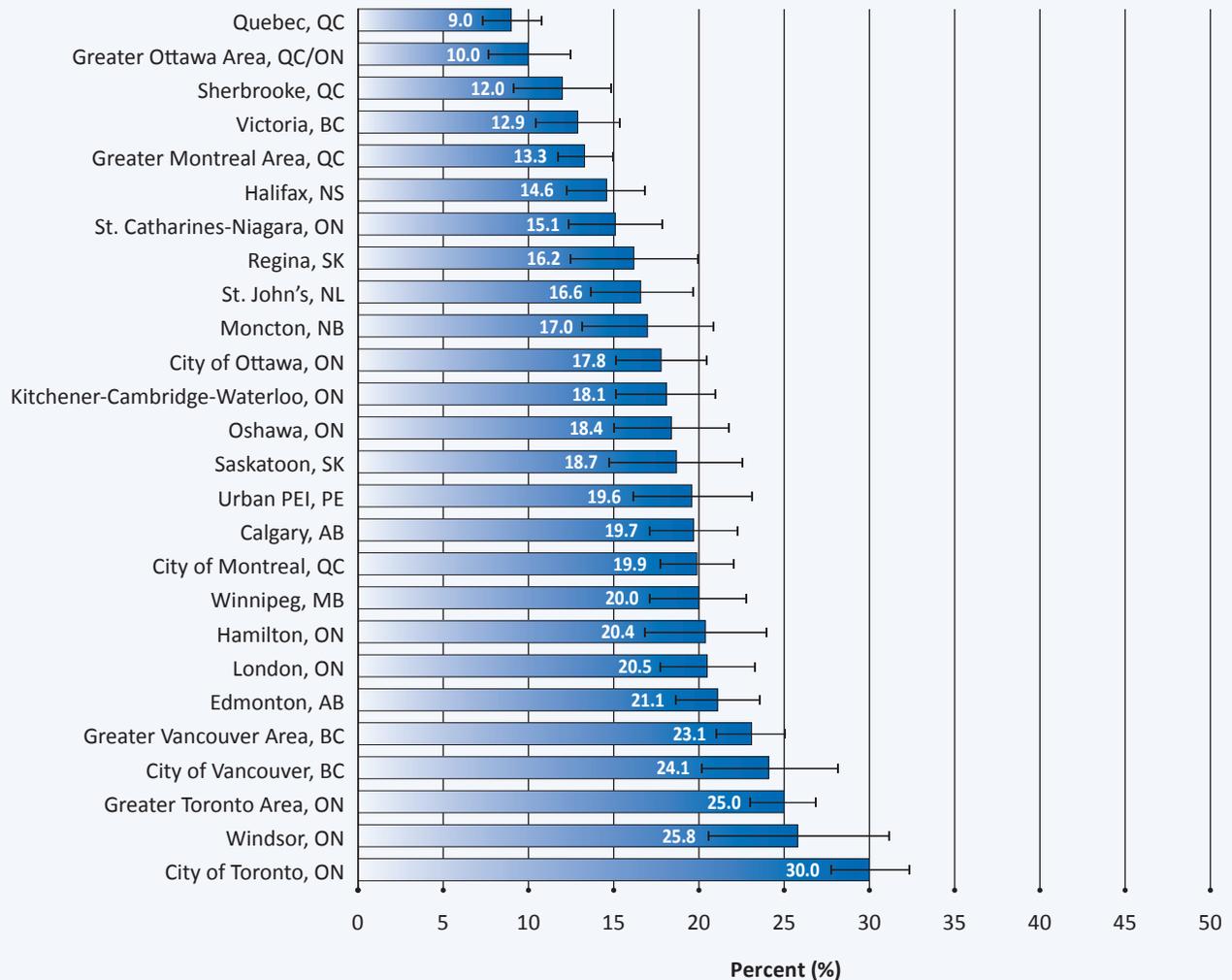
- The percentage of adults 18 or older who reported exceeding the WCRF guideline in Canada varied moderately among large metropolitan areas, ranging from 7.3% in urban PEI to 11.4% in Oshawa, using the most recently available data that covers the entire population (2005) (Table 5B).
- More recent data (2010–11), available for only large metropolitan areas in provinces participating in that survey, also varied among large metropolitan areas, ranging from 4.3% in the Greater Montreal Area to 13.0% in St. Catharines-Niagara (Table 5B).
- The proportion of survey respondents who drank no alcohol in the previous 12 months, according to 2010–11 data, showed much larger variation, from a low of 9.0% in Quebec City to a high of 30.0% in the City of Toronto (Figure 5A). Rates also varied significantly among large metropolitan areas within provinces: in British Columbia, alcohol abstinence rates range from 12.9% in Victoria to 24.1% in the City of Vancouver; in Ontario rates range from 15.1% in St. Catharines-Niagara to 30.0% in the City of Toronto.
- The proportion of those who reported consuming no alcohol was higher in the core cities (Montreal, Ottawa, Toronto and Vancouver) than in the respective greater metropolitan areas. The greatest range was observed in the City of Ottawa compared with the Greater Ottawa Area (17.8% vs. 10.0%, respectively) (Figure 5A).
- When comparing rural areas (excluding the territories), smaller urban centres and large metropolitan areas, the differences were small or none for exceeding low-risk drinking guidelines and for abstaining from alcohol in the previous 12 months according to 2005 and 2010–11 data (Table 5B and Figure 5B).
- Provincially, the percentage of the population abstaining from alcohol ranged from 15.0% in Quebec to 22.4% in Ontario. For all of Canada, 19.8% reported no alcohol consumption in the previous 12 months (Figure 5C).

What are some steps being taken?

- Some Canadian municipalities have enacted bylaws restricting the hours of operation of licensed alcohol sales establishments to regulate alcohol consumption. Zoning bylaws have also been used to reduce the density of licensed alcohol establishments and retail outlets by requiring a minimum separation distance between alcohol sales sites.⁸
- Vancouver's Business Premises Regulation of Hours Bylaw 8022 regulates the allowable hours of operation for liquor establishments: 11:00 a.m. to 12:00 a.m. Sunday to Thursday; 11:00 a.m. to 1:00 a.m. Friday and Saturday.⁸
- Edmonton's Zoning Bylaw 12800 was amended in 2007 to require 500 metres between liquor-licensed establishments and alcohol retail outlets.⁸ Higher alcohol outlet density and greater availability of alcohol have been associated with increased alcohol consumption.²⁰
- Beyond bylaw regulation, some municipalities have adopted policies^e to keep alcohol off municipal sites and out of municipal events.⁸

e) For more information about alcohol control policies in provinces, territories and specific municipalities see <http://www.cancerview.ca/cv/portal/Home/PreventionAndScreening/PSProfessionals/PSPrevention/PreventionPoliciesDirectory>

FIGURE 5A

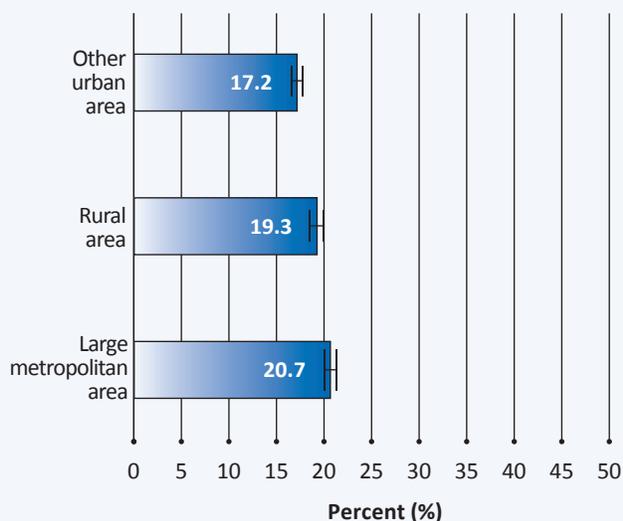
Percentage of adults (aged ≥ 18) reporting drinking no alcohol in previous 12 months, by large metropolitan area—CCHS 2010–11

95% confidence intervals are indicated on figure.

Data source: Statistics Canada, Canadian Community Health Survey

FIGURE 5B

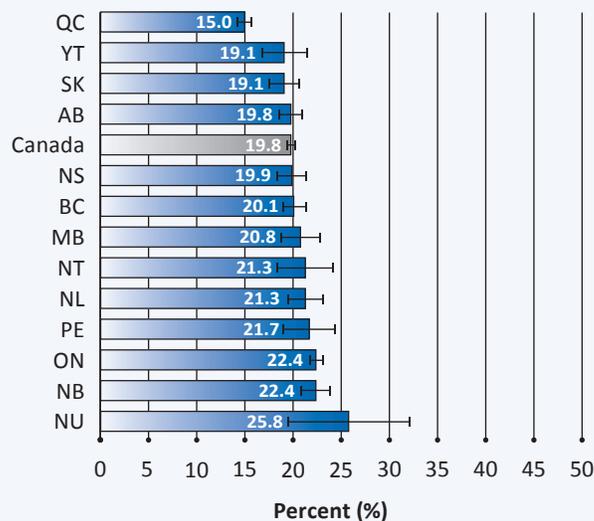
Percentage of adults (aged ≥ 18) reporting drinking no alcohol in previous 12 months, by large metropolitan area/other urban/rural—CCHS 2010–11



95% confidence intervals are indicated on figure.
Data source: Statistics Canada, Canadian Community Health Survey

FIGURE 5C

Percentage of adults (aged ≥ 18) reporting drinking no alcohol in previous 12 months, by province/territory—CCHS 2010–11



95% confidence intervals are indicated on figure.
Data source: Statistics Canada, Canadian Community Health Survey

Fruit and Vegetable Consumption

What are we measuring?

- *This indicator measures the percentage of the population aged 12 years or older who reported consuming fruit or vegetables five or more times, or in five or more servings, daily.*

Why are we measuring this?

- Lifestyle patterns – in particular, increasing fruit and vegetable consumption, increasing physical activity and maintaining a healthy body weight – are all preventive measures that can reduce chronic non-communicable

conditions and diseases, such as obesity, cardiovascular disease and certain cancers.²¹ Diet-related factors account for about 30% of cancers, placing such factors second only to tobacco use as a preventable risk.²¹

- Many dietary factors influence the risk of cancer, but self-reported intake of fruit and vegetables is the only one for which data are available in the form needed for this report. As well, fruit and vegetable consumption is a contributor to a healthy diet.²²
- The World Cancer Research Fund/American Institute for Cancer Research concluded that

there is evidence to support a link between high fruit and vegetable intake and lower risk of certain cancers of the mouth, pharynx, esophagus, lung, stomach and breast. High vegetable intake (and to a lesser extent high fruit intake) has also been shown to decrease the risk of colon, rectal and prostate cancers.^{1,23}

- The dietary guidelines and recommendations made by *Eating Well with Canada's Food Guide* include consuming five to ten servings of a variety of fruit and vegetables per day for the prevention of chronic diseases.²⁴
- The Integrated pan-Canadian Healthy Living Strategy goals include improving overall health outcomes and reducing health disparities. This integrated approach seeks a 20% increase in the number of Canadians who make healthy food choices by 2015.²⁴

What do the results mean?

- The percentage of the population aged 12 years or older who reported consuming at least five fruit and vegetables daily in large metropolitan areas ranged from a high of 54.3% in Sherbrooke to a low of 31.3% in Oshawa (Table 5B). In 2010–11, only 42% of respondents in Canada overall reported consuming five or more fruit and vegetables daily, compared with almost 46% in 2009.²⁵
- Residents of Quebec's large metropolitan areas (Montreal, Quebec and Sherbrooke) were more likely than people in the rest of the country's large metropolitan areas to report greater fruit and vegetable consumption, ranging from 48.4% in the City of Montreal to 54.3% in Sherbrooke (Table 5B). In contrast, rates varied widely among large metropolitan areas in Ontario: Oshawa had the lowest rate in Ontario at 31.3%, while the Greater Toronto

Area had among the highest rates at 42.6% (Ontario average, 40.6%). The rates were not significantly different between the core cities of Montreal, Toronto and Vancouver and their respective metropolitan areas, whereas the Greater Ottawa Area's rate was approximately eleven percentage points higher than the City of Ottawa's (Table 5B).

- There was little variation in fruit and vegetable consumption among those living in smaller urban centres, rural areas (excluding the territories) and the largest metropolitan areas in Canada (40.4% in smaller urban centres, 41.2% in rural areas and 42.4% in metropolitan areas; Table 5B). These results suggest that barriers to accessing fruit and vegetables in rural areas relative to urban areas may not be large enough to affect consumption (although the consumption rate has been shown to be lower in remote and isolated communities).²⁵
- It is important to note that dietary assessments through self-report can often differ from more rigorous consumption measures. Self-reports are difficult to assess and thus more prone to error than are other epidemiological metrics.^{26,27}

What are some steps being taken?

- Municipalities can positively influence fruit and vegetable consumption with bylaws^f aimed at developing the built environment as it relates to food. Some municipal zoning bylaws in Canada include parameters for community gardens and rules governing farmers' markets. Where bylaws have not been adopted, municipalities have, in some instances, developed policies to encourage community gardens and farmers' markets.

f) For more information about nutrition policies in provinces, territories and specific municipalities see <http://www.cancerview.ca/cv/portal/Home/PreventionAndScreening/PSProfessionals/PSPrevention/PreventionPoliciesDirectory>

- Toronto's Bylaw 1312-2008 was enacted to enable street food vendors to provide healthier food options, including fruit and vegetables, subject to approval by the Medical Officer of Health. As well, Toronto's Public Health, Municipal Licensing & Standards and Transportation Services offices plan to implement mobile sales of fresh fruit and vegetables in underserved areas of the city.⁸
- In Ontario, Bill 93 requires school boards to post two Health Canada documents, *Eating Well with Canada's Food Guide* and *Canada's Guidelines for Healthy Eating*, in school cafeterias.⁸
- Toronto Public Health, in conjunction with City Planning, Tower Renewal Office, and community partners worked on ways to amend zoning to support healthy changes in Toronto apartment neighbourhoods. This joint work created new Residential Apartment Commercial zoning that will allow for mixed uses and promote healthy eating opportunities in these neighbourhoods.²⁸

Physical Activity

What are we measuring?

- ***This indicator measures the percentage of adults aged 18 or older reporting being very active^a during their leisure time (2010–11).***
- ***A second indicator measures the percentage of the population aged 15–75 reporting being active^b during their leisure, work and transportation time (2005).***

Why are we measuring this?

- The 2007 Report of the World Cancer Research Fund concluded that physical activity protects against several cancers, including colon and endometrial cancer. There is also mixed evidence on the protective nature of physical activity against cancers of the lung and pancreas.²⁹
- The Pan-Canadian Healthy Living Strategy set a target of increasing the proportion of Canadians who participate in 30 minutes of daily moderate to vigorous activity by 20% between 2005 and 2015.²⁴

- Increased physical activity can be promoted through municipal programs and bylaws. A few examples of such supports are enhancing the built environment, increasing access to and use of recreation facilities (community centres, athletic fields, walking/running paths, etc.) and increasing awareness and use of active transportation (e.g., through bicycle lanes and paths).
- Note that there are data limitations associated with using the physical activity indicator from the CCHS as a measure of cancer risk. Although physical activity level is not directly associated with lower cancer risk, it is a useful proxy for measuring risk.

What do the results mean?

- Overall, only 12.0% of Canadians surveyed reported levels of leisure time activity that classify them as "very active." Of Canadians surveyed, 20.8% reported being "active" during their leisure, work and transportation time combined (Table 5B).

g) "Very active" is defined as $EE \geq 4.5$ KKD; please refer to the Technical Appendix for detailed calculation www.cancerview.ca/systemperformancereport.

h) "Active" is defined as $3.0 \text{ KKD} \leq EE < 4.5 \text{ KKD}$; please refer to the Technical Appendix for detailed calculation www.cancerview.ca/systemperformancereport.

- Based on 2010–11 CCHS survey data, the percentage of the population 18 or older who reported being very active during their leisure time varied among large metropolitan areas, from a low of 7.8% in Quebec City to a high of 20.9% in Victoria (Table 5B). Those residing in the core cities of Ottawa and Vancouver reported slightly higher levels of physical activity during leisure time than those in the greater Ottawa and Vancouver metropolitan areas.
- Leisure time activity rates in large metropolitan areas varied substantially in Ontario (there was a two-fold increase between the lowest and highest metropolitan areas) and British Columbia (a 1.8-fold increase between the lowest and highest areas) (Table 5B).
- In municipal areas, combined leisure, work and transportation physical activity rates were higher than leisure activity rates alone, ranging from a low of 14.8% in the greater Montreal and Toronto areas to a high of 26.5% in Saskatoon in 2005 (Table 5B). Compared with people in the greater metropolitan areas, those living in the core cities of Montreal, Ottawa and Toronto reported higher combined activity levels; people in the City of Vancouver reported lower levels of total physical activity.
- Physical activity rates in large metropolitan areas within a province did not differ substantially, except in Ontario, where the rate in the Greater Toronto Area was approximately nine percentage points lower than that of St. Catharines-Niagara, and in British Columbia, where the rate in the City of Vancouver was approximately nine percentage points lower than that of Victoria (Table 5B).
- Residents of large metropolitan areas and smaller urban centres were as likely to report being very active as rural residents (excluding

the territories) (11.7%, 12.9% and 12.3%, respectively). Conversely, a higher proportion of those living in rural areas (excluding the territories) reported being active (26.4%) during their leisure, work and transportation time than those living in smaller urban centres (23.1%) and large metropolitan areas (19.1%) (Table 5B).

What are some steps being taken?

- Physical activity can be promoted through bylawsⁱ that improve the built environment, improve access to physical activity opportunities and promote active transportation.
- Montreal's Bylaw 05-014 allocated municipal funding to improve cycling path access, routes and parking racks in the downtown area.⁸
- St. John's Bylaw 1469 recognizes the contribution to the community made by non-profit public recreational facilities and exempts those organizations, which have limited financial resources, from property taxes.⁸
- Saskatoon's *in motion* is an example of a community-wide multi-partnered physical activity promotion program. It aims to get all Saskatoon residents to integrate regular physical activity into their daily lives. Because of the success of this program (as measured by increased physical activity levels in the Saskatoon region) it has been expanded province-wide to Saskatchewan *in motion*.³⁰ Since the inauguration of *in motion* in Saskatchewan, other provinces, such as Manitoba³¹ and New Brunswick³² have launched *in motion* strategies to increase physical activity for improved health.
- Many Canadian cities also have walking and cycling strategies or plans, often developed by transportation service departments with

i) For more information about physical activity policies in provinces, territories and specific municipalities see <http://www.cancerview.ca/cv/portal/Home/PreventionAndScreening/PSProfessionals/PSPrevention/PreventionPoliciesDirectory>

support from public health, that help set the policies and spending for improving walkability and cycling access in the municipality. For example, Toronto is implementing the Toronto Walking Strategy³³ and the Toronto Bike Plan.³⁴ Similarly, Edmonton has a Walkability Strategy Project³⁵ and a Bicycle Transportation Plan.³⁶

- Healthy Canada by design funded by CPAC's Coalition Linking Action and Science for Prevention (CLASP) initiative, is a joint project of the Heart and Stroke Foundation and the Urban Public Health Network. This initiative focuses on efforts to create healthy built environments. Partners are also translating the latest research in this field into state-of-the-art tools to support policy-makers, public health officials, planners and developers in facilitating the creation of more health-promoting communities across Canada.³⁷

Adult Overweight and Obesity

What are we measuring?

- ***This indicator measures the percentage of adults aged 18 or older reporting height and weight that result in a body mass index (BMI) of 25 kg/m² or greater, which is the overweight threshold, or 30 kg/m² or greater (the obesity threshold).***

Why are we measuring this?

- Worldwide, approximately 1.4 billion adults 20 or older are overweight; of these, more than 200 million men and about 300 million women are obese.³⁸
- In Canada, obesity rates have risen over the past two decades.^{39,40} From 2000 through 2011, obesity rates increased by approximately 18%; however, the rate of increase slowed between 2008 and 2011.⁴¹
- Overweight and obesity (as measured by BMI) are major risk factors for several chronic diseases, such as cardiovascular disease, diabetes, musculoskeletal disorders and some forms of cancer, including colon, rectal, breast (in post-menopausal women), endometrial, esophageal, pancreatic and kidney; risk

increases with higher BMIs.¹ One-third of cancers can be prevented through a combination of healthy food and nutrition, regular physical activity and avoidance of obesity.¹

- The Canadian federal, provincial and territorial governments have endorsed the Integrated Pan-Canadian Healthy Living Strategy, which aims to achieve a 20% increase in the proportion of Canadians with "normal" body weight (BMI between 18.5 kg²/m and 24.9 kg/m²) by 2015.⁴² Municipalities have played a key role in implementing this vision by providing healthy built environments and by enacting bylaws that discourage behaviours that may lead to obesity.

What do the results mean?

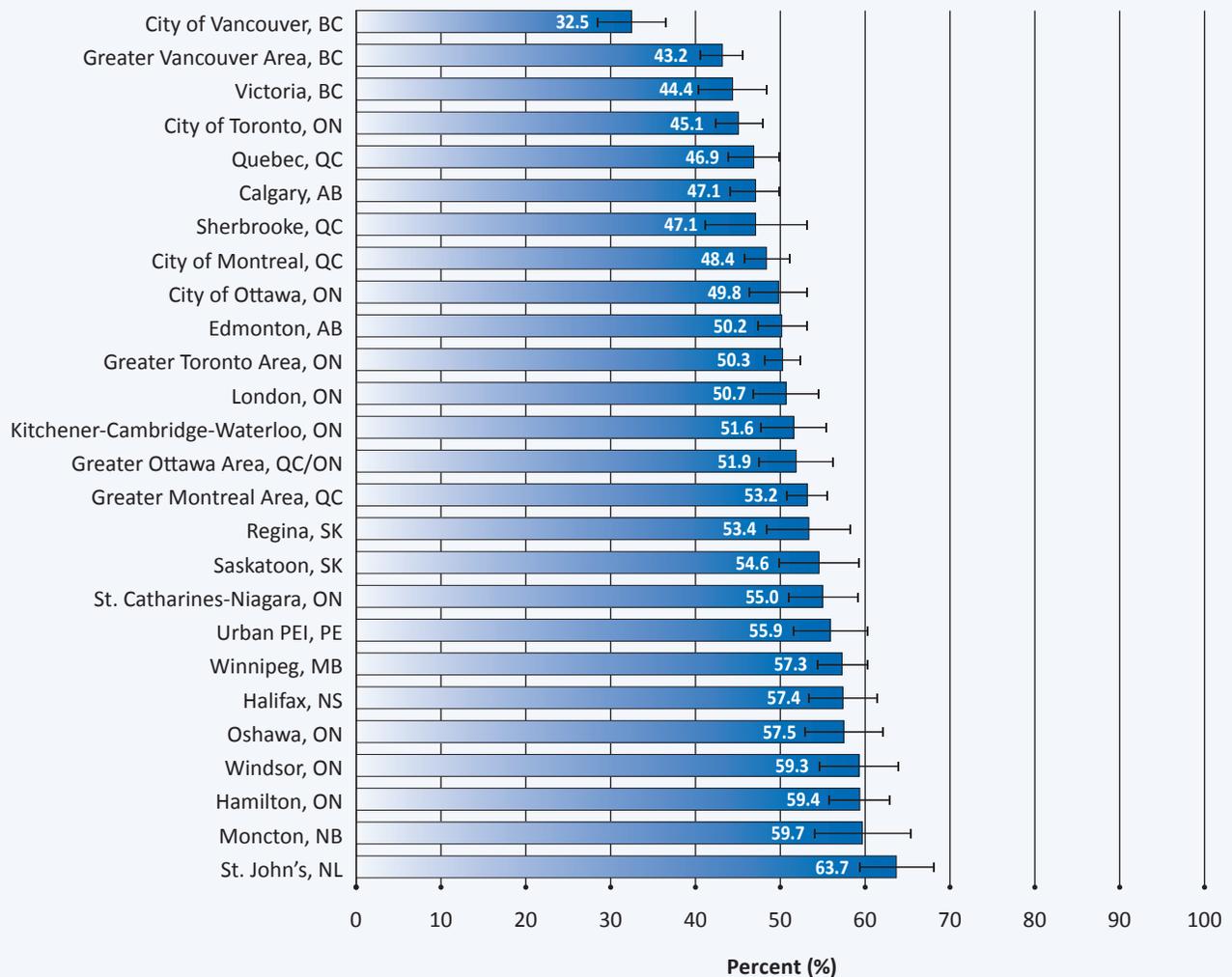
- Over half of Canadians surveyed reported heights and weights that placed them in the overweight or obese BMI categories (34.0% overweight and 18.2% obese), based on self-reported data from the 2010 and 2011 CCHS (Figure 6C). For a detailed analysis of obesity rates only, please see Table 5B.

- The proportion of the Canadian population 18 or older that reported being overweight or obese varied substantially among large metropolitan areas, from a low of 32.5% in the City of Vancouver to a high of 63.7% in St. John's (Figure 6A). The City of Vancouver had a significantly lower rate of overweight and obesity than the Province of British Columbia as a whole (Figures 6A and 6C).
- Compared with the large metropolitan area average (49.5%), people living in Atlantic Canada (St. John's, Halifax, Moncton and urban PEI) were more likely to report being overweight or obese, with rates ranging from 55.9% in urban PEI to 63.7% in St. John's (Figure 6A). The rates did not vary significantly among large metropolitan areas in the same province, except in Ontario, where rates ranged from a low of 45% to a high of 59%.
- Rates did not vary significantly between the core cities of Montreal, Ottawa and Toronto and their respective greater metropolitan areas. In contrast, the rate in the City of Vancouver was almost eleven percentage points lower than the Greater Vancouver Area's rate (Figure 6A).
- Overweight and obesity rates are higher in rural areas (excluding the territories) (59.0%) and in smaller urban centres (55.8%) than they are in Canada's largest metropolitan areas (49.5%) (Figure 6B).
- It is important to note that self-reported height and weight estimates are generally higher and lower, respectively, than heights and weights directly measured for studies, resulting in underestimates of true overweight and obesity rates.^{43,44} This has been shown by, for example, the Canadian Health Measures Survey (CHMS), compared with CCHS data. However, the CHMS data are not sufficient to generate estimates at the city level.

What are some steps being taken?

- Beyond policies addressing fruit and vegetable consumption and physical activity, municipalities can address obesity through additional avenues, such as limiting the sale of unhealthy foods and beverages in vending machines on municipal property (including schools), requiring nutritional information to be displayed in restaurants, eliminating trans fats from foods and emphasizing health in decision-making.
- Toronto's Municipal Code Chapter 738, Street Food, Healthier (2008) amended the Municipal Code to include a new chapter encouraging healthier street food by emphasizing fruit and vegetables, whole-grain choices, lower-fat milk, leaner meats and meat alternatives, foods lower in saturated and trans fats, limited use of butter and margarine, healthy preparation and lower-fat cooking methods, and limited amounts of added fat, sugar and salt.⁸
- The Regional Municipality of Peel's Official Plan Amendments 24 and 25, introduced in 2010, and Peel Region Bylaws 34-2010 and 22-2010 amended the municipality's Official Plan to include a Health Development Index in community design and development projects (e.g., requiring health impact studies as part of development applications). These provisions help the region design communities that promote healthier behaviours among the people who live there.⁸

FIGURE 6A

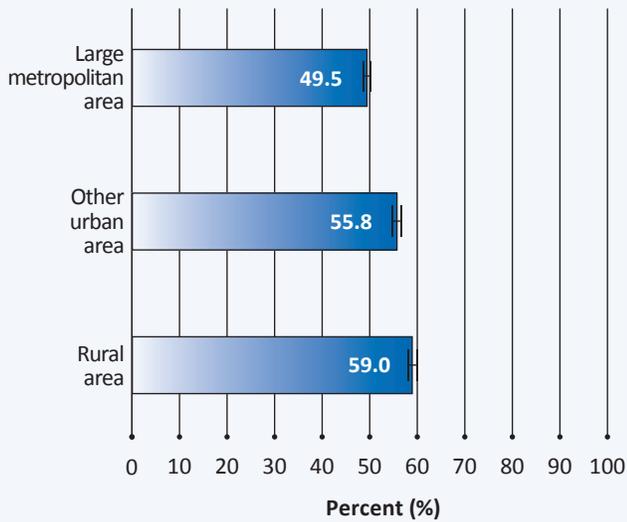
**Percentage of adults (aged ≥ 18) classified as overweight or obese, by large metropolitan area—
CCHS 2010–11**

95% confidence intervals are indicated on figure.

Data source: Statistics Canada, Canadian Community Health Survey

FIGURE 6B

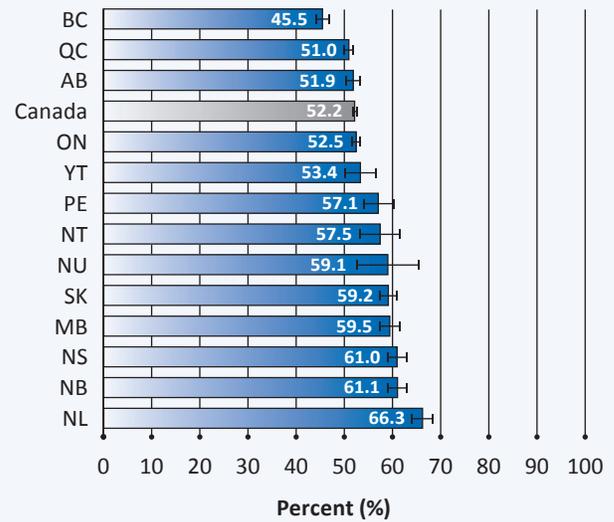
Percentage of adults (aged ≥ 18) classified as overweight or obese, by large metropolitan area/other urban/rural—CCHS 2010–11



95% confidence intervals are indicated on figure.
 Data source: Statistics Canada, Canadian Community Health Survey

FIGURE 6C

Percentage of adults (aged ≥ 18) classified as overweight or obese, by province/territory—CCHS 2010–11



95% confidence intervals are indicated on figure.
 Data source: Statistics Canada, Canadian Community Health Survey

Screening

Colorectal Cancer Screening 37

Breast Cancer Screening 40

Cervical Cancer Screening 41



Screening

Regular screening for colorectal, breast and cervical cancer has been shown to reduce both mortality from and incidence of cervical and colorectal cancer, and mortality from breast cancer. For example, there is strong evidence from randomized controlled trials that screening for colorectal cancer using the fecal occult blood test (FOBT) reduces mortality and incidence of the disease.⁴⁵⁻⁴⁸ The success of screening programs in achieving these outcomes depends on their ability to reach a large proportion of the target age group. This section presents self-reported screening indicators for colorectal, breast and cervical cancer, the three cancers for which there is consensus for population-based screening in Canada.

While screening programs are managed and delivered provincially and territorially (where applicable), examining the uptake of screening at the level of large metropolitan areas versus other urban and rural communities can help to identify gaps and increase program participation. Previous System Performance reports have shown a relationship between socio-economic status and cancer screening program participation; a relationship has also been shown between immigrant status and breast cancer screening participation.^{25, 49} Given the variations in the prevalence of low-income communities and new-immigrant communities in Canadian metropolitan areas, comparing screening rates at that level could help inform focused efforts to improve awareness of and participation in these programs.

Results highlights

In Screening, the metropolitan area patterns generally follow the provincial patterns. As well, large differences in cervical screening participation were observed within provinces, particularly in Ontario and Alberta.

Colorectal Cancer Screening

What are we measuring?

- *This indicator measures the percentage of Canadians aged 50–74 reporting up-to-date^j colorectal cancer screening (excluding screening for symptomatic reasons).*

Why are we measuring this?

- In 2012, an estimated 13,000 men and 10,300 women in Canada were diagnosed with colorectal cancer.³ It is the second leading cause of cancer death in Canada behind lung cancer and was responsible for an estimated 9,200 deaths in 2012.³
- Randomized controlled trials investigating annual and biennial screening with the fecal occult blood test (FOBT) have shown that screening reduces colorectal cancer mortality.⁴⁵⁻⁴⁸

What do the results mean?

- According to 2008 data, there are variations among large metropolitan areas in the percentage of Canadians reporting having an FOBT in the past two years and/or endoscopy (colonoscopy or sigmoidoscopy) in the past five years. Rates were lowest in the large metropolitan areas in Quebec, including Sherbrooke (13.5%) and Quebec City (13.8%), and highest in the City of Ottawa (53.3%) (Figure 7A).

- Self-reported screening rates were similar in large metropolitan areas (33.2%), smaller urban areas (32.3%) and rural areas (excluding the territories) (29.0%) (Figure 7B).
- Screening rates are, to some extent, related to the geographic reach of the screening programs in each province. Ontario, Manitoba and Alberta were among the first provinces to launch colorectal cancer screening programs (in 2007) – those provinces' programs make screening available to 100% of their populations.⁵⁰ Manitoba and Ontario have the highest proportion of people up to date on testing for colorectal cancer (46.6% and 44.7%, respectively) (Figure 7C).
- When FOBT and endoscopy are examined separately across large metropolitan areas, the data show much more variability. The percentage of Canadians receiving an endoscopy in the past five years ranged from 10.0% in the Greater Montreal Area to 38.3% in Kitchener-Cambridge-Waterloo and 43.7% in Windsor. FOBT in the past two years ranged from 3.8% in Quebec City to 41.5% in Winnipeg (Table 5C). FOBT rates varied most between large metropolitan areas in Saskatchewan, with a 17 percentage point difference between metropolitan areas with the lowest (11.8%) and highest (28.7%) rates, followed by Ontario (fourteen percentage points between the low of 25.6% and the high of 40.0%) and British Columbia (thirteen percentage points between the low of 15.9% and the high of 28.7%).

j) Up-to-date colorectal screening includes an FOBT in the past 2 years and/or colonoscopy or sigmoidoscopy in the past 5 years. The term FOBT includes both guaiac tests (gFOBT) and fecal immunochemical tests (FIT).

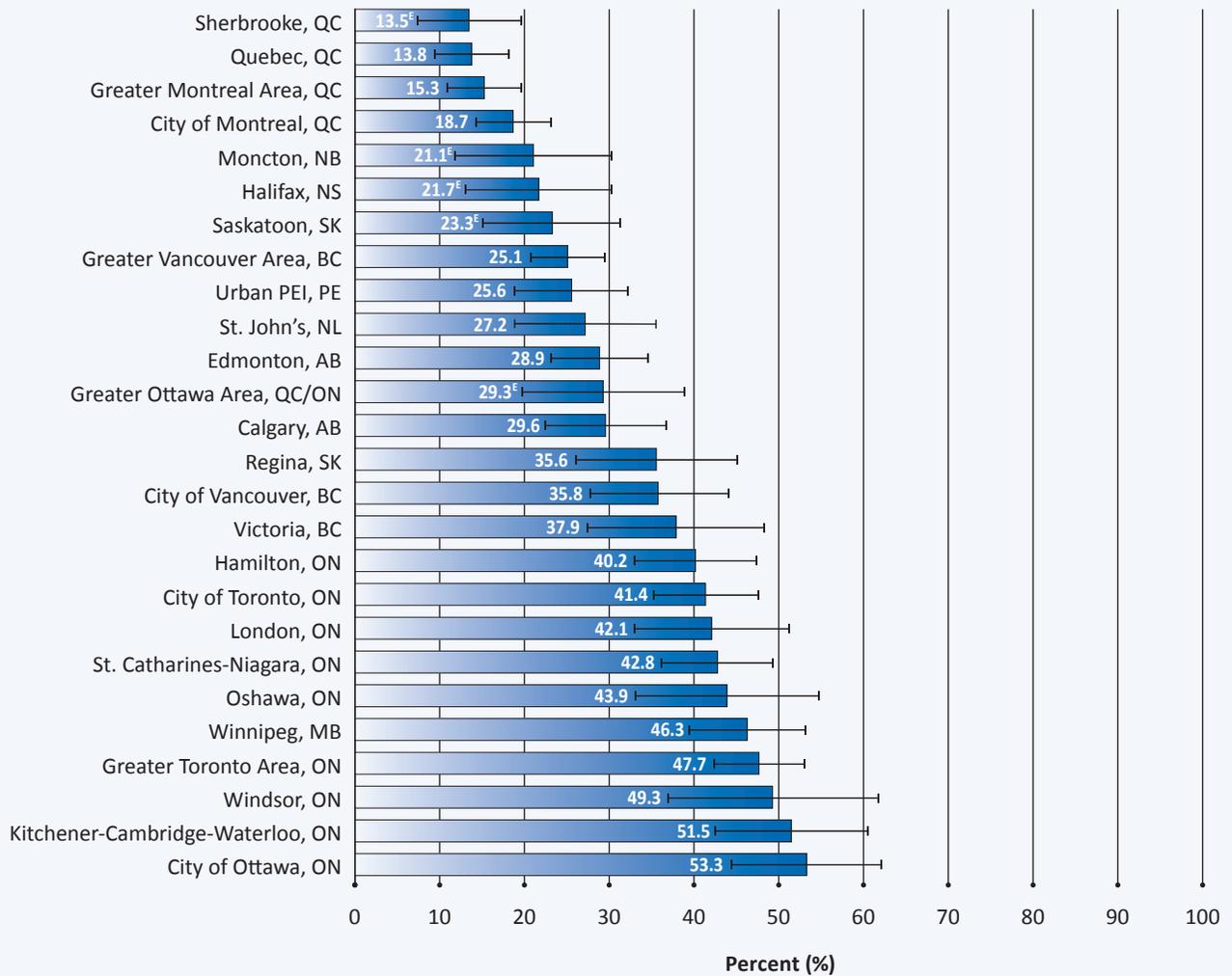
- Similarly, endoscopy rates varied substantially among metropolitan areas in Ontario, with a 17 percentage point difference between metropolitan areas with the lowest (27.0%) and highest rates (43.7%) (Table 5C).
- *It is important to be cautious when interpreting some of the results for this indicator because some of the jurisdictions reported low numbers, resulting in high variations in the estimates. This is indicated with an "E" next to the results.*

What are some steps being taken?

- National screening recommendations for colorectal cancer have been in place in Canada for the past 10 years^{51, 52} and all provinces have announced or are running organized colorectal screening programs or pilot programs using FOBT as the screening test for average risk individuals. The use of colonoscopy for screening average risk individuals is not recommended by the programs and inappropriate colonoscopy screening is an ongoing issue under discussion because it affects capacity for the follow-up of abnormal FOBT results.
- A number of initiatives at the city level help raise awareness of cancer screening and the importance of early detection.⁵³ For example, Toronto Public Health uses a multi-strategy approach to increase awareness of colorectal, breast and cervical screening among under-screened adults (i.e., First Nations, Inuit and Métis; low income; and new immigrant populations) through public education, community and regional partnerships, social marketing and community capacity building.
- Cancer Care Ontario has introduced two new Screen for Life buses for colorectal, breast and cervical cancer screening. The buses, also referred to as coaches, will travel to different communities in northern Ontario and the Hamilton area to bring cancer screening services closer to those who face barriers to accessing these services.⁵⁴
- The Stanley Health Centre Primary Care Practice in New Brunswick makes phone calls to all unscreened or under-screened patients aged 50 or older to notify them that they are due for colorectal, breast or cervical cancer screening.⁵³

FIGURE 7A

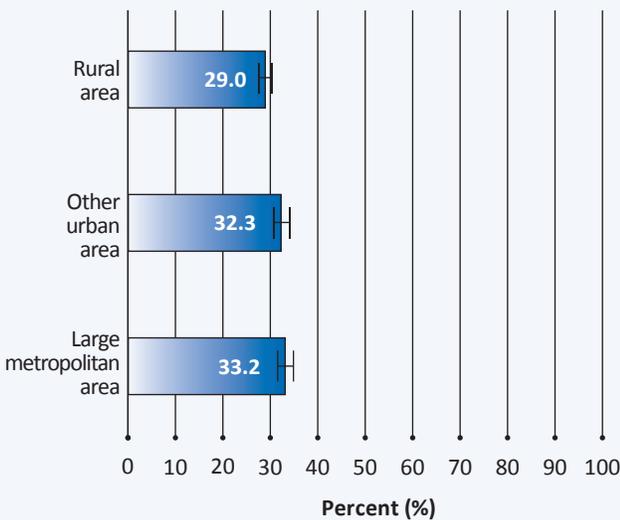
Percentage of adults (aged 50–74) reporting up-to-date colorectal cancer screening, by large metropolitan area—CCHS 2008



[‡] Interpret with caution due to a large amount of variability in the estimate.
95% confidence intervals are indicated on figure.
Data source: Statistics Canada, Canadian Community Health Survey

FIGURE 7B

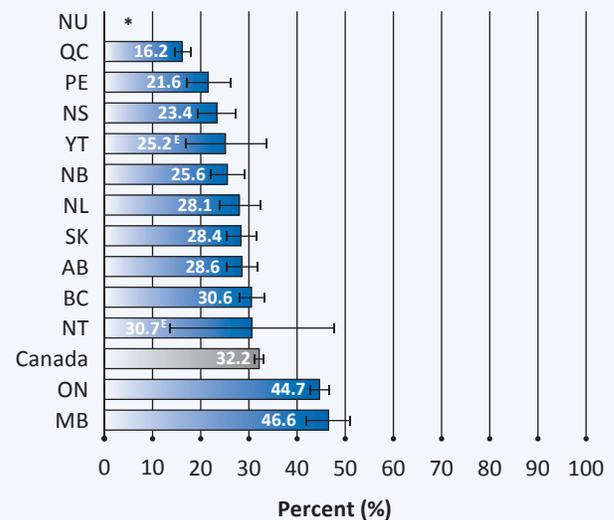
Percentage of adults (aged 50–74) reporting up-to-date colorectal cancer screening, by large metropolitan area/other urban/rural—CCHS 2008



95% confidence intervals are indicated on figure.
Data source: Statistics Canada, Canadian Community Health Survey

FIGURE 7C

Percentage of adults (aged 50–74) reporting up-to-date colorectal cancer screening, by province/territory—CCHS 2008



* Suppressed due to statistical unreliability caused by small numbers.
^E Interpret with caution due to a large amount of variability in the estimate.
95% confidence intervals are indicated on figure.
Data source: Statistics Canada, Canadian Community Health Survey

Breast Cancer Screening

What are we measuring?

- *This indicator measures the percentage of women aged 50–69 who reported having a screening mammogram in the past two years (excluding screening for symptomatic reasons).*

Why are we measuring this?

- Breast cancer is the most common cancer in Canadian women, accounting for over one-quarter (26%) of new cancer cases in women and 14% of cancer deaths in 2012.³

- Clinical trials have shown a significant decline in mortality from breast cancer among women who had been randomized to a screening intervention, compared with women receiving usual care.^{55–60}
- Over the past two decades, breast cancer mortality rates have been declining in Canada.⁴⁹ This decline is thought to be largely the result of the adoption of widespread mammography screening,⁶¹ as well as increased use of effective adjuvant therapies.⁶²

What do the results mean?

- The proportion of women reporting having a mammogram in the past two years, according to 2008 data, varied among large metropolitan areas across Canada, ranging from 57.5% in urban PEI to 85.3% in Sherbrooke (Table 5C).
- Screening rates varied among large metropolitan areas within the provinces of British Columbia, Alberta, Saskatchewan, Ontario and Quebec. The screening rates in Ontario varied significantly, from 63.4% in Kitchener-Cambridge-Waterloo to 83.7% in Oshawa. As well, rates in the City of Ottawa were approximately ten percentage points higher than in the Greater Ottawa Area (Table 5C). It is important to note that the majority of the Greater Ottawa Area is in the Province of Quebec.
- Screening rates were similar for those residing in large metropolitan areas (72.9%), smaller urban areas (72.6%) and rural areas (excluding the territories) (70.5%) (Table 5C).
- Provincially, the percentage of women reporting having a mammogram in the past two years ranged from 57.6% in Prince

Edward Island to 74.7% in New Brunswick. For all of Canada, the rate was 72.4% (Table 5C).

What are some steps being taken?

- Organized breast cancer screening programs are offered in all provinces and territories in Canada except Nunavut. Screening programs are organized at the provincial or territorial level.
- A number of community and health agencies across the country have developed effective practices to increase screening, particularly among under-screened or never-screened women.⁵³ For example, in large urban communities in Ontario, a two-year pilot project was implemented by Peel Public Health to increase breast cancer screening among South Asian immigrant women aged 50 or older. Another example is the Manitoba Breast Screening Program, which provides reserved appointments at certain cancer centres for women who have never been screened or who are overdue for a mammogram. The intent is to improve screening rates among under-screened women.

Cervical Cancer Screening

What are we measuring?

- *This indicator measures the percentage of women aged 18–69 who reported having a Pap smear in the past three years. While there have been recent changes to cervical cancer screening guidelines, with routine screening now recommended every three years starting at age 25,⁶³ the start age of 18 years was chosen because it reflects the guidelines at the time the survey was administered.*

Why are we measuring this?

- In Canada, an estimated 1,350 women will be diagnosed with cervical cancer in 2013 and 390 will die from the disease.³
- Cervical cancer incidence and mortality have declined in Canada over the past three decades.^{64, 65} Screening using cervical cytology (Pap smear) has been the primary reason for this decline in Canada and in other developed countries.^{66, 67} Human papillomavirus (HPV) vaccine programs present opportunities to further reduce disease rates.

- Cervical cancer screening can lead to early detection of pre-cancerous lesions before they develop into invasive cervical cancer, thereby reducing both cervical cancer incidence and mortality.^{68, 69}
- Not being screened for cervical cancer at the recommended intervals is a risk factor for developing cervical cancer.^{69, 70}
- Similar rates were reported by residents living in large metropolitan areas (77.8%), smaller urban areas (80.4%) and rural areas (excluding the territories) (77.3%) (Table 5C).
- For all of Canada, 78.2% of women reported having a Pap smear in the past three years. Provincially, screening rates were lowest in Quebec (73.3%), while a number of provinces showed cervical screening rates above 80%, including British Columbia (80.1%), Alberta (80.2%), Saskatchewan (81.6%), Manitoba (83.0%), New Brunswick (80.9%), Newfoundland and Labrador (81.8%), Nova Scotia (82.0%) and Prince Edward Island (81.4%) (Table 5C).

What do the results mean?

- Data from large metropolitan areas across the country show some variation in the percentage of women aged 18–69 who reported having a Pap smear in the past three years, ranging from 66.1% in the City of Montreal to 86.8% in Victoria (Table 5C).
- The percentage of women reporting having a Pap smear in the past three years varies among large metropolitan areas within provinces. For example, in Quebec, the rate was approximately fourteen percentage points lower in the City of Montreal (at 66.1%) than in the Greater Montreal Area (80.6%) (Table 5C). Rates in the core cities of Vancouver, Ottawa and Toronto did not vary significantly from the rates in their respective greater metropolitan areas (Table 5C).

What are some steps being taken?

- Currently, nine provinces – British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Nova Scotia, Prince Edward Island, Newfoundland and Labrador and New Brunswick – have established organized, or partially organized, cervical cancer screening programs.
- It is anticipated that future implementation of HPV testing could improve participation by allowing less frequent screening.

Synthesis and Conclusions

While previous System Performance reports focused primarily on comparing cancer control indicator results at the provincial and territorial level, this spotlight report sheds light on the state of risk factors and related prevention policies and on organized cancer screening participation in Canada's largest urban communities. The rationale for this level of analysis is that many of the population health policies and related interventions relevant to controlling cancer risk are enacted at the municipal level. In fact, municipalities in several cases have forged ahead of their provincial and territorial government counterparts in introducing legislation aimed at limiting known risk behaviours and promoting healthy behaviours.

A current example is limitations on the use of artificial tanning beds by people under 18. In Ontario, several municipal councils have introduced bylaws banning this use, while the provincial government has yet to introduce such legislation. Similar examples exist in other provinces for second-hand smoke exposure in vehicles.

By presenting indicators of prevention and screening by metropolitan areas across Canada, the impact of existing population health promotion and disease prevention and control initiatives can be assessed and the opportunities for increased efforts in specific communities can be identified.

Tables 4A and 4C rank the metropolitan areas for each of the indicators in prevention and screening, respectively. Colour coding identifies metropolitan areas by tertile rank: top third (green), middle third (blue) and bottom third

(red). This allows for easier visual identification of patterns of relative standing. For reference, Tables 4B and 4D provide the rankings by province and territory for prevention and screening, respectively. Tables 5A to 5C, later in this section, provide the results and associated confidence intervals for each indicator for all metropolitan areas and other geographic units examined in the report, again for both prevention and screening.

The results and rankings presented in those tables can be used to answer the questions presented in the Introduction of this report:

- **Which urban communities in Canada have the lowest and highest prevalence of risk factors for cancer?**
- The report identified substantial differences in the prevalence of some risk factors between different metropolitan areas across Canada. There is a general pattern

of consistent performance across indicators for most metropolitan areas (i.e., if they do well in one, they tend to do well in most, and vice versa). If we group the prevention indicators into three categories – tobacco use, alcohol consumption, and physical health and nutrition – we find a number of cities scoring in the top third in at least two of the three categories: Victoria, Vancouver (city and greater area), Calgary and Quebec City. At the other end of the scale, metropolitan areas that score in the bottom third in at least two categories are Windsor, the Greater Ottawa Area and Moncton.

- When a similar analysis is done for the screening indicators, cities that rank in the top third for all three programs (FOBT and/or endoscopy, mammogram and PAP test) are Oshawa and the City of Ottawa, while only the City of Montreal ranks in the bottom third for all three.
 - While many provinces had cities at both ends of the spectrum, the general trend was that urban communities in the western parts of the country had better cancer risk profiles than did communities in the eastern parts (see Table 4A for indicator rankings by metropolitan area). Vancouver and Victoria, for example, tend to rank in the top third of Canadian cities for the majority of indicators, while St. John's and Moncton tend to rank in the bottom half for many indicators.
 - There are several exceptions to this west-to-east trend, however. For reducing second-hand smoke exposure in public places, Moncton and St. John's rank in the top five, while Victoria and Vancouver rank in the bottom half. Both Halifax and urban PEI rank high in physical activity, while Toronto and its greater metropolitan area rank in the bottom third.
- **Are there differences in risk factor prevalence among cities in the same province?**
 - There are several examples of cities in the same province ranking very differently on several risk factors. In Alberta, Calgary and Edmonton are often at opposite ends of the risk factor spectrum: while Calgary ranks in the top third for smoking control, fruit and vegetable consumption, leisure activity and obesity control, Edmonton ranks in the bottom third or middle third for those indicators. Ontario also has cities at both ends of the rankings, with Toronto having among the lowest rates of smoking, alcohol consumption and obesity, while Kitchener, Hamilton and Oshawa generally ranked lower on these measures.
 - A good example of an indicator for which cities in the same province can rank very differently, possibly as a result of differences in municipal planning and bylaws, is second-hand smoke exposure: in Saskatchewan, Saskatoon ranks high (first place for controlling exposure in public places), compared with Regina, which ranks in the middle third. In Quebec, Quebec City ranks in the top 10 (controlling public and vehicle smoke exposure), while Montreal ranks near the bottom third. In Ontario, the City of Ottawa is 8th for exposure in vehicles, while the Greater Ottawa Area is 26th (It is important to note that the majority of the Greater Ottawa Area is in the Province of Quebec).

- **What is the relationship between municipal bylaws and other government policies relevant to cancer risk and the prevalence of risk factors in those communities?**

- Many factors contribute to variations in prevention and screening indicator results. These include socio-demographic factors (including income, education level and age profile) as well as cultural factors (which may relate to other factors such as level of immigration, economic base and community history). But population health policies and activities can and do play a role as well. In Ontario for example, Hamilton has in place bylaws aimed at limiting exposure to second-hand smoke that go beyond the provincial legislation, but Oshawa does not. Although both metropolitan areas have similar socio-economic profiles, Hamilton is in the top 10 for lowest exposure and Oshawa ranks near the bottom. A similar situation applies with Saskatoon, which has restrictive bylaws, and Regina, which has none beyond the provincial legislation; Saskatoon ranks first in limiting second-hand smoke exposure in public places while Regina ranks 16th (and also ranks lower than Saskatoon in exposure at home and in vehicles).

- **Are there differences in access to cancer screening among cities in the same province?**

- While screening programs are provincially managed and co-ordinated, differences in roll-out, particularly for the more recently launched colorectal cancer screening programs, may contribute to variations in screening rates within provinces. Socio-demographic factors may also contribute to these differences.
- Generally, the metropolitan area patterns in screening participation drive the provincial

patterns. For example, Ontario and Manitoba have the highest proportion of people up to date on colorectal cancer testing and the nine Ontario cities and Winnipeg rank 1 to 10. But beyond the inter-provincial patterns, some striking intra-provincial patterns were identified. One such pattern is the notable difference in screening rates between Saskatoon and Regina.

- There are also large differences in relative rankings for cervical screening among Ontario cities, which ranged from Ottawa's rank of 6th (of 26) to Kitchener-Cambridge-Waterloo's rank of 23rd. Similar contrasting ranks were observed in Alberta, with Calgary ranking 3rd and 8th for breast and cervical screening, respectively, and Edmonton ranking 21st for both.

The purpose of this spotlight report is to shed light on cancer risk levels and the screening status of people living in Canada's largest cities and to highlight differences that may point to cancer control success stories and best practices that can be applied across the country. The report has identified substantial differences among cities, including those in the same province. While many factors may explain the differences in indicator results between cities, including age structure, employment rates, mean income and educational attainment, the contribution of municipal policy and planning almost certainly plays a role as well. The results presented in this report could be explored more fully and should be examined further by system planners and population health service providers to help illuminate where improvements can be made to reduce the risk of cancer for all Canadians, irrespective of which community they call home.

TABLE 4A

Rankings for all prevention indicators by large metropolitan area

Large metropolitan area	Smoking prevalence	Quit smoking	Smoke exposure in home	Smoke exposure in public	Smoke exposure in vehicle	Alcohol exceeds guideline (2005)	Alcohol exceeds guideline	No alcohol	Fruit & vegetable consumption	Very active in leisure time	Active in leisure, work and transportation (2005)	Overweight or obese	Obese only
Victoria, BC	3	2	1	15	1	24		23	8	1	3	3	6
City of Vancouver, BC	1	6	2	24	5	5		4	15	7	22	1	1
Greater Vancouver Area, BC	2	7	4	17	2	12		5	9	18	14	2	2
Edmonton, AB	24	21	16	18	16	10		6	17	16	2	10	11
Calgary, AB	8	5	9	9	6	21		11	6	6	15	6	7
Saskatoon, SK	16	26	10	1	7	17	15	13	23	12	1	17	17
Regina, SK	19	8	13	16	14	6	10	19	20	17	7	16	12
Winnipeg, MB	7	10	11	20	15	2	3	9	19	14	13	20	22
Windsor, ON	9	22	20	13	25	11	12	2	25	4	8	23	20
London, ON	12	15	18	14	19	13	13	7	16	13	9	12	15
Kitchener-Cambridge-Waterloo, ON	23	25	5	11	12	14	14	15	18	11	17	13	16
St. Catharines-Niagara, ON	11	9	7	6	3	7	18	20	13	3	6	18	21
Hamilton, ON	17	17	8	10	10	22	16	8	12	8	11	24	23
City of Toronto, ON	6	24	14	25	4	8	6	1	10	25	16	4	4

TABLE 4A continued

Rankings for all prevention indicators by large metropolitan area

Large metropolitan area	Smoking prevalence	Quit smoking	Smoke exposure in home	Smoke exposure in public	Smoke exposure in vehicle	Alcohol exceeds guideline (2005)	Alcohol exceeds guideline	No alcohol	Fruit & vegetable consumption	Very active in leisure time	Active in leisure, work and transportation (2005)	Overweight or obese	Obese only
Greater Toronto Area, ON	5	19	6	19	11	3	9	3	7	20	24	11	8
Oshawa, ON	14	16	21	23	17	25	7	14	26	10	18	22	24
City of Ottawa, ON	4	18	3	26	8	19	11	16	11	2	10	9	13
Greater Ottawa Area, QC/ON	26	14	25	21	26	18	4	25	2	15	23	14	9
City of Montreal, QC	15	11	19	22	18	20	2	10	5	23	19	8	5
Greater Montreal Area, QC	22	13	26	7	13	16	1	22	3	22	25	15	14
Sherbrooke, QC	18	23	22	2	20	4	8	24	1	24	20	7	10
Quebec, QC	10	4	23	8	9	23	5	26	4	26	21	5	3
Moncton, NB	21	20	24	3	23			17	21	19		25	25
Halifax, NS	20	3	17	12	24	9		21	14	5	5	21	18
Urban PEI, PE	25	12	12	4	22	1		12	22	9	4	19	19
St. John's, NL	13	1	15	5	21	15	17	18	24	21	12	26	26

■ First tertile (best performers) of rankings in each indicator

■ Second tertile

■ Third tertile (worst performers)

■ Suppressed because of small numbers or data not available.

Rankings are based on the estimate values to four decimal places, although they are displayed only to one decimal place.

TABLE 4B

Rankings for all prevention indicators by province/territory

Province or territory	Smoking prevalence	Quit smoking	Smoke exposure in home	Smoke exposure in public	Smoke exposure in vehicle	Alcohol exceeds guideline (2005)	Alcohol exceeds guideline	No alcohol	Fruit & vegetable consumption	Very active in leisure time	Active in leisure, work and transportation (2005)	Overweight or obese	Obese only
British Columbia	1	2	1	12	1	9	—	8	3	2	8	1	1
Alberta	7	6	4	10	4	8	—	10	4	3	5	3	5
Saskatchewan	10	11	5	5	6	6	3	11	8	9	1	9	6
Manitoba	3	7	3	11	7	3	2	7	7	7	7	10	8
Ontario	2	9	2	13	3	10	4	2	5	6	11	4	4
Quebec	6	4	13	9	5	11	1	13	1	12	12	2	2
New Brunswick	5	10	8	3	12	2	—	3	6	10	9	12	12
Nova Scotia	9	3	9	8	9	4	—	9	9	4	6	11	11
Prince Edward Island	8	5	10	6	11	1	—	4	10	8	3	6	7
Newfoundland and Labrador	4	1	6	2	10	7	5	5	12	11	10	13	13
Northwest Territories	12	12	12	7	8	12	—	6	11	5	2	7	10
Yukon	11	8	7	1	2	13	—	12	2	1	4	5	3
Nunavut	13	13	11	4	—	5	—	1	13	13	13	8	9

— = suppressed because of small numbers or data not available.

Rankings are based on the estimate values to four decimal places, although they are displayed only to one decimal place.

TABLE 4C

Rankings for all screening indicators by large metropolitan area

Large metropolitan area	FOBT	FOBT and/or endoscopy	Mammogram	Pap test
Victoria, BC	8	11	7	1
City of Vancouver, BC	9	12	13	14
Greater Vancouver Area, BC	18	19	24	17
Edmonton, AB	15	16	21	21
Calgary, AB	16	14	3	8
Saskatoon, SK	20	20	20	5
Regina, SK	7	13	8	16
Winnipeg, MB	1	5	18	2
Windsor, ON	3	3	5	12
London, ON	11	8	17	13
Kitchener-Cambridge-Waterloo, ON	4	2	25	23
St. Catharines-Niagara, ON	5	7	22	18
Hamilton, ON	12	10	12	19
City of Toronto, ON	14	9	10	25
Greater Toronto Area, ON	10	4	16	22
Oshawa, ON	6	6	2	7
City of Ottawa, ON	2	1	4	6
Greater Ottawa Area, QC/ON	13	15	14	15

TABLE 4C continued

Rankings for all screening indicators by large metropolitan area

Large metropolitan area	FOBT	FOBT and/or endoscopy	Mammogram	Pap test
City of Montreal, QC	22	23	23	26
Greater Montreal Area, QC	21	24	9	11
Sherbrooke, QC	—	26	1	20
Quebec, QC	23	25	6	24
Moncton, NB	—	22	11	10
Halifax, NS	19	21	15	9
Urban PEI, PE	17	18	26	4
St. John's, NL	—	17	19	3

■ First tertile (best performers) of rankings in each indicator

■ Second tertile

■ Third tertile (worst performers)

FOBT = fecal occult blood test

— = suppressed because of small numbers or data not available.

While provincial guidelines recommend colorectal screening by FOBT or flexible sigmoidoscopy, the survey data does not allow for this level of specificity. The rankings of colorectal screening in the table above are therefore based on FOBT and/or endoscopy (which includes colonoscopy), FOBT is shown for information but not colour coded.

Rankings are based on the estimate values to four decimal places, although they are displayed only to one decimal place.

TABLE 4D

Rankings for all screening indicators by province/territory

Province or territory	FOBT	FOBT and/or endoscopy	Mammogram	Pap test
British Columbia	4	4	9	10
Alberta	5	5	3	9
Saskatchewan	6	6	5	5
Manitoba	1	1	7	2
Ontario	2	2	4	11
Quebec	11	12	2	13
New Brunswick	10	8	1	7
Nova Scotia	8	10	6	3
Prince Edward Island	7	11	12	6
Newfoundland and Labrador	9	7	8	4
Northwest Territories	—	3	10	1
Yukon	3	9	11	8
Nunavut	—	—	—	12

FOBT = fecal occult blood test

— = suppressed because of small numbers or data not available.

Rankings are based on the estimate values to four decimal places, although they are displayed only to one decimal place.

Summary of Indicator Results

KEY

20.3
(19.9-20.7)

INDICATOR RESULT AS A PERCENTAGE OF POPULATION OR SUB-POPULATION

95% CONFIDENCE INTERVAL

TABLE 5A

Smoking-related indicators in provinces/territories and large metropolitan areas, 2010–11

Province or territory and large metropolitan, other urban or rural area	Smoking prevalence	Quit smoking	Smoke exposure in home	Smoke exposure in public	Smoke exposure in vehicle
Canada	20.3 (19.9-20.7)	16.8 (16.1-17.5)	5.7 (5.4-5.9)	11.8 (11.4-12.1)	6.7 (6.5-7.0)
British Columbia	16.6 (15.5-17.7)	21.4 (18.8-24.0)	2.6 (2.2-3.0)	12.3 (11.3-13.2)	4.7 (4.1-5.3)
Victoria	15.3 (12.1-18.4)	24.5 (16.8-32.2)	2.0E (0.9-3.0)	11.9 (8.6-15.2)	4.1E (2.2-6.1)
City of Vancouver	14.5 (11.8-17.2)	19.5E (13.0-26.0)	2.3E (1.2-3.3)	16.5 (13.5-19.4)	5.1E (2.6-7.6)
Greater Vancouver Area	14.7 (13.1-16.4)	19.3 (14.5-24.1)	2.3 (1.6-3.0)	12.7 (10.9-14.4)	4.2 (3.2-5.1)
Alberta	22.2 (20.8-23.5)	17.2 (15.1-19.4)	5.5 (4.8-6.3)	11.0 (10.0-12.1)	7.2 (6.3-8.1)
Edmonton	23.1 (20.3-25.8)	15.0 (10.7-19.3)	5.5 (4.1-7.0)	12.7 (10.3-15.1)	7.2 (5.5-8.8)
Calgary	18.3 (15.7-20.8)	20.7 (15.7-25.7)	4.4 (3.1-5.7)	10.4 (8.6-12.1)	5.6 (4.2-7.0)
Saskatchewan	23.3 (21.5-25.1)	13.1 (10.8-15.5)	5.7 (4.8-6.7)	8.8 (7.6-9.9)	7.6 (6.4-8.7)
Saskatoon	20.7 (16.2-25.1)	8.9E (3.8-14.0)	4.4E (2.2-6.7)	5.9E (3.5-8.2)	5.7E (2.7-8.6)
Regina	21.1 (16.8-25.4)	18.7E (11.6-25.8)	5.3E (3.2-7.3)	12.0 (8.8-15.3)	6.9E (4.6-9.1)
Manitoba	19.4 (17.5-21.3)	17.0 (13.6-20.4)	5.0 (4.1-5.9)	12.0 (10.5-13.5)	8.0 (6.7-9.4)

TABLE 5A continued

Smoking-related indicators in provinces/territories and large metropolitan areas, 2010–11

Province or territory and large metropolitan, other urban or rural area	Smoking prevalence	Quit smoking	Smoke exposure in home	Smoke exposure in public	Smoke exposure in vehicle
Winnipeg	17.7 (15.0-20.4)	17.4 (12.5-22.3)	4.6 (3.4-5.9)	13.8 (11.6-15.9)	7.2 (5.3-9.0)
Ontario	19.3 (18.7-20.0)	14.8 (13.7-16.0)	4.9 (4.4-5.4)	13.1 (12.4-13.7)	6.3 (5.8-6.8)
Windsor	18.6 (15.4-21.8)	13.4E (7.8-19.0)	6.2E (3.9-8.5)	11.8 (8.6-14.9)	10.3E (4.4-16.1)
London	19.4 (16.6-22.2)	16.0 (11.6-20.4)	5.9E (3.8-8.0)	11.8 (9.4-14.3)	7.6 (5.5-9.7)
Kitchener-Cambridge-Waterloo	22.1 (18.9-25.4)	11.8E (6.7-16.8)	3.1E (1.9-4.3)	10.7 (8.3-13.1)	6.2E (4.1-8.4)
St. Catharines-Niagara	19.3 (16.0-22.6)	17.6E (11.6-23.6)	4.1E (2.4-5.8)	9.8 (7.5-12.1)	4.8 (3.3-6.3)
Hamilton	20.7 (17.1-24.2)	15.7E (9.7-21.6)	4.3E (2.6-5.9)	10.5 (8.5-12.6)	6.0 (4.2-7.9)
City of Toronto	17.5 (15.6-19.3)	12.2 (9.1-15.2)	5.4 (3.6-7.1)	16.5 (14.2-18.7)	4.9 (3.5-6.3)
Greater Toronto Area	17.3 (15.9-18.8)	15.5 (12.2-18.8)	3.9 (3.1-4.8)	13.1 (11.8-14.3)	6.1 (5.0-7.2)
Oshawa	20.3 (17.1-23.6)	15.7E (9.8-21.6)	6.8E (4.2-9.4)	16.0 (12.2-19.7)	7.2E (4.8-9.6)
City of Ottawa	15.6 (13.0-18.2)	15.6 (10.6-20.5)	2.3 (1.6-3.0)	17.8 (15.2-20.4)	5.7 (4.2-7.2)
Quebec	22.2 (21.2-23.1)	17.4 (15.9-19.0)	8.7 (8.0-9.3)	10.8 (10.0-11.6)	7.5 (6.9-8.2)
Greater Ottawa Area	23.9 (20.5-27.3)	16.1E (10.8-21.4)	8.7E (5.5-11.9)	14.0 (10.6-17.3)	10.3 (7.0-13.7)
City of Montreal	20.6 (18.5-22.7)	17.2 (13.4-20.9)	6.0 (4.7-7.2)	15.0 (12.9-17.1)	7.5 (5.9-9.2)
Greater Montreal Area	21.7 (19.7-23.8)	17.0 (13.6-20.4)	9.3 (7.8-10.8)	10.1 (8.6-11.7)	6.7 (5.4-8.0)
Sherbrooke	21.0 (16.4-25.6)	12.8E (6.4-19.1)	7.5E (4.8-10.1)	6.3E (3.7-8.9)	7.8E (4.5-11.1)
Quebec	19.0 (16.7-21.3)	21.1 (16.2-26.0)	7.5 (5.8-9.3)	10.4 (8.3-12.4)	6.0 (4.2-7.8)
New Brunswick	22.1 (20.5-23.7)	14.6 (11.9-17.3)	6.8 (5.7-7.9)	8.6 (7.3-10.0)	9.5 (8.1-10.9)

TABLE 5A continued

Smoking-related indicators in provinces/territories and large metropolitan areas, 2010–11

Province or territory and large metropolitan, other urban or rural area	Smoking prevalence	Quit smoking	Smoke exposure in home	Smoke exposure in public	Smoke exposure in vehicle
Moncton	21.6 (17.5-25.6)	15.3E (8.4-22.3)	7.9E (4.9-10.8)	6.4E (3.8-9.1)	8.3E (5.3-11.4)
Nova Scotia	22.5 (20.7-24.3)	19.5 (16.3-22.7)	6.8 (5.6-8.0)	9.9 (8.5-11.3)	8.8 (7.4-10.2)
Halifax	21.1 (18.1-24.2)	21.2 (14.9-27.4)	5.9E (3.6-8.1)	11.5 (8.9-14.2)	8.9 (6.1-11.7)
Prince Edward Island	22.3 (19.7-24.9)	17.4 (13.0-21.8)	7.1 (5.4-8.8)	8.8 (6.8-10.8)	9.1 (7.2-11.1)
Urban PEI	23.1 (19.7-26.6)	17.1 (11.6-22.6)	5.0E (3.1-6.9)	8.1 (5.6-10.5)	8.1E (5.4-10.9)
Newfoundland and Labrador	21.7 (20.0-23.4)	21.5 (17.5-25.5)	5.8 (4.7-7.0)	8.3 (7.1-9.5)	8.9 (7.5-10.3)
St. John's	19.9 (17.0-22.8)	24.7 (17.1-32.3)	5.4E (3.3-7.5)	9.0 (6.6-11.5)	7.9 (5.5-10.3)
Northwest Territories	38.3 (34.9-41.7)	11.3E (7.3-15.2)	7.6E (5.0-10.1)	8.8 (6.9-10.7)	8.4 (5.7-11.1)
Yukon	28.6 (25.8-31.4)	15.9 (11.6-20.1)	5.9 (4.4-7.5)	4.0E (2.5-5.6)	5.1 (3.6-6.7)
Nunavut	57.1 (52.1-62.0)	8.7E (4.7-12.6)	7.2E (3.9-10.5)	8.7E (3.2-14.2)	F
Average of large metropolitan areas	18.8 (18.2-19.3)	16.6 (15.5-17.6)	5.0 (4.7-5.4)	12.9 (12.4-13.5)	6.2 (5.8-6.6)
Other urban areas	22.8 (22.0-23.6)	17.2 (15.9-18.5)	6.2 (5.7-6.6)	10.4 (9.8-11.0)	7.1 (6.6-7.6)
Rural areas	23.3 (22.5-24.0)	17.3 (16.0-18.6)	7.7 (7.2-8.3)	8.6 (8.0-9.1)	8.6 (8.0-9.1)

E = Interpret with caution due to large variability in estimate.

F = too unreliable to be published.

TABLE 5B
Prevention indicators (other than smoking) in provinces/territories and large metropolitan areas, 2010–11

Province or territory and large metropolitan, other urban or rural area	Alcohol exceeds guideline (2005)	Alcohol exceeds guideline	No alcohol	Fruit & vegetable consumption	Very active in leisure time	Active in leisure, work, and transportation (2005)	Overweight or obese	Obese only
Canada	9.2 (9.0-9.5)	5.2 (4.9-5.4)	19.8 (19.4-20.3)	41.8 (41.3-42.4)	12.0 (11.7-12.4)	20.8 (20.4-21.2)	52.2 (51.7-52.8)	18.2 (17.8-18.6)
British Columbia	9.5 (8.8-10.1)	—	20.1 (19.0-21.3)	41.5 (40.2-42.9)	14.8 (13.8-15.7)	22.3 (21.3-23.3)	45.5 (44.1-47.0)	14.2 (13.2-15.1)
Victoria	10.7 (8.6-12.8)	—	12.9 (10.4-15.4)	42.1 (37.9-46.2)	20.9 (17.5-24.3)	25.1 (21.5-28.6)	44.4 (40.3-48.5)	15.4 (12.1-18.6)
City of Vancouver	8.1 (6.5-9.7)	—	24.1 (20.1-28.2)	38.5 (34.3-42.6)	14.3 (11.1-17.5)	16.0 (13.5-18.5)	32.5 (28.4-36.6)	7.2 (5.3-9.1)
Greater Vancouver Area	8.7 (7.6-9.9)	—	23.1 (21.0-25.1)	41.8 (39.4-44.3)	11.5 (10.1-12.9)	20.7 (18.9-22.4)	43.2 (40.6-45.7)	12.0 (10.4-13.6)
Alberta	9.3 (8.5-10.2)	—	19.8 (18.5-21.0)	41.2 (39.7-42.7)	13.1 (12.0-14.2)	24.9 (23.6-26.1)	51.9 (50.3-53.5)	18.9 (17.7-20.1)
Edmonton	8.6 (6.8-10.4)	—	21.1 (18.6-23.6)	38.4 (35.3-41.5)	11.5 (9.7-13.3)	25.1 (22.5-27.7)	50.2 (47.3-53.1)	16.7 (14.5-19.0)
Calgary	10.1 (8.5-11.7)	—	19.7 (17.1-22.3)	44.8 (41.9-47.6)	14.7 (12.6-16.8)	20.2 (17.8-22.6)	47.1 (44.0-50.1)	15.7 (13.2-18.2)
Saskatchewan	7.9 (7.0-8.9)	9.0 (7.7-10.4)	19.1 (17.5-20.7)	35.4 (33.4-37.3)	11.4 (10.1-12.7)	27.9 (26.3-29.5)	59.2 (57.2-61.1)	21.6 (20.0-23.2)
Saskatoon	9.6 (7.1-12.1)	10.7 (7.6-13.9)	18.7 (14.7-22.6)	33.7 (29.2-38.1)	13.3 (10.1-16.5)	26.5 (23.0-30.1)	54.6 (49.7-59.4)	19.7 (15.4-24.1)
Regina	8.1 (6.0-10.3)	7.8E (4.8-10.9)	16.2 (12.4-20.0)	36.2 (31.9-40.5)	11.5 (8.3-14.7)	22.8 (19.3-26.4)	53.4 (48.4-58.3)	16.8 (13.5-20.1)
Manitoba	7.4 (6.4-8.4)	5.1 (4.1-6.1)	20.8 (18.8-22.8)	35.4 (33.3-37.6)	12.0 (10.6-13.4)	23.3 (21.6-25.0)	59.5 (57.3-61.7)	23.2 (21.2-25.1)

TABLE 5B continued
Prevention indicators (other than smoking) in provinces/territories and large metropolitan areas, 2010–11

Province or territory and large metropolitan, other urban or rural area	Alcohol exceeds guideline (2005)	Alcohol exceeds guideline (2005)	No alcohol	Fruit & vegetable consumption	Very active in leisure time	Active in leisure, work, and transportation (2005)	Overweight or obese	Obese only
Winnipeg	7.9 (6.4-9.4)	5.0 (3.6-6.3)	20.0 (17.1-22.8)	37.0 (34.1-40.0)	12.7 (10.6-14.8)	20.7 (18.4-23.1)	57.3 (54.3-60.3)	21.7 (19.0-24.4)
Ontario	9.5 (9.1-10.0)	9.1 (8.5-9.6)	22.4 (21.6-23.2)	40.6 (39.6-41.6)	12.4 (11.8-13.0)	19.9 (19.2-20.5)	52.5 (51.5-53.4)	18.5 (17.8-19.2)
Windsor	8.7 (6.5-11.0)	9.7 (7.2-12.2)	25.8 (20.5-31.2)	31.9 (26.3-37.4)	15.9 (11.5-20.2)	22.5 (19.0-26.0)	59.3 (54.6-64.0)	20.9 (16.5-25.4)
London	9.0 (7.1-11.0)	9.7 (7.3-12.1)	20.5 (17.7-23.3)	38.4 (34.9-41.9)	13.0 (10.4-15.7)	22.0 (19.1-24.9)	50.7 (46.8-54.6)	19.2 (16.0-22.5)
Kitchener-Cambridge-Waterloo	9.4 (7.7-11.2)	9.9 (7.8-12.0)	18.1 (15.1-21.0)	37.7 (33.6-41.7)	13.9 (10.9-16.8)	18.8 (16.4-21.2)	51.6 (47.7-55.5)	19.3 (16.2-22.4)
St. Catharines-Niagara	8.3 (6.3-10.3)	13.0 (10.3-15.7)	15.1 (12.3-17.9)	39.6 (35.7-43.5)	16.4 (12.8-20.0)	23.6 (20.2-26.9)	55.0 (50.9-59.2)	21.7 (18.4-24.9)
Hamilton	10.3 (8.7-11.9)	11.2 (8.1-14.3)	20.4 (16.8-24.0)	40.7 (37.3-44.2)	13.9 (11.0-16.8)	20.9 (18.4-23.4)	59.4 (55.8-63.0)	21.9 (18.7-25.2)
City of Toronto	8.5 (7.2-9.7)	6.7 (5.4-8.0)	30.0 (27.7-32.4)	41.3 (38.4-44.1)	8.3 (6.9-9.7)	19.2 (17.8-20.6)	45.1 (42.3-48.0)	14.4 (12.4-16.3)
Greater Toronto Area	8.0 (6.9-9.0)	7.6 (6.4-8.8)	25.0 (23.0-26.9)	42.6 (40.4-44.9)	11.0 (9.7-12.2)	14.8 (13.1-16.5)	50.3 (48.1-52.5)	15.7 (14.2-17.3)
Oshawa	11.4 (8.6-14.2)	6.9 (4.7-9.1)	18.4 (15.0-21.8)	31.3 (26.4-36.2)	13.9 (10.6-17.2)	17.7 (14.6-20.8)	57.5 (52.8-62.2)	23.7 (19.7-27.6)
City of Ottawa	9.8 (8.0-11.6)	9.5 (7.4-11.6)	17.8 (15.1-20.5)	41.2 (37.9-44.5)	16.5 (13.4-19.5)	21.3 (18.1-24.5)	49.8 (46.4-53.2)	17.0 (14.4-19.6)
Quebec	9.5 (9.0-10.1)	4.8 (4.4-5.2)	15.0 (14.2-15.8)	48.6 (47.6-49.6)	9.5 (8.7-10.2)	18.1 (17.3-18.8)	51.0 (49.9-52.0)	16.5 (15.6-17.3)

TABLE 5B continued
Prevention indicators (other than smoking) in provinces/territories and large metropolitan areas, 2010–11

Province or territory and large metropolitan, other urban or rural area	Alcohol exceeds guideline (2005)	Alcohol exceeds guideline	No alcohol	Fruit & vegetable consumption	Very active in leisure time	Active in leisure, work, and transportation (2005)	Overweight or obese	Obese only
Greater Ottawa Area	9.6 (7.7-11.6)	5.8E (3.6-8.0)	10.0 (7.6-12.5)	51.7 (47.7-55.8)	12.5 (9.8-15.3)	15.1 (12.7-17.4)	51.9 (47.4-56.3)	16.0 (12.8-19.2)
City of Montreal	9.8 (8.8-10.9)	4.4 (3.4-5.3)	19.9 (17.7-22.1)	48.4 (45.8-50.9)	9.8 (7.8-11.8)	17.7 (15.8-19.6)	48.4 (45.6-51.2)	15.1 (13.0-17.2)
Greater Montreal Area	9.6 (8.1-11.2)	4.3 (3.4-5.2)	13.3 (11.7-15.0)	49.4 (47.2-51.6)	10.1 (8.6-11.6)	14.8 (13.5-16.1)	53.2 (50.7-55.6)	17.2 (15.3-19.1)
Sherbrooke	8.1 (5.7-10.4)	7.0E (4.3-9.7)	12.0 (9.1-14.9)	54.3 (49.1-59.5)	9.5E (6.2-12.8)	16.6 (13.3-20.0)	47.1 (41.1-53.2)	16.0 (11.8-20.3)
Quebec	10.4 (8.8-12.1)	5.9 (4.5-7.3)	9.0 (7.3-10.8)	49.1 (46.3-51.9)	7.8 (6.3-9.3)	16.5 (14.5-18.4)	46.9 (43.8-50.0)	13.2 (10.9-15.6)
New Brunswick	6.9 (5.9-7.9)	—	22.4 (20.9-23.9)	36.7 (34.8-38.5)	11.3 (9.9-12.6)	21.6 (19.9-23.2)	61.1 (59.0-63.1)	26.2 (24.4-28.1)
Moncton	—	—	17.0 (13.1-20.9)	35.8 (31.1-40.5)	11.3 (7.7-15.0)	—	59.7 (54.0-65.5)	24.3 (19.8-28.7)
Nova Scotia	7.6 (6.5-8.7)	—	19.9 (18.4-21.4)	34.9 (33.0-36.9)	13.1 (11.5-14.7)	24.6 (22.9-26.3)	61.0 (58.9-63.2)	24.8 (22.8-26.8)
Halifax	8.6 (6.7-10.5)	—	14.6 (12.2-16.9)	39.2 (35.3-43.1)	15.3 (12.0-18.5)	23.9 (20.6-27.1)	57.4 (53.3-61.5)	20.2 (16.8-23.6)
Prince Edward Island	6.6 (4.8-8.3)	—	21.7 (19.0-24.4)	34.1 (31.0-37.1)	11.9 (9.8-13.9)	26.1 (23.5-28.7)	57.1 (53.8-60.4)	21.6 (18.8-24.4)
Urban PEI	7.3E (4.8-9.8)	—	19.6 (16.1-23.2)	35.7 (31.3-40.0)	13.9 (10.9-17.0)	24.8 (21.0-28.6)	55.9 (51.5-60.4)	20.2 (16.6-23.9)
Newfoundland and Labrador	8.2 (7.1-9.4)	10.6 (8.9-12.2)	21.3 (19.4-23.2)	27.7 (25.6-29.8)	10.2 (8.8-11.7)	20.0 (18.3-21.8)	66.3 (63.9-68.6)	28.1 (25.8-30.4)

TABLE 5B continued
Prevention indicators (other than smoking) in provinces/territories and large metropolitan areas, 2010–11

Province or territory and large metropolitan, other urban or rural area	Alcohol exceeds guideline (2005)	Alcohol exceeds guideline	No alcohol	Fruit & vegetable consumption	Very active in leisure time	Active in leisure, work, and transportation (2005)	Overweight or obese	Obese only
St. John's	9.5 (7.0-12.1)	11.5 (8.6-14.5)	16.6 (13.6-19.7)	31.9 (27.8-35.9)	10.5 (8.0-13.0)	20.8 (17.3-24.3)	63.7 (59.3-68.2)	27.0 (22.6-31.3)
Northwest Territories	11.7 (9.1-14.2)	—	21.3 (18.4-24.2)	28.1 (24.4-31.7)	12.9 (10.5-15.4)	27.1 (23.5-30.8)	57.5 (53.2-61.7)	24.5 (20.4-28.7)
Yukon	12.5 (9.9-15.2)	—	19.1 (16.7-21.5)	47.0 (43.4-50.6)	15.3 (12.7-17.8)	25.1 (20.8-29.4)	53.4 (50.1-56.8)	17.3 (14.3-20.4)
Nunavut	7.6E (3.5-11.8)	—	25.8 (19.5-32.1)	21.5 (17.1-25.9)	9.2 (6.5-11.9)	16.3 (13.2-19.5)	59.1 (52.6-65.7)	23.8 (18.0-29.6)
Average of large metropolitan areas	9.1 (8.7-9.4)	5.2 (4.8-5.5)	20.7 (20.1-21.3)	42.4 (41.7-43.2)	11.7 (11.2-12.2)	19.1 (18.6-19.6)	49.5 (48.8-50.2)	16.3 (15.7-16.8)
Other urban areas	9.6 (9.1-10.1)	5.6 (5.2-6.0)	17.2 (16.6-17.9)	40.4 (39.6-41.2)	12.9 (12.3-13.5)	23.1 (22.4-23.8)	55.8 (54.8-56.7)	20.9 (20.1-21.7)
Rural areas	9.4 (8.9-9.9)	5.0 (4.5-5.4)	19.3 (18.5-20.0)	41.2 (40.3-42.1)	12.3 (11.6-12.9)	26.4 (25.7-27.2)	59.0 (58.1-60.0)	23.0 (22.3-23.7)

— = data not available
E = Interpret with caution due to large variability in estimate.

TABLE 5C

Cancer screening indicators in provinces/territories and large metropolitan areas, 2008

Province or territory and large metropolitan, other urban or rural area	FOBT and/or endoscopy	Endoscopy	FOBT	Mammogram	Pap Test
Canada	32.2 (31.1-33.3)	22.3 (21.1-23.5)	21.1 (20.1-22.1)	72.4 (70.9-73.8)	78.2 (77.2-79.2)
British Columbia	30.6 (27.9-33.3)	18.5 (15.6-21.4)	21.9 (19.6-24.3)	67.7 (63.5-71.9)	80.1 (77.8-82.5)
Victoria	37.9 (27.4-48.3)	25.5E (13.1-37.9)	28.7 (19.6-37.8)	77.7 (68.1-87.2)	86.8 (80.5-93.2)
City of Vancouver	35.8 (27.6-44.1)	21.0E (12.5-29.6)	28.6 (21.2-36.0)	72.1 (58.7-85.4)	80.2 (73.2-87.3)
Greater Vancouver Area	25.1 (20.6-29.6)	15.2 (10.3-20.1)	15.9 (12.4-19.3)	65.9 (58.4-73.3)	79.2 (75.0-83.3)
Alberta	28.6 (25.3-31.9)	16.5 (13.3-19.6)	20.4 (17.3-23.4)	73.6 (69.0-78.3)	80.2 (77.5-83.0)
Edmonton	28.9 (23.1-34.6)	13.4E (7.9-18.8)	22.8 (17.5-28.1)	68.6 (59.2-78.1)	76.6 (70.7-82.5)
Calgary	29.6 (22.3-36.8)	17.3E (11.2-23.4)	19.6E (12.3-26.8)	83.3 (75.5-91.1)	82.3 (77.5-87.1)
Saskatchewan	28.4 (25.1-31.7)	17.8 (14.4-21.2)	19.4 (16.4-22.4)	73.0 (67.7-78.3)	81.6 (78.8-84.4)
Saskatoon	23.3E (15.2-31.4)	16.7E (8.8-24.5)	11.8E (5.2-18.4)	68.7 (54.2-83.2)	83.4 (77.3-89.5)
Regina	35.6 (26.0-45.2)	21.7E (12.0-31.3)	28.7 (19.5-37.9)	76.3 (63.7-88.8)	79.6 (72.0-87.1)
Manitoba	46.6 (41.8-51.3)	24.2 (19.0-29.4)	41.6 (36.9-46.3)	70.5 (64.7-76.4)	83.0 (80.1-85.9)
Winnipeg	46.3 (39.4-53.2)	24.0 (16.5-31.6)	41.5 (34.6-48.4)	70.0 (61.1-78.9)	85.7 (81.8-89.7)
Ontario	44.7 (42.6-46.9)	33.6 (31.1-36.2)	30.1 (28.1-32.0)	73.0 (70.4-75.7)	78.6 (76.9-80.2)

TABLE 5C continued

Cancer screening indicators in provinces/territories and large metropolitan areas, 2008

Province or territory and large metropolitan, other urban or rural area	FOBT and/or endoscopy	Endoscopy	FOBT	Mammogram	Pap Test
Windsor	49.3 (36.9-61.8)	43.7E (28.6-58.8)	38.8 (28.6-49.1)	81.0 (70.3-91.8)	80.6 (72.9-88.3)
London	42.1 (32.9-51.3)	29.5E (18.5-40.5)	28.4 (21.7-35.0)	70.6 (59.7-81.6)	80.3 (72.7-87.8)
Kitchener-Cambridge-Waterloo	51.5 (42.5-60.6)	38.3 (26.6-50.0)	36.1 (27.9-44.3)	63.4 (50.7-76.0)	76.0 (67.6-84.5)
St. Catharines-Niagara	42.8 (36.1-49.5)	32.3 (22.4-42.1)	33.6 (27.1-40.1)	68.5 (58.1-78.8)	78.7 (71.1-86.3)
Hamilton	40.2 (32.8-47.5)	27.0 (20.1-34.0)	27.0 (20.2-33.8)	73.6 (63.2-84.0)	77.2 (71.3-83.1)
City of Toronto	41.4 (35.2-47.6)	32.4 (25.4-39.4)	25.6 (20.3-30.9)	74.3 (66.3-82.3)	75.8 (71.1-80.5)
Greater Toronto Area	47.7 (42.3-53.1)	37.2 (30.7-43.7)	28.6 (24.0-33.1)	71.3 (64.4-78.1)	76.3 (72.5-80.1)
Oshawa	43.9 (33.0-54.8)	36.2 (25.0-47.4)	33.0 (23.2-42.7)	83.7 (72.1-95.3)	82.6 (75.0-90.2)
City of Ottawa	53.3 (44.4-62.2)	35.2E (22.6-47.7)	40.0 (30.2-49.8)	81.7 (72.7-90.6)	82.7 (77.4-88.0)
Quebec	16.2 (14.4-18.0)	13.1 (11.3-14.9)	7.2 (5.9-8.5)	74.0 (70.7-77.2)	73.3 (71.0-75.6)
Greater Ottawa Area	29.3E (19.7-38.8)	F	26.8E (17.1-36.6)	71.7 (60.4-83.0)	79.8 (72.8-86.7)
City of Montreal	18.7 (14.2-23.2)	15.5 (10.6-20.5)	8.1E (5.0-11.3)	68.3 (59.3-77.3)	66.1 (60.6-71.6)
Greater Montreal Area	15.3 (10.9-19.7)	10.0 (6.9-13.2)	8.3E (4.4-12.1)	75.4 (68.1-82.7)	80.6 (76.5-84.7)

TABLE 5C continued

Cancer screening indicators in provinces/territories and large metropolitan areas, 2008

Province or territory and large metropolitan, other urban or rural area	FOBT and/or endoscopy	Endoscopy	FOBT	Mammogram	Pap Test
Sherbrooke	13.5E (7.2-19.7)	12.3E (5.1-19.5)	F	85.3 (77.0-93.6)	77.1 (68.8-85.4)
Quebec	13.8 (9.4-18.3)	13.2E (8.1-18.2)	3.8E (1.6-6.1)	78.4 (68.1-88.7)	75.9 (68.7-83.0)
New Brunswick	25.6 (22.0-29.2)	20.7 (16.6-24.8)	13.8 (11.3-16.4)	74.7 (69.7-79.7)	80.9 (77.4-84.4)
Moncton	21.1E (11.8-30.4)	24.3E (12.1-36.6)	F	74.3 (58.7-89.8)	80.7 (72.0-89.3)
Nova Scotia	23.4 (19.2-27.5)	14.3 (10.6-17.9)	14.7 (11.2-18.3)	71.0 (65.7-76.3)	82.0 (78.0-85.9)
Halifax	21.7E (13.0-30.4)	F	14.4E (7.0-21.7)	71.5 (60.5-82.5)	81.4 (74.7-88.1)
Prince Edward Island	21.6 (17.0-26.3)	12.7E (8.0-17.5)	14.8 (10.7-18.9)	57.6 (48.5-66.7)	81.4 (76.4-86.5)
Urban PEI	25.6 (18.8-32.3)	14.7E (7.2-22.2)	18.7E (12.4-25.0)	57.5 (45.1-69.9)	83.6 (77.2-89.9)
Newfoundland and Labrador	28.1 (23.7-32.4)	21.5 (16.7-26.3)	14.0 (10.7-17.3)	70.3 (63.6-77.1)	81.8 (78.1-85.5)
St. John's	27.2 (18.7-35.6)	27.0E (17.0-37.0)	F	68.9 (55.1-82.6)	84.9 (78.8-91.0)
Northwest Territories	30.7E (13.6-47.8)	F	F	67.2 (51.8-82.7)	87.6 (81.3-93.9)

TABLE 5C continued

Cancer screening indicators in provinces/territories and large metropolitan areas, 2008

Province or territory and large metropolitan, other urban or rural area	FOBT and/or endoscopy	Endoscopy	FOBT	Mammogram	Pap Test
Yukon	25.2E (16.7-33.8)	F	23.8E (15.5-32.0)	64.7 (50.5-78.8)	80.8 (73.6-88.0)
Nunavut	F	F	F	F	75.3 (61.6-88.9)
Average of large metropolitan areas	33.2 (31.6-34.9)	23.0 (21.3-24.7)	21.6 (20.2-23.0)	72.9 (70.7-75.1)	77.8 (76.4-79.2)
Other urban areas	32.3 (30.6-34.0)	22.1 (20.4-23.9)	21.7 (20.2-23.3)	72.6 (70.3-74.9)	80.4 (78.9-81.8)
Rural areas	29.0 (27.5-30.5)	20.3 (18.5-22.0)	18.8 (17.5-20.1)	70.5 (68.2-72.7)	77.3 (75.8-78.9)

FOBT = fecal occult blood test

E = Interpret with caution due to large variability in estimate.

F = too unreliable to be published.

Appendix

Census metropolitan areas and census subdivisions (cities/municipalities) by population size, 2011

TORONTO CMA

- Toronto
- Mississauga
- Brampton
- Markham
- Vaughan
- Richmond Hill
- Oakville
- Ajax
- Pickering
- Milton
- Newmarket
- Caledon
- Halton Hills
- Aurora
- Georgina
- Whitchurch-Stouffville
- New Tecumseth
- Gwillimbury
- Orangeville
- East Willimbury
- Uxbridge
- King
- Mono
- Chippewas of Georgina Island First Nation

MONTREAL CMA

- Montréal
- Laval
- Longueuil
- Terrebonne
- Repentigny
- Brossard

- Saint-Jérôme
- Blainville
- Dollard-Des Ormeaux
- Châteauguay
- Saint-Eustache
- Mascouche
- Mirabel
- Boucherville
- Vaudreuil-Dorion
- Côte-Saint-Luc
- Pointe-Claire
- Sainte-Julie
- Boisbriand
- Saint-Bruno-de-Montarville
- Sainte-Thérèse
- Chambly
- Saint-Constant
- La Prairie
- Saint-Lambert
- Kirkland
- Varennes
- Beloeil
- L'Assomption
- Westmount
- Candiac
- Beaconsfield
- Mont-Royal
- Saint-Lazare
- Dorval
- Mont-Saint-Hilaire
- Deux-Montagnes
- Sainte-Catherine
- Saint-Basile-le-Grand
- Sainte-Marthe-sur-le-Lac
- Sainte-Anne-des-Plaines
- Pincourt
- Rosemère
- Lavaltrie
- Saint-Colomban

- Beauharnois
- Mercier
- Saint-Amable
- Notre-Dame-de-l'Île-Perrot
- L'Île-Perrot
- Bois-des-Filion
- Lorraine
- Otterburn Park
- Carignan
- Delson
- Hampstead
- Coteau-du-Lac
- Saint-Zotique
- Pointe-Calumet
- Saint-Joseph-du-Lac
- Les Cèdres
- Charlemagne
- Verchères
- McMasterville
- Saint-Philippe
- Richelieu
- L'Épiphanie
- Hudson
- Montréal-Ouest
- Sainte-Anne-de-Bellevue
- Saint-Mathias-sur-Richelieu
- Les Coteaux
- Oka
- Baie-D'Urfé
- Montréal-Est
- L'Épiphanie
- Saint-Sulpice
- Saint-Mathieu-de-Beloeil
- Saint-Isidore
- Léry
- Terrasse-Vaudreuil
- Saint-Mathieu
- Gore
- Saint-Placide

- Vaudreuil-sur-le-Lac
- Pointe-des-Cascades
- Senneville
- L'Île-Cadieux
- L'Île-Dorval
- Kanesatake
- Kahnawake

VANCOUVER CMA

- Vancouver
- Surrey
- Burnaby
- Richmond
- Coquitlam
- Langley
- Delta
- North Vancouver
- Maple Ridge
- New Westminister
- Port Coquitlam
- North Vancouver
- West Vancouver
- Port Moody
- Langley
- White Rock
- Pitt Meadows
- Greater Vancouver A
- Bowen Island
- Capilano 5
- Anmore
- Musqueam 2
- Burrard Inlet 3
- Lions Bay
- Tsawwassen
- Belcarra
- Mission 1
- Matsqui 4
- Katzie 1
- Semiahmoo

- Seymour Creek 2
- McMillan Island 6
- Coquitlam 1
- Musqueam 4
- Coquitlam 2
- Katzie 2
- Whonnock 1
- Barnston Island 3
- Langley 5

OTTAWA CMA

- Ottawa
- Gatineau
- Clarence-Rockland
- Russell
- Val-des-Monts
- Cantley
- La Pêche
- Chelsea
- Pontiac
- L'Ange-Gardien
- Val-des-Bois
- Notre-Dame-de-la-Salette
- Bowman
- Mayo
- Denholm

CALGARY CMA

- Calgary
- Airdrie
- Rocky View County
- Cochrane
- Chestermere
- Crossfield
- Tsuu T'ina Nation 145 (Sarcee 145)
- Irricana
- Beiseker

EDMONTON CMA

- Edmonton
- Strathcona County
- St. Albert
- Parkland County
- Spruce Grove
- Leduc
- Sturgeon County
- Fort Saskatchewan
- Stony Plain
- Leduc County
- Beaumont
- Morinville
- Devon
- Gibbons
- Calmar
- Redwater
- Bon Accord
- Legal
- Bruderheim
- Wabamun 133A
- Alexander 134
- Stony Plain 135
- Thorsby
- Warburg
- Wabamun
- Spring Lake
- Seba Beach
- Golden Days
- Sundance Beach
- Lakeview
- Itaska Beach
- Wabamun 133B
- Point Alison
- Betula Beach
- Kapasiwin

QUEBEC CMA

- Québec
- Lévis
- Saint-Augustin-de-Desmaures
- L'Ancienne-Lorette
- Lac-Beauport
- Stoneham-et-Tewkesbury
- Boischatel
- Sainte-Catherine-de-la-Jacques-Cartier
- Saint-Lambert-de-Lauzon
- Sainte-Brigitte-de-Laval
- Shannon
- Saint-Henri
- Neuville
- Château-Richer
- L'Ange-Gardien
- Saint-Gabriel-de-Valcartier
- Beaumont
- Saint-Pierre-de-l'Île-d'Orléans
- Fossambault-sur-le-Lac
- Saint-Laurent-de-l'Île-d'Orléans
- Sainte-Pétronille
- Saint-Jean-de-l'Île-d'Orléans
- Sainte-Famille
- Lac-Delage
- Saint-François-de-l'Île-d'Orléans
- Notre-Dame-des-Anges
- Lac-Saint-Joseph
- Wendake

WINNIPEG CMA

- Winnipeg
- Springfield
- St. Clements
- Taché
- East St. Paul
- Macdonald
- Ritchot
- West St. Paul
- Headingley
- Rosser
- St. François Xavier
- Brokenhead 4

HAMILTON CMA

- Hamilton
- Burlington
- Grimsby

KITCHENER-CAMBRIDGE-WATERLOO CMA

- Kitchener
- Cambridge
- Waterloo
- Woolwich
- North Dumfries

LONDON CMA

- London
- St. Thomas
- Strathroy-Caradoc
- Middlesex Centre
- Thames Centre
- Central Elgin
- Southwold
- Adelaide-Metcalf

ST. CATHARINES-NIAGARA CMA

- St. Catharines
- Niagara Falls
- Welland
- Fort Erie
- Lincoln
- Port Colborne
- Thorold
- Pelham
- Niagara-on-the-Lake
- Wainfleet

HALIFAX CMA

- Halifax
- Cole Harbour 30
- Beaver Lake 17
- Sheet Harbour 36
- Shubenacadie 13

OSHAWA CMA

- Oshawa
- Whitby
- Clarington

VICTORIA CMA

- Saanich
- Victoria
- Langford
- Oak Bay
- Esquimalt
- Colwood
- Central Saanich
- Sooke
- Sidney
- North Saanich
- View Royal

- Metchosin
- Capital H (Part 1)
- Highlands
- East Saanich 2
- New Songhees 1A
- South Saanich 1
- Becher Bay 1
- Cole Bay 3
- T'Sou-ke
- Union Bay 4
- Esquimalt

WINDSOR CMA

- Windsor
- Lakeshore
- LaSalle
- Tecumseh
- Amherstburg

SASKATOON CMA

- Saskatoon
- Corman Park No. 344
- Martensville
- Warman
- Vanscoy No. 345
- Blucher No. 343
- Dalmeny
- Langham
- Dundurn No. 314
- Osler
- Delisle
- Dundurn
- Allan
- Asquith
- Colonsay
- Clavet
- Vanscoy

- Whitecap
- Colonsay No. 342
- Bradwell
- Shields
- Thode
- Elstow
- Meacham

REGINA CMA

- Regina
- Edenwold No. 158
- White City
- Pilot Butte
- Lumsden No. 189
- Lumsden
- Balgonie
- Regina Beach
- Sherwood No. 159
- Grand Coulee
- Pense
- Buena Vista
- Pense No. 160
- Edenwold
- Disley
- Belle Plaine
- Lumsden Beach

SHERBROOKE CMA

- Sherbrooke
- Magog
- Orford
- Saint-Denis-de-Brompton
- Compton
- Ascot Corner
- Stoke
- Waterville
- Hatley

- Val-Joli
- North Hatley

ST. JOHN'S CMA

- St. John's
- Conception Bay South
- Mount Pearl
- Paradise
- Torbay
- Portugal Cove-St. Philip's
- Logy Bay-Middle Cove-Outer Cove
- Pouch Cove
- Flatrock
- Bay Bulls
- Witless Bay
- Petty Harbour-Maddox Cove
- Bauline

MONCTON CMA

- Moncton
- Dieppe
- Riverview
- Moncton
- Memramcook
- Coverdale
- Salisbury
- Hillsborough
- Hillsborough
- Dorchester
- Elgin
- Saint-Paul
- Dorchester
- Fort Folly 1

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