
Executive summary

Performance monitoring for cervical cancer screening programs in Canada

Screening Performance Indicators Working Group, Cervical Cancer Prevention and Control Network

The purpose of this report is to define a core set of performance indicators for organized cervical cancer screening programs in Canada.

The goals for establishing a pan-Canadian set of performance indicators are to promote high quality screening through monitoring and evaluation. Over time, with regular monitoring and reporting of these indicators, an evidence base will grow which will permit the setting of pan-Canadian targets.

Cervical cancer control is undergoing tremendous development as knowledge of the causal relationship between the human papillomavirus (HPV) and cervical cancer continues to increase. Regular monitoring and reporting of these indicators will facilitate the evaluation of the impact of new technologies and interventions.

The program performance indicators described were selected by the Screening Performance Indicators Working Group (SPIWG) through a consensus-based, iterative process. Feedback from content experts including researchers, clinicians and administrators across Canada was also sought.

The program performance indicators reflect the current pan-Canadian screening practices and include the following: coverage (i.e. participation and retention rates), cytology performance (i.e. specimen

adequacy and Pap test results), system capacity (i.e. cytology turn-around time and time to colposcopy), follow-up (i.e. biopsy rate, cytology-histology agreement) and outcomes (i.e. pre-cancer detection rate, cancer incidence, disease extent at diagnosis: cancer stage, screening history in cases of invasive cancer).

The ongoing implementation of HPV immunization programs will have a significant future impact on cervical cancer in Canada. To detect changes in cervical cancer and cervical cancer screening attributable to HPV vaccine programs, the SPIWG recommends that relevant core performance indicators be monitored by 10-year age groups to detect early changes, and eventually by various HPV vaccination parameters (e.g. type of vaccine, fully/partially/not vaccinated, time since vaccination) to detect differences.

It is challenging to define quantifiable performance indicators over the entire spectrum of activity for an organized screening program especially given that the body of literature is continually evolving, as are the technologies and methods used to screen, diagnose and treat cervical cancer. In light of this, this core set of performance indicators is expected to be updated as pan-Canadian screening policy and management guidelines evolve over time. Future indicators should include areas such as professional education

initiatives, public education initiatives, letters of invitation, recruitment initiatives, program efficiency, HPV testing protocols, HPV immunization, among others.

The implementation of HPV vaccine programs and the consideration of HPV testing as a primary screening test will require pan-Canadian experts to convene to develop new cervical screening policy and management guidelines. The SPIWG urges that the identification of performance indicators be included within the development of screening policy and management guidelines. This emphasizes the integral role of performance monitoring and evaluation in policy implementation.

Much of this document is highly technical; however, the *Background* and *Future Directions* sections and *Appendix C* provide a general overview of cervical screening in Canada and its evaluation.

For more information, the *Report from the Screening Performance Indicators Working Group, Cervical Cancer Prevention and Control Network (CCPCN): January 2009* is available on the PHAC website at: <http://www.phac-aspc.gc.ca/cd-mc/cancer/pmc-cspc-srpdccuc/index-eng.php>

Author References

Correspondence: Jay Onysko, Centre for Chronic Disease Prevention and Control, Public Health Agency of Canada, 785 Carling Ave., A/L 6809A, Ottawa, ON, K1A 0K9, Tel.: (613) 952-6143, Fax: (613) 941-5497, Email: jay.onysko@phac-aspc.gc.ca

Executive summary

Report from the Canadian Chronic Disease Surveillance System: Hypertension in Canada, 2010

S. Dai; C. Robitaille; C. Bancej; L. Loukine; C. Waters; O. Baclic

Introduction

Hypertension is a common and serious health problem among Canadians, and tracking hypertension leads to understanding how the condition can be prevented and treated. The *Report from the Canadian Chronic Disease Surveillance System: Hypertension in Canada, 2010* provides a current and comprehensive picture of hypertension in Canada. Written in collaboration with the provincial and territorial governments, it is the Public Health Agency of Canada's first national surveillance report on hypertension from the Canadian Chronic Disease Surveillance System (CCDSS), which was initially used to track diabetes.

The main purpose of the report is to provide governments and the public with new knowledge in order to help reduce the risk of developing hypertension and to improve its outcomes among Canadians.

The report shows that hypertension—defined by CCDSS as a minimum of one hospitalization or of two physician claims with a diagnosis of hypertension within a two-year period—is highly prevalent. The number of Canadian adults living with hypertension has increased between 1998/99 and 2006/07 and is projected to continue to increase, with a resultant major impact on Canada's health system. Moreover, a substantial number of Canadians are living with both

hypertension and diabetes; for them, mortality rates from any causes are higher than among people with only one of these conditions.

Highlights

The *Report from the Canadian Chronic Disease Surveillance System: Hypertension in Canada, 2010* features the most recent data available, from fiscal year 2006/07, as well as trend data from 1998/99 to 2006/07. Where data on both diagnosed hypertension and diabetes are presented, trend data are from 2000/01 onwards as data for diabetes were not available prior to this. The report also provides provincial/territorial comparisons. However, data for Nunavut and Quebec were unavailable, though these will likely be available in future reports. Data were reported for adults aged 20 years and older.

Prevalence

- Nearly 6 million Canadians—or more than one in five adults over the age of 20—were living with diagnosed hypertension in 2006/07 (24.0% of women and 21.3% of men, crude prevalence).
- The age-standardized prevalence of diagnosed hypertension increased from 12.9% in 1998/99 to 19.6% in 2006/07.

- Projections indicate that, if current age and sex trends continue, by 2011/12 about 7.3 million Canadians will have been diagnosed with hypertension—an estimated increase of 25.5% from 2006/07.

Incidence

- Age-standardized incidence rates of diagnosed hypertension remained stable throughout the study period with overall incidence rates (age-standardized to the 1991 Canadian population) of 26.2 per 1000 in 1998/99 and 25.8 per 1000 in 2006/07.
- Almost half a million (450 000) Canadians were newly diagnosed with hypertension in 2006/07 (22.1 per 1000 population aged 20 years and older, 21.6 per 1000 women and 22.7 per 1000 men, crude incidence).

Provincial and territorial comparisons

- The age-standardized prevalence of diagnosed hypertension was above the national average in the Atlantic provinces and below the national average in the west and north (Yukon, Northwest Territories and British Columbia).
- Yukon has the highest age-standardized incidence rate of diagnosed hypertension, closely followed

Author References

Centre for Chronic Disease Prevention and Control, Public Health Agency of Canada, Ottawa, Ontario

Correspondence: Sulan Dai, MD, PhD, Centre for Chronic Disease Prevention and Control, Public Health Agency of Canada, 785 Carling Ave., A/L 6806A, Ottawa, ON, K1A 0K9, Tel.: 613-960-0558, Fax: 613-941-2057, Email:sulan.dai@phac-aspc.gc.ca

by Newfoundland and Labrador. The lowest rates were observed in Ontario and the Northwest Territories.

Hypertension and diabetes

- In 2006/07, 5.1% of Canadians aged 20 years and older (1 million) were living with both diagnosed diabetes and hypertension.
- 22.7% of adults with diagnosed hypertension also had diagnosed diabetes, and 62.8% of adults with diagnosed diabetes also had diagnosed hypertension.
- Age-standardized prevalence of diagnosed diabetes among adults with diagnosed hypertension increased from 10.9% in 2000/01 to 14.3% in 2006/07.

Mortality

- Between 1998/99 and 2006/07, all-cause mortality rates for adults with diagnosed hypertension decreased from 7.3 per 1000 to 6.7 per 1000 among women and from 12.2 per 1000 to 10.2 per 1000 among men.
- In 2006/07, all-cause mortality rates were, respectively, 34% and 44% higher among women and men with diagnosed hypertension than among those without diagnosed hypertension.
- In 2006/07, age-standardized all-cause mortality rates were about 2 times higher for adults with both diagnosed hypertension and diabetes compared to adults with diagnosed hypertension only.

Summary

The *Report from the Canadian Chronic Disease Surveillance System: Hypertension in Canada, 2010* provides an up-to-date picture of hypertension in Canada. Although the overall incidence rate has been stable, the prevalence has been increasing steadily over the last decade, meaning that the number of Canadians who are living with hypertension has increased.

Known as the “silent killer,” hypertension is a leading modifiable risk factor for cardiovascular disease (CVD) and mortality in the world. In most cases, hypertension has no symptoms and can only be diagnosed through proper blood pressure measurement. If left untreated, hypertension can increase a person’s risk of stroke, coronary heart disease, dementia, diabetes, heart and kidney failure and other chronic diseases.

Hypertension affects all age groups, but the risk of hypertension increases with age. The Canadian population is aging, and with increasing rates of obesity and diabetes, the risk of developing hypertension is projected to increase in Canada.

The risk of developing hypertension can be reduced through eating a healthy diet, limiting sodium intake, avoiding excessive alcohol consumption, losing excess weight and through regular physical activity.

Hypertension can be controlled with lifestyle modifications and/or use of blood pressure lowering medication. Moreover, it is important that individuals with hypertension have their cholesterol and blood sugar levels and kidney function checked regularly as the presence of these risk factors increases the risk of damage from hypertension. Improved management of hypertension can prevent heart disease, kidney disease and stroke in the population.

For more information, the *Report from the Canadian Chronic Disease Surveillance System: Hypertension in Canada, 2010* is now available on the PHAC website at: <http://phac-aspc.gc.ca/cd-mc/cvd-mcv/ccdss-snsmc-2010/index-eng.php>

What Chronic Disease Infobase Data Cubes can do for you

Background

Public health is complex, largely due to the diversity of the population under study. Because of this, characterizing the relationships that exist between exposure(s) and disease requires comprehensive analyses of many variables. Traditional methods of data analysis using statistical software (e.g. SAS® and STATA®) are best for complex analyses. However, for routine queries, for instance, the prevalence of a chronic disease by age and geography, the Public Health Agency of Canada has developed an online tool to enhance the efficiency of this type of data analysis.

An interactive tool

Chronic Disease Infobase data cubes display chronic disease health indicator data interactively. This online data analysis tool is very flexible; you can explore many different variables and look at associations between them; you can combine, nest and change the variables instantly; and you can change the appearance of your figure quickly and easily by changing the figure type and adjusting the series' colours. The efficiency and utility of this approach for generating cross-tabulations and figures is unparalleled.

Accessing and saving data

Access to the Chronic Disease Infobase data cubes is via your web browser; no additional software or downloads are required. In addition, each user is able to save queries for future access and send queries to colleagues. You can also export figures and/or tables to several file formats (e.g. portable document format, Microsoft Excel spreadsheet).

Easy to use: a Nova Scotia example

Scenario: you are a regional surveillance analyst in Halifax, Nova Scotia. A provincial government employee asks you for the prevalence of smoking in your region, by age group, gender and occupation. You complete the analysis immediately by

accessing Chronic Disease Infobase data cubes online. From the list of cubes, you choose the most appropriate one for your analysis. You then simply orient your table to include the four variables required, choose the chart type that best represents the data (e.g. pie chart vs. clustered bar chart) and export the table to the format of your choice.

A rich palette of data

Infobase data cubes contain various types of data, including mortality, morbidity and risk factor data. These can be compared across various demographic data to generate statistics such as prevalence estimates, crude and adjusted incidence rates, and trends over time. The chronic disease indicator data come from many different sources, including the Canadian Community Health Survey, the Canadian Health Measures Survey, Vital Statistics and cancer incidence data from Statistics Canada, the Canadian Chronic Diseases Surveillance System and the Canadian Census. All data contained in the Chronic Disease Infobase data cubes are pre-summarized and meet the requirements of all applicable user agreements.

To access this new online surveillance tool, enter the following Web URL into your browser, <http://www.infobase.phac-aspc.gc.ca>

For more information about the tool, please contact infobase@phac-aspc.gc.ca