

At A Glance

May 2010

Monthly highlights of ICES research findings for stakeholders

Anti-smoking legislation has proven positive impact on health of Ontarians

Naiman A, Glazier R, Moineddin R. Association of anti-smoking legislation with rates of hospital admission for cardiovascular and respiratory conditions. *CMAJ*. 2010; 182(8): 761–7.

Issue	What effect has anti-smoking legislation in Ontario had on admissions to hospital for cardiovascular and respiratory conditions?
Study	Calculated rates of hospital admission for three cardiovascular conditions (acute myocardial infarction, angina and ischemic stroke) and three respiratory conditions (asthma, chronic obstructive pulmonary disease and pneumonia/bronchitis) in Toronto from January 1996 (three years before the first phase of a smoking ban was implemented) to March 2006 (two years after the final phase was implemented). Results were compared with similar data from two municipalities that did not have smoking bans (Durham Region and Thunder Bay) and with three conditions not related to second-hand smoke (acute cholecystitis, bowel obstruction and appendicitis).
Key Findings	The largest decline in hospital admissions occurred after the 2001 ban on smoking in restaurants (phase two of the legislation). This included a 17% decrease in the crude rate of admission for heart attacks, a 33% decrease in rates of admission for respiratory conditions and a 39% decrease in rates of admission for cardiovascular conditions. The two municipalities with no smoking ban in place experienced an increase in hospital admissions for heart attack. No significant changes in hospital admission were found for the three conditions not related to second-hand smoke.
Implications	Legislated bans on smoking correspond with reduced rates of admission to hospital, reinforcing the value of such bans for public health. Further research is needed to establish the types of settings in which smoking bans are most effective.

Despite aging population, fewer Ontarians being admitted to hospital with stroke or TIA

Hall R, Baylem M, O'Callaghan C, Khan F, Meyer S, Linkewich B, Lumsden J, Willems D. *Ontario Stroke Evaluation Report 2010—Technical Report*. Toronto: Institute for Clinical Evaluative Sciences; 2010.

Issue	In 2003, the provincial government launched the \$70 million Ontario Stroke Strategy and committed \$30 million annually to develop and monitor an integrated stroke system in the province. What outcomes can be attributed to this initiative?
Study	Analyzed provincial and regional trends in stroke health service utilization and mortality of approximately 60,000 patients arriving at acute care hospitals in Ontario between April 2003 and March 2008.
Key Findings	<ul style="list-style-type: none">• Just over half (55%) of stroke patients arrived at hospital by ambulance.• Annual age- and sex-adjusted rates of acute inpatient admissions for stroke decreased by 23%.• More stroke patients received care in designated stroke centres (that have lower mortality and are more likely to discharge people to inpatient rehabilitation).• The median wait time for carotid artery intervention dropped from 41 days in 2003 to 15 days in 2008.• The overall proportion of stroke patients discharged to inpatient rehabilitation following an acute care hospitalization increased from 20% to 23%, with an associated decrease in the proportion of stroke patients discharged to long-term care (from 8.5% to 7.0%).• In 2008, the median admission measure of functional independence (the FIM[®] score) to inpatient stroke rehabilitation programs was 77 suggesting that a notable proportion of patients in the severe group (with an FIM[®] score of less than 60) did not have access to inpatient rehabilitation.
Implications	Although stroke prevention and care has improved dramatically, including a significant reduction in wait times and hospitalization and more patients being cared for at stroke centres, there is room for improvement in the variation in stroke outcomes and practices, including rehabilitation, across the province.

Common blood thinner dangerous when combined with popular antibiotic

Fischer H, Juurlink D, Mamdani M, Kopp A, Laupacis A. Hemorrhage during warfarin therapy associated with cotrimoxazole and other urinary tract anti-infective agents: a population-based study. *Arch Intern Med.* 2010; 170(7): 617–21.

Issue	What is the risk of upper gastrointestinal (UGI) tract hemorrhage in patients receiving the blood thinner warfarin in combination with antibiotics commonly used to treat urinary tract infections (UTIs)?
Study	Tracked 134,637 Ontarians aged 66 or older between April 1997 and March 2007 who had been treated continuously with warfarin for at least 180 days, and observed them until either hospitalization for UGI tract hemorrhage (the index date), discontinuation of warfarin therapy, the end of the study period or death, whichever occurred first. Patient exposure to any of six antibiotics (focusing on cotrimoxazole for which there is a known drug-drug interaction with warfarin) was determined.
Key Findings	About 34% of patients (45,972) received at least one prescription for one of the selected antibiotics and 7% of patients (9,751) received at least one prescription for cotrimoxazole. Overall, 2,151 patients treated with warfarin were hospitalized for UGI bleeding. In patients taking warfarin, use of cotrimoxazole was associated with an almost four-fold increase in the risk of hemorrhage compared to no antibiotic use. This risk was much higher than with other antibiotics used to treat UTIs.
Implications	Whenever possible, clinicians should prescribe alternative antibiotics to cotrimoxazole in patients receiving warfarin.

Study compares cardiovascular risk profiles of Canada's major ethnic groups

Chiu M, Austin P, Manuel D, Tu J. Comparison of cardiovascular risk profiles among ethnic groups using population health surveys between 1996 and 2007. *CMAJ.* 2010; 182(8): E301–10.

Issue	What is the relative distribution of cardiovascular risk among Ontario's major ethnic groups?
Study	Compared survey data on eight cardiovascular risk factors among 154,653 white, 3,364 South Asian, 3,058 Chinese, and 2,742 black people, who were living in Ontario between 1996 and 2007.
Key Findings	There was a two-fold higher risk of diabetes among the South Asian and black groups than among the white and Chinese groups. Compared to the white group, the prevalence of hypertension was 44% higher in the black group and 24% higher in the South Asian group. Smoking prevalence was almost three times higher in the white group than in the Chinese and South Asian groups. Obesity was five times more prevalent in white and black people than in Chinese people. Chinese respondents had the most favourable cardiovascular risk profile, with only 4.3% of the population reporting two or more major cardiovascular risk factors (current smoking, obesity, diabetes, hypertension), followed by the South Asian (7.9%), white (10.1%) and black (11.1%) respondents.
Implications	Health promotion experts and health system planners need to be aware of these findings so that they can effectively target their cardiovascular risk prevention and treatment efforts.

Recent immigrants at higher risk of developing diabetes

Creatore M, Moineddin R, Booth G, Manuel D, DesMeules M, McDermott S, Glazier R. Age- and sex-related prevalence of diabetes mellitus among immigrants to Ontario, Canada. *CMAJ.* 2010; 182(8): 781–9.

Issue	Do recent immigrants to Ontario have a higher prevalence of diabetes than long-term residents?
Study	Calculated prevalence rates for diabetes among Ontario residents aged 20 or older on March 31, 2005, and compared rates among 1,122,771 recent immigrants (those granted permanent residency status between 1985 and 2000) to rates among 7,503,085 long-term residents.
Key Findings	<ul style="list-style-type: none"> • Immigrant women and men had 24% and 10% higher rates of diabetes, respectively, than their Ontario counterparts. • After controlling for factors such as age, education, income and time since arrival, diabetes risk in immigrants from South Asia was three to four times higher than in immigrants from Western Europe. • Men and women from Latin America and the Caribbean had more than double the risk of Western European immigrants. • Increased risk for many immigrant groups started at an early age (35 to 49 years)—a full decade earlier than in the general Ontario population—and was equally high or higher among women as compared to men. • Lower socioeconomic status and increased time living in Canada was associated with increased diabetes risk. Immigrants living in Canada for 15 years or more had a diabetes risk that was 1.5 times higher than immigrants who had lived in Canada from five to nine years.
Implications	These findings suggest that effective programs for prevention of diabetes should be developed and targeted to immigrants in all age groups.