

At A Glance

April 2009

Monthly highlights of ICES research findings for stakeholders

Ontario achieves modest gains with universal influenza immunization program

Moran K, Maaten S, Guttman A, Northrup D, Kwong J. Influenza vaccination rates in Ontario children: implications for universal childhood vaccination policy. *Vaccine*. 27(17): 2350–2355.

Issue	In contrast to other Canadian jurisdictions that have assessed influenza vaccination rates in children, coverage rates in Ontario's children have never been measured.
Study	Randomly surveyed caregivers of 4,854 children aged six months to 11 years between April and September 2007 to determine the child's age, sex, vaccination history, reason for receiving/not receiving vaccination, location where vaccination was given and presence of chronic conditions. The data was compared with estimates of immunization obtained from five other Canadian provinces.
Key Findings	<ul style="list-style-type: none">• For children with medical conditions placing them at higher risk for complications from influenza, only one in three (30.8%) received vaccinations according to the recommended schedule.• Only one in 10 (10.2%) children aged six months to two years received the right number of vaccinations.• Both these rates are lower than the target of 70% for high-risk groups.• Ontario's vaccination rate for children aged 2–11 years was 28.3% for healthy children and 36.8% for those with chronic conditions.• The rate of flu shots in Ontario infants was lower than other provinces despite Ontario's universal immunization program which makes influenza vaccinations available free to all residents aged six months and older.• Provincial immunization coverage of children aged 6–23 months was: Ontario, 24.0%; Manitoba, 24.1%; Saskatchewan, 32.5%; Nova Scotia, 35.5%; Quebec, 41.8% for one-year-olds and 37.7% for two-year-olds during the 2005/06 influenza season; and Alberta, 52.2%.
Implications	Although Ontario's influenza vaccination program has achieved moderate rates of immunization, the funding of universal access alone is unlikely to achieve national targets. Implementation of a province-wide immunization registry would provide timely access to information to inform vaccination planning and evaluation and the implementation of public health strategies to target high-risk groups with low coverage.

Anesthesia consultation before surgery reduces hospital stay

Wijesundera D, Austin P, Beattie S, Hux J, Laupacis A. A population-based study of anesthesia consultation before major noncardiac surgery. *Arch Intern Med*. 2009; 169(6): 595–602.

Issue	Small single-centre studies have associated consultation with an anesthesiologist before surgery with reduced patient anxiety, case cancellations on the day of surgery, and duration of hospitalization. The impact of anesthesia consultation on outcomes in the broader population is unclear.
Study	Identified 271,082 patients aged 40 and older who had major elective non-cardiac surgery in Ontario between April 1994 and March 2004, and created matched pairs of those who underwent consultation within 60 days before surgery and those who did not. The association of consultation with hospital length of stay and postoperative mortality (30-day and one-year) was calculated.
Key Findings	Overall, 39% of patients had seen an anesthesiologist in consultation prior to surgery. The proportion who underwent consultation increased from 19% in 1994 to 53% in 2003. Within the matched pairs, consultation was associated with reduced hospital length of stay of about one-third of a day (8.17 days vs. 8.52 days). Patients who had a consultation underwent more routine testing before surgery and more epidural anesthesia during surgery. Pre-surgery consultation was not associated with reduced mortality at 30 days or one year after surgery.
Implications	Based on the approximately 32,000 patients who underwent major surgery in Ontario in 2003, routine anesthesia consultation might have prevented more than 11,200 days of hospitalization. Future research should evaluate the cost-effectiveness of anesthesia consultation's increasing use.

Diabetic patients with heart disease receive more benefit from paclitaxel-eluting stents

Chiu M, Ko D, Austin P, Cohen E, Veliadou J, Goeree R, Blackhouse G, Tu J. Paclitaxel versus sirolimus stents in diabetic and nondiabetic patients. *Circ Cardiovasc Qual Outcomes*. 2009; 2(2): 96–107.

Issue	Little is known about the relative performance of sirolimus- and paclitaxel-eluting stents in diabetic and nondiabetic patients with coronary artery disease in routine clinical practice.
Study	Compared the effects of sirolimus- and paclitaxel-eluting stents in 835 matched pairs of diabetic patients and 1,219 matched pairs of nondiabetic patients who underwent percutaneous coronary intervention in Ontario between December 2003 and March 2006. Patient rates of revascularization (the restoration of blood supply by means of a blood vessel graft), myocardial infarction and death were examined.
Key Findings	Overall, the two stent types showed no difference at three years in rates of revascularization, myocardial infarction or death. Sirolimus-eluting stents were significantly more effective in reducing the need for revascularization in nondiabetic patients but not in diabetic patients. Paclitaxel-eluting stents resulted in a lower rate of revascularization.
Implications	The study results could potentially inform physicians' choice of stents and help to enhance the real-world effectiveness of drug-eluting stents in reducing the need for repeat revascularization.

Statin therapy associated with reduced mortality at five years in heart failure patients

Ouzounian M, Tu J, Austin P, Chong A, Liu P, Lee D. Statin therapy and clinical outcomes in heart failure: a propensity-matched analysis. *J Card Fail*. 2009; 15(3): 241–248.

Issue	Are statins, a group of cholesterol-lowering drugs, associated with improved clinical outcomes in patients discharged after hospitalization for heart failure (HF)?
Study	Identified 6,451 patients admitted to 103 Ontario hospitals between April 1999 and March 2001 with HF and from these, created 721 matched pairs composed of one patient who was discharged on statin therapy and one patient who was not. Five-year outcomes were assessed for the entire group and for four subgroups: those with or without coronary artery disease (CAD), and those with preserved or reduced ejection fraction (the proportion of blood ejected out of the left ventricle during each heartbeat).
Key Findings	Overall, 1,121 patients (17%) were discharged with a statin prescription. At five years, HF patients discharged on statins had lower rates than those not discharged on statins for mortality (54% vs. 65%); and a cardiovascular morbidity (mortality, readmission for HF, admission for acute coronary syndromes or ischemic stroke) (77% vs. 81%). Effect of statin therapy on five-year mortality was similar in patients both with and without CAD, whereas the effect of statin therapy on the five-year cardiovascular morbidity was only significantly lower in those with CAD. Effect of statin therapy was not related to ejection fraction.
Implications	Statin therapy was associated with significantly improved five-year mortality and cardiovascular morbidity in HF patients, in particular those with prior myocardial infarction or coronary disease.

Wealthier heart attack survivors more likely to make needed lifestyle changes

Chan R, Gordon N, Chong A, Alter D. Influence of socioeconomic status on lifestyle behavior modifications among survivors of acute myocardial infarction. *Am J Cardiol*. 2008; 102(12): 1583–1588.

Issue	What is the relationship between socioeconomic status and change in lifestyle behaviour after acute myocardial infarction (AMI)?
Study	Tracked 1,801 patients who were available for follow-up at 30 days after AMI in Ontario between December 1999 and February 2003 and who agreed to participate in a telephone lifestyle survey. Responses were correlated with sociodemographic, cardiac risk severity and co-existing disease conditions.
Key Findings	After AMI, higher-income patients were less likely to continue smoking and more likely to participate in regular exercise, decrease or cease alcohol consumption and modify their diets than lower-income patients. The relation between lifestyle changes and education was less pronounced. Among all behaviors, only regular physical exercise was associated with lower mortality.
Implications	Despite being sicker at baseline, socioeconomically disadvantaged patients were less likely to adopt healthier lifestyle changes. This may be due in part to factors related to affordability. Although Canadians receive medically necessary services without user fees, access to most exercise and dietary programs fall outside the scope of the public system, as do transportation costs and time away from work.