

At A Glance

October 2011

Monthly highlights of ICES research findings for stakeholders

Tamoxifen use linked to increased diabetes risk in breast cancer survivors

Lipscombe LL, Fischer HD, Yun L, Gruneir A, Austin P, Paszat L, Anderson GM, Rochon PA. Association between tamoxifen treatment and diabetes. *Cancer*. 2011 Sep 20 [Epub ahead of print].

Issue	Tamoxifen is the most commonly prescribed hormonal treatment in women with breast cancer. Is tamoxifen treatment in older breast cancer survivors associated with an increased risk of diabetes?
Study	Identified women aged 66 and older newly diagnosed with early stage breast cancer between April 1996 and March 2006 in Ontario. Patients were observed until the first occurrence of diabetes, a breast cancer recurrence, a new malignancy, death or March 31, 2008. Cohort members diagnosed with diabetes during follow-up were matched with up to five controls from the cohort who did not develop diabetes (matched on age and time since cancer diagnosis). The likelihood of diabetes was compared for current tamoxifen users and nonusers.
Key Findings	Of 14,360 breast cancer survivors identified (average age at diagnosis 74.9 years), 1,445 (10%) developed diabetes over an average follow-up of 5.2 years. The odds of developing diabetes were 24% higher in women treated with tamoxifen compared to those not receiving the drug.
Implications	Reasons for the association between tamoxifen use and increased risk of diabetes among older breast cancer survivors are not well understood, and further research is needed. Closer monitoring for diabetes in tamoxifen-treated breast cancer survivors may be warranted.

Drug-eluting stents reduce need for revascularization in treatment of SVG disease

Ko DT, Guo H, Wijeyesundera HC, Zia MI, Dzavik V, Chu MW, Fremes SE, Cohen EA, Tu JV. Long-term safety and effectiveness of drug-eluting stents for the treatment of saphenous vein grafts disease: a population-based study. *JACC Cardiovasc Interv*. 2011; 4(9):965-73.

Issue	Saphenous vein graft (SVG) disease is characterized by stenosis (narrowing) of a SVG following bypass surgery. What is the long-term safety and effectiveness of drug-eluting stents (DES) in treating SVG disease in comparison to bare-metal stents (BMS)?
Study	Identified 2,222 patients who had stent implantation for the treatment of SVG disease from December 2003 to December 2008 in Ontario. The primary safety outcomes were myocardial infarction and all-cause mortality. The primary effectiveness outcome was repeat target vessel revascularization.
Key Findings	Overall, 803 patients received DES and 1,419 received BMS. DES were associated with a significant reduction in the need for future revascularization compared to BMS. The reduction was largest in patients who were diabetics or had longer lesions. Myocardial infarction and mortality rates did not significantly differ in the DES and BMS groups at four years.
Implications	While awaiting the results of larger randomized clinical trials with long-term follow-up, these results lend support to the current practice of implanting DES among appropriate patients with SVG lesions.

Poor health status outranks socioeconomic status as greater predictor of ED use

Khan Y, Glazier RH, Moineddin R, Schull MJ. A population-based study of the association between socioeconomic status and emergency department utilization in Ontario, Canada. *Acad Emerg Med*. 2011; 18(8):836-43.

Issue	In a system with publicly-funded health insurance, which is the larger predictor of emergency department (ED) use: socioeconomic status (SES) or health status?
Study	Linked national health survey responses of 9,323,217 Ontario participants aged 20 to 74 to physician utilization data for 1999-2001 and ED utilization data for 2002. Less urgent ED visits were defined as those assigned a Canadian Triage and Acuity Scale score of 4 and 5. SES was defined by education (high school completion) and income level.
Key Findings	The mean age of the overall sample was 46.0 years, and 90.9% reported having a regular doctor. In 2002, 31.4% of the sample used an ED. The majority of visits (59.1%) were classified as less urgent. Fair or poor self-perceived health was the largest predictor of ED use, regardless of visit urgency. Those with less education had more ED visits (or higher visit rates) in both the low and high acuity categories, after controlling for age, sex, income, self-perceived health, urban or rural location, regular doctor, and non-ED physician visits.
Implications	This study lends support to findings in other health systems that those using EDs are more ill and more disadvantaged and are not relying on EDs simply as a primary care provider.

Low-income girls in Ontario least likely to complete HPV vaccine regimen

Smith LM, Brassard P, Kwong JC, Deeks SL, Ellis AK, Lévesque LE. Factors associated with initiation and completion of the quadrivalent human papillomavirus vaccine series in an Ontario cohort of Grade 8 girls. *BMC Public Health*. 2011; 11:645.

- Issue** Over a hundred million dollars have been invested in offering free human papillomavirus (HPV) vaccination to young girls in Ontario. The vaccine is designed to protect against HPV strains that cause 70% of cervical cancers and 90% of genital warts. What level of coverage has been achieved and what factors are associated with vaccine acceptance in this population?
- Study** Identified girls residing in the Kingston, Frontenac, Lennox and Addington public health district who were eligible for Ontario's grade 8 HPV vaccination program in 2007/08 and 2008/09. Determined the proportion that initiated (at least one dose) and completed (all three doses) the vaccine series according to socio-demographic factors, vaccination history, health services utilization and medical history.
- Key Findings** Of 2,519 girls, 56.6% received at least one dose of HPV vaccine. Among vaccinated girls, 85.3% received all three doses, 11.2% received two doses and 3.5% received only the first. Girls who received the measles-mumps-rubella, meningococcal C and hepatitis B vaccines were considerably more likely to also receive the HPV vaccine. However, HPV vaccine uptake was more than 20% lower than that of these other vaccines. Girls of low income were the least likely to complete the three-dose regimen.
- Implications** Program delivery should be modified to improve HPV vaccine series completion in vulnerable populations. The association between HPV vaccine uptake and hospital admissions and outpatient visits requires further study.

Antibiotic use common among residents of Ontario nursing homes

Daneman N, Gruneir A, Newman A, Fischer HD, Bronskill SE, Rochon PA, Anderson GM, Bell CM. Antibiotic use in long-term care facilities. *J Antimicrob Chemother*. 2011 Sep 27 [Epub ahead of print].

- Issue** It is estimated that up to half of antibiotic use in hospitals and long-term care (LTC) facilities is unnecessary or inappropriate, leading to a call for the implementation of antimicrobial stewardship programs in these facilities. What is the prevalence of antibiotic use among LTC facility residents in Ontario?
- Study** Tracked antibiotic use among adults aged 66 and older residing in 363 LTC facilities in Ontario between April and June 2009. The facilities were grouped into quintiles according to their average antibiotic dispensing rates, and variation was compared across facilities.
- Key Findings** On the study date, 5.9% of LTC residents (2,190) were receiving antibiotic prescriptions. The three most prevalent antibiotics were most commonly used to treat urinary tract infections, including nitrofurantoin (15.4%), trimethoprim/sulfamethoxazole (14.3%) and ciprofloxacin (12.8%). The majority of treatment courses (62.6%) were at least 10 days in duration and 20.9% exceeded 90 days. There was substantial variability in antibiotic use across LTC facilities, with a five-fold variation from the lowest use quintile (2.2%) to the highest use quintile (10.8%).
- Implications** Antibiotic use in LTC facilities would benefit from focused antimicrobial stewardship interventions, including reviewing antibiotic utilization on a regular basis, limiting chronic antibiotic prophylaxis for urinary tract infections and promoting short-course therapy for common bacterial infections.

ICES is an independent, non-profit organization that conducts research on a broad range of topical issues to enhance the effectiveness of health care for Ontarians. Internationally recognized for its innovative use of population-based health information, ICES research provides evidence to support health policy development and changes to the organization and delivery of health care services.