

At A Glance

October 2008

Monthly highlights of ICES research findings for stakeholders

Warfarin underused by patients at high risk for stroke

Gladstone J, Bui E, Fang J, Laupacis A, Lindsay P, Tu J, Silver F, Kapral M. Potentially preventable strokes in high-risk patients with atrial fibrillation who are not adequately anticoagulated. *Stroke* 2008 Aug 28; [Epub ahead of print].

Issue	Warfarin is the most effective stroke prevention medication for high-risk individuals with atrial fibrillation (a common type of irregular heartbeat). Evidence suggests that warfarin, which is an inexpensive anticoagulant, can reduce the risk of stroke by 67%; however, because a side effect is potentially serious bleeding, it is often underused. The magnitude of warfarin underuse is unknown.
Study	Analyzed data from the Registry of the Canadian Stroke Network for 597 high-risk patients with a history of atrial fibrillation but no known contraindications to anticoagulation who were admitted to 12 stroke centres in Ontario between July 2003 and June 2007. The patients' use of pre-stroke anticlotting medications was evaluated.
Key Findings	Strokes were disabling in 60% of the patients and fatal in 20%. Prior to admission, 40% of the patients were taking warfarin, 30% antiplatelet therapy and 29% were taking no antithrombotics. Of those taking warfarin, 74% were taking a less-than-therapeutic dosage at the time of admission.
Implications	These findings support greater efforts to prescribe and monitor appropriate anticlotting drug therapy to prevent stroke in high-risk individuals with atrial fibrillation.

Statin use in elderly patients linked to higher risk of delirium after surgery

Redelmeier D, Thiruchelvam D, Daneman N. Delirium after elective surgery among elderly patients taking statins. *CMAJ* 2008; 179(7): 645–652.

Issue	Postoperative delirium contributes to longer hospital stays, more need for intensive care and the disruption of medication administration, wound treatment, physiotherapy, nutrition, hygiene, and discharge planning. Are cholesterol-lowering statin medications associated with a higher risk of postoperative delirium?
Study	Identified 284,158 patients aged 65 years and older who underwent elective surgery in Ontario hospitals between April 1992 and April 2002. Exposure to statins was determined from outpatient pharmacy records before admission. Delirium was identified by examining hospital records after surgery.
Key Findings	Overall, postoperative delirium was diagnosed in 3,195 patients (11 per 1,000). Among the 7% (19,501) of patients taking statins before surgery, the risk of delirium was 30% higher (14 per 1,000). The association between statins and delirium was not observed with other cholesterol-lowering medications, heart disease medications or other common drugs.
Implications	The association between statins and postoperative delirium warrants further research. The investigators suggest that, until more data are available, it would be reasonable to temporarily interrupt the use of statins in elderly patients undergoing elective surgery.

Attendance at diabetes education centres associated with access to regular primary care

Shah B, Booth G. Predictors and effectiveness of diabetes self-management education in clinical practice. *Patient Educ Couns* 2008 Sep 19; [Epub ahead of print].

Issue	Comparatively little research has examined predictors of attendance at diabetes education centres (DECs) and subsequent quality of care indicators between attendees and non-attendees.
Study	Analyzed data from the Survey of Diabetes Services completed by 781 adults with diabetes of at least two years' duration between August 2003 and December 2004 in Ontario. Survey responses to clinical history and healthcare utilization were linked to hospital and emergency department (ED) admission records and to physician and optometrist service claims.
Key Findings	Overall, 30% of respondents attended a DEC in 2002. Strong predictors of attendance included recently diagnosed diabetes, marital status and receiving regular primary or diabetes specialist care. Attendees were more likely to receive an eye exam in the following two years than non-attendees. Quality of care indicators that did not differ between the two groups included blood glucose testing; hospitalizations or ED visits for diabetes complications; and at least six visits to the same primary care provider in the two years.
Implications	These findings suggest there was decreased access to and utilization of DECs by people with longer duration of diabetes and those without regular primary care. Those individuals who are at increased risk of diabetes complications may need to be specially targeted to access self-management education, in particular through community-based initiatives.

Study finds disparities in access to diagnostic imaging services among elderly Ontarians

Wang L, Nie J, Tracy S, Moineddin R, Upshur R. Utilization patterns of diagnostic imaging across the late life course: a population-based study in Ontario, Canada. *Int J Tech Assess Health Care* 2008; 24(4): 384–390.

Issue	Utilization rates of diagnostic X-rays, computed tomography (CT) and magnetic resonance imaging (MRI) have risen rapidly in relation to other health services. Few studies have examined how, in the context of this trend, the use of these diagnostic imaging services by older individuals has changed.
Study	Analyzed the health insurance records of all Ontario residents aged 65 years and older who made at least one claim between April 2005 and March 2006. Fee codes were used to identify diagnostic X-rays, CT scans and MRI scans. Patients were categorized into three groups: non-users (those who did not receive a particular service); moderate-users (those who received a particular service on one occasion); and high-users (those who received a particular service on two or more occasions). Service use was correlated to the users' sex, age group and neighbourhood income level.
Key Findings	Utilization of diagnostic imaging followed an inverted U-pattern: increasing with advancing age, peaking in the 80–84 age group for CT scans and in the 70–74 age group for MRI and X-rays, and then declining in the later years. Overall, females received significantly more X-rays than males, but males received significantly more CT and MRI scans. A small proportion of high-users of radiology services accounted for a large proportion of overall utilization. A disproportionately large number of high-users of MRI services were in the highest income group. No income-level differences were observed for users of X-rays or CT scans.
Implications	The U-shaped utilization pattern suggests that there will be a planning need to accommodate the baby-boom population as it approaches the 70–84 age range. Given the increasing demand and limited resources available, there may be a need for programs to target underserved populations (women and the poor) to reduce inequities.

Surgeon's specialty a factor in repeat surgeries for women with ovarian cancer

Elit L, Bondy S, Paszat L, Holowaty E, Thomas G, Stukel T, Levine M. Surgical outcomes in women with ovarian cancer. *Can J Surg* 2008; 51(5): 346–354.

Issue	Does the specialty of the surgeon or the hospital involved in the initial management of women with ovarian cancer determine the likelihood of unnecessary repeated abdominal surgery and long-term survival?
Study	Examined the hospital records of 1,341 women with newly diagnosed ovarian cancer who were treated initially with abdominal surgery between January 1996 and December 1998 in Ontario. Data on patient characteristics, physician specialty and hospital type were correlated. Repeat surgery was defined as a second abdominal surgery performed within five months of the initial surgery. Surgery to address complications from the initial procedures was excluded. Survival time was calculated from the time of diagnosis of ovarian cancer to the date of death from any source.
Key Findings	<ul style="list-style-type: none"> • Overall, 84 patients (6.3%) had a repeat abdominal surgery unrelated to complications. • Lower surgeon and hospital volume were significantly associated with repeat surgery, as were patients with a lower disease stage, well differentiated tumours and those living in rural areas. • Patients whose first surgeries were performed by a general surgeon were nearly six times more likely to have repeat surgery than patients of gynecologic oncologists. • Survival time was not associated with the surgeon's discipline, but it was associated with advanced patient age, co-existing diseases, advanced stage of disease, poorly differentiated tumours and the use of adjuvant chemotherapy. • Survival time for patients of general surgeons was not significantly different from that of patients of gynecologic oncologists or gynecologists. • A trend between inadequate surgical management and a decreased likelihood of survival was observed.
Implications	Further study is needed to understand patterns of repeat surgery for ovarian cancer. Improved quality of operative reporting is required to classify surgical adequacy.