

## At A Glance

April 2008

### Monthly highlights of ICES research findings for stakeholders

#### Ezetimibe prescribing soars in the United States compared to Canada

Jackevicius C, Tu J, Ross J, Ko D, Krumholz H. Use of ezetimibe in the United States and Canada. *N Engl J Med.* 2008 Mar 30; [Epub ahead of print].

<b>Issue</b>	Ezetimibe, a lipid-lowering agent (LLA), has uncertain outcome benefits and is not recommended in Canada or the U.S. as a first option in lowering cholesterol levels. No studies have compared prescribing practices and expenditures for ezetimibe and other LLAs, such as statins, in the two countries.
<b>Study</b>	Analyzed regional data on numbers and costs of prescriptions for LLAs in Canada and the U.S. from January 2002 to December 2006 and calculated national estimates.
<b>Key Findings</b>	Of the total costs for LLAs, the proportion for ezetimibe rose from 0.1% in 2002 to 13.8% in 2006 in the U.S., and from 0.2% in 2003 to 3.9% in 2006 in Canada. In 2006, ezetimibe accounted for 15.2% of all LLA prescriptions in the U.S., and 3.4% in Canada. The per capita cost of ezetimibe in the U.S. is more than four times that in Canada, whereas per capita costs for statins are similar in both countries. In 2006, the ratio of prescriptions for statins to those for ezetimibe was 26 to 1 in Canada and 5 to 1 in the U.S.
<b>Implications</b>	In Canada, unlike the U.S., direct-to-consumer drug advertising is prohibited and there is more regulation of publicly funded provincial drug formularies. The conservative approach of Canadian health planners to the adoption and reimbursement of new drugs may save money and prevent wider use of new medications with uncertain clinical outcomes.

#### SSRI antidepressant use during pregnancy not a factor in postpartum hemorrhage

Salkeld E, Ferris L, Juurlink D. The risk of postpartum hemorrhage with selective serotonin reuptake inhibitors and other antidepressants. *J Clin Psychopharmacol.* 2008; 28 (2): 230–234.

<b>Issue</b>	Depression during pregnancy is common and is often treated with antidepressants. Limited evidence suggests that selective serotonin reuptake inhibitor (SSRI) antidepressants can increase the risk of hemorrhage. No studies have explored the potential association between the use of SSRIs in late pregnancy and postpartum hemorrhage (PH), a major cause of maternal morbidity and mortality.
<b>Study</b>	Identified 2,460 patients with PH and a matched control group of 23,943 patients without PH from among Ontario women aged 16 to 45 years who had prescription drug coverage within two years before delivery. Prescription claims were linked to hospital discharge records between January 1999 and March 2005. Patients were categorized by type of antidepressant use (SSRI or non-SSRI) in the 90 days before delivery.
<b>Key Findings</b>	While the risk estimate for SSRI use was slightly higher than that for use of non-SSRIs (1.30 vs. 1.12), the difference was not significant. SSRIs conferred no disproportionate risk of postpartum hemorrhage at the time of delivery compared with non-SSRIs.
<b>Implications</b>	This information may help guide decisions regarding pharmacotherapy for depression during pregnancy.

#### Survivors of traumatic brain injury face increased risk of premature death

Colantonio A, Escobar M, Chipman M, McLellan B, Austin P, Mirabella G, Ratcliff G. Predictors of postacute mortality following traumatic brain injury in a seriously injured population. *J Trauma.* 2008; 64 (4): 876–882.

<b>Issue</b>	Traumatic brain injury (TBI) is a primary cause of injury mortality. Little is known about the impact of TBI on rates and predictors of mortality following recovery from the acute phase of injury in large trauma populations.
<b>Study</b>	Identified 2,721 Ontarians aged 15 years and older who had a TBI between April 1994 and March 1995, and a control group of 577 patients who had lower extremity trauma injuries during that period, and tracked them until December 2001. Post-acute death was defined as death one year or more after hospital discharge.
<b>Key Findings</b>	Patients with TBI had a higher mortality rate when compared to the control group (2.90 vs. 2.26). Significant predictors of increased mortality in the TBI population included age at injury (under age 50), number of coexisting diseases (two or more), discharge destination (a location other than home), the cause of injury (other than a fall or car accident), and injury severity.
<b>Implications</b>	Traumatic brain injuries can lead to premature death well into the post-acute period. By identifying the factors most associated with higher risk patient profiles, these findings may provide the basis for more effective post-discharge care and improved patient outcomes.

## Statins appear to exert class effect in patients with congestive heart failure

Rinfret S, Behloul H, Eisenberg M, Humphries K, Tu J, Pilote L. Class effects of statins in elderly patients with congestive heart failure: a population-based analysis. *Am Heart J.* 2008; 155 (2): 316–323.

<b>Issue</b>	Long-term treatment with statins, a class of lipid-lowering drugs, reduces mortality in patients with congestive heart failure (CHF). The relative effectiveness of different statins in CHF patients is unknown.
<b>Study</b>	Analyzed long-term mortality in patients from Quebec, Ontario and British Columbia aged 65 years and older who were discharged from hospital with a diagnosis of CHF from January 1998 to December 2002, and who filled a prescription for one of four commonly used statins.
<b>Key Findings</b>	<ul style="list-style-type: none"> <li>• A total of 15,368 patients were prescribed either atorvastatin (43.4%), simvastatin (27.7%), pravastatin (20.9%) or lovastatin (8.0%).</li> <li>• All four statins provided similar protection, and this finding persisted even after excluding CHF patients who had a prior heart attack, percutaneous coronary intervention, or coronary artery bypass graft surgery in the three years before or during hospitalization.</li> <li>• Drug dosages were relatively low, with 82% of patients receiving a dose of 20mg or less.</li> <li>• The favourable effects appeared largely independent of drug dosage.</li> </ul>
<b>Implications</b>	Drug plan managers, healthcare providers and consumers should carefully consider these findings, given the cost differences among statins.

## Study finds regional mismatch between cardiologist supply and demand for cardiac services

Alter D, Stukel T, Newman A. The relationship between physician supply, cardiovascular health service use and cardiac disease burden in Ontario: supply-need mismatch. *Can J Cardiol.* 2008; 24 (3): 187–193.

<b>Issue</b>	While health service use appears to be positively related to resource availability, no study has explored the interactions among physician supply, cardiovascular disease burden and health service use in Ontario.
<b>Study</b>	Used multiple health databases to analyze Ontarians aged 20 years and older by place of residence; rates of invasive and noninvasive cardiac testing, cardiac hospitalization and statin use; and attending physician specialty and practice location. Correlations between regional physician supply, cardiac disease burden, cardiac evaluation and management intensity, and mortality were calculated.
<b>Key Findings</b>	<ul style="list-style-type: none"> <li>• Regional per capita cardiologist supply was inversely related to the regional cardiovascular disease burden and varied more than twofold across regions.</li> <li>• Primary care physician supply was relatively evenly distributed across regions.</li> <li>• Residents in areas with more cardiologists were more likely to receive some form of cardiac intervention, while those in areas with more primary care physicians were more likely to receive noninvasive cardiac testing.</li> <li>• The intensity of provision of cardiac health services was unrelated to regional cardiovascular disease burden and was not associated with improved survival.</li> </ul>
<b>Implications</b>	The uneven distribution of physicians across regions may explain the mismatch between cardiologist supply and demand for cardiac services in Ontario. Policy makers may need to implement strategies to relieve physician staffing shortfalls and the unmet need for cardiovascular care.