At A Glance

February 2008

Monthly highlights of ICES research findings for stakeholders

Physicians reluctant to report patients who are medically unfit to drive

Issue	Under Ontario law, practicing physicians must report medically unfit drivers. The extent to which this occurs is unknown.
Study	Identified drivers involved in a crash who were admitted to Sunnybrook Health Sciences Centre between June 1996 and June 2001, and assessed the prevalence of three reportable chronic conditions: alcohol abuse, specific cardiac diseases and neurological disorders. Health and transportation databases were linked to determine how many of the drivers were previously seen and reported by a physician in the community.
Key Findings	Of the 1,605 injured drivers, 37% had a reportable condition. The majority of these patients (85%) had seen a physician in the year before the crash, but few (3%) were reported to licensing authorities. Alcohol abuse was the most common reportable condition.
Implications	Policy makers could expand regulations to require others (hospitals, vehicle insurers, mechanics) to notify licensing authorities of mishaps. Alternatively, reducing regulations would decrease physician liability and might encourage attention toward other safety policies such as increased roadside policing or driver testing.

Women with diabetes experience higher mortality rates following breast cancer

Issue	The impact of type 2 diabetes on survival following breast cancer has not been examined in Ontario.
Study	Identified 465,510 Ontario women who were aged 55 to 79 between April 1995 and March 2001 and free of breast cancer. They were divided into two age-matched groups—those with newly diagnosed diabetes and those without—and were followed for new breast cancer from April 1995 to December 2002.
Key Findings	Of the 6,107 women who developed breast cancer, 1,011 (16.5%) had diabetes. There were 1,426 deaths recorded in the women with breast cancer (23.4%): 312 among women with diabetes (30.9%) and 1,114 among women without diabetes (21.9%). Postmenopausal women with diabetes experienced a 40% increase in mortality within the first five years following breast cancer compared to women without diabetes. This mortality rate was similar to that seen in women with diabetes without breast cancer.
Implications	Given the growing population of breast cancer patients with diabetes, these findings have implications for counseling and treatment decisions. The contributions of diabetes-related diseases, differences in breast cancer screening and care, and the effect of diabetes on breast cancer prognosis should be examined further in order to improve breast cancer prognosis and guide treatment strategies.

Study examines anticoagulation control and hospitalization in elderly patients

Issue	Oral anticoagulants (OACs) are prescribed to about 5% of elderly people to treat cardiovascular disorders. Hospitalization is associated with poor anticoagulation control. The effect that different hospital admission types have on anticoagulation control in the period around hospitalization has not been examined.
Study	Identified 5,380 patients aged 65 years and older in Eastern Ontario, between September 1999 and September 2000, who had filled at least two prescriptions for OACs. Patients were categorized by type of hospital admission—thrombotic, hemorrhagic or other—and analyzed for anticoagulation control before, during and after hospitalization. A non-hospitalized control group was also analyzed for anticoagulation control.
Key Findings	Of the 951 patients hospitalized during the study period, 52 were for thrombotic reasons, 140 for hemorrhagic reasons and 759 for other medical reasons. Patients admitted with a thrombotic or hemorrhagic condition had significantly worse anticoagulation control before hospitalization than after. In the control group, anticoagulation control measures did not change.
Implications	The findings suggest that poor anticoagulation control more frequently precipitated hospitalization. Increased use of interventions such as self-monitoring or OAC clinics could improve anticoagulation control and likely help decrease the incidence of these events.

Benefit of long-term cholinesterase inhibitor use for dementia patients questioned

Herrmann N, Gill S, Bell C, Anderson G, Bronskill S, Shulman K, Fischer H, Sykora K, Haijiang S, Rochon P. A population-based study of cholinesterase inhibitor use for dementia. J Am Geriatr Soc. 2007; 55 (10): 1517–1523.

Issue
The use of cholinesterase inhibitors (ChEIs), a class of drugs approved to manage dementia, increased by 1,500% between 1999 and 2002, and accounted for 25% of mental health-related drug costs in 2002. Current patterns of ChEI use in Ontario warrant examination.

Study
Identified 29,000 Ontarians aged 66 years and older who received a new prescription for a ChEI between June 2000 and December 2002, and tracked them until discontinuation of ChEI therapy, death or the end of the study period. Information on diagnosis, physician visits, co-existing diseases and other medication use was obtained.

Key Findings
Patients who lived in long-term care facilities at the start of ChEI therapy were treated for an average of 1,021 days compared to 823 days for those residing in the community. Switching to another ChEI occurred more commonly in patients living in the community (6.7% vs. 4.9% for patients in long-term care). Of the 35% of patients who died during the study period, more than half were still taking a ChEI at the time of death. In the year before starting ChEI therapy, only 28% of patients had seen a dementia specialist.

Implications
Given that the trials on which these drugs were approved were mostly of six months' duration, these drugs were not intended to be prescribed indefinitely to patients with dementia. These findings, therefore, raise important questions about the appropriateness of ChEI prescribing and whether there is a favourable cost-benefit ratio for this pattern of use.

Value of cardiac troponin testing confirmed as a predictor of mortality in heart failure patients

You J, Austin P, Alter D, Ko D, Tu J. Relation between cardiac troponin I and mortality in acute decompensated heart failure. *Am Heart J.* 2007; 153 (4): 462–470.

Issue
Elevated levels of the protein cardiac troponin I are common in patients with heart failure, yet their prognostic value above and beyond traditional predictors of outcomes in these patients is uncertain.

Study
Looked at almost 10,000 patients hospitalized with heart failure at 103 acute care hospitals in Ontario, between April 1999 and March 2001, and identified those patients who within the first 48 hours in hospital underwent measurement of cardiac troponin I levels using a common testing method. The presence of increased troponin levels was correlated to a range of demographic and clinical characteristics.

Key Findings
Of the 2,025 patients studied, 699 (34.5%) had increased levels of cardiac troponin I. Patients with increased levels were older, had poorer renal function, were more likely to have other features of acute ischemia and had a higher burden of other diseases. Overall, 10% of patients died within 30 days of admission and 31% died within one year of admission. Patient outcomes were poorer as troponin levels increased.

Implications
Cardiac troponin testing is easily accessible, inexpensive, and has better predictive value than traditional clinical predictors of mortality in heart failure patients. While it should not replace clinical judgment, cardiac troponin testing may play a complementary role in the identification of high-risk patients most likely to benefit from more intensive heart failure management strategies.