Enhancing the effectiveness of health care for Ontarians through research

ICES Institute for Clinical Evaluative Sciences

At A Glance

November 2008

Monthly highlights of ICES research findings for stakeholders

High risk of motor vehicle collisions for dementia patients on psychotropic medications

Rapoport M, Molnar F, Rochon P, Juurlink D, Zagorski B, Seitz D, Morris J, Redelmeier D. Psychotropic medications and motor vehicle collisions in patients with dementia [Letter to the Editor]. *J Am Geriatr Soc.* 2008; 56(10):1968–1969.

Issue What is the association between psychotropic medications (drugs capable of affecting the mind, emotions and behaviour) and motor vehicle collisions (MVCs) in drivers with dementia?

Study Identified 210,550 residents aged 65 or older from April 1997 to March 2005 who had dementia and were involved in a MVC at age 67 or older. Exposure to any of three classes of psychotropic medications in the 120 days before the collision date was assessed. A control group of individuals taking topical corticosteroid or antifungal agents was established for comparative purposes.

Key Findings About 40,500 (19%) of the patients with dementia had active driver's licenses. Of those, 9,763 (24%) had been involved in at least one MVC, most of which followed their diagnosis of dementia (78%). 'At-fault' collisions were common (57%), and 25% of these led to personal injury. Psychotropic medications were associated with an approximately 50% greater risk of MVC. Antipsychotics were associated with the highest risk (3.3 times higher than the control group) followed by benzodiazepines (modestly greater risk) and antidepressants (intermediate risk). Newer antidepressants posed a higher risk than older ones.

Implications The emergence of psychiatric symptoms or the prescription of psychotropic medications for patients with dementia should prompt physicians to evaluate if it is safe for these patients to drive.

Study questions the effectiveness of colonoscopy for the upper colon

Lakoff J, Paszat L, Saskin R, Rabeneck L. Risk of developing proximal versus distal colorectal cancer after a negative colonoscopy: a population-based study. *Clin Gasterenterol Hepatol*. 2008; 6(10):1117–1121.

Issue Colonoscopy is the only procedure that can provide a view of the entire colon and allow for the removal of abnormalities such as polyps or cancers. The incidence of colorectal cancer (CRC) is reduced for up to 10 years after a negative colonoscopy. Is there a difference in the incidence of CRC in the upper and lower colon after a negative colonoscopy?

Study Analyzed the health data of 110,402 Ontario residents aged 50 to 80 years who had a negative complete colonoscopy between January 1992 and December 1997 and followed them for 14 years. Their cancer experience was compared to the remaining Ontario population.

Key Findings During the 14-year follow-up period, CRC was diagnosed in 1,461 persons who had a negative colonoscopy. The risk of CRC in the lower colon was reduced during each year of the 14-year follow-up period. The risk of CRC in the upper colon was reduced in only half of the follow-up years, mainly in the second seven-year period.

Implications A colonoscopy may not be equally effective for the detection and removal of abnormalities in the upper and lower colon. More research is needed to determine whether the different outcomes result from colonoscopy quality or differences in tumour biology.

Tiotropium associated with improved survival in patients with COPD

Gershon A, Wang L, To T, Luo J, Upshur R. Survival with tiotropium compared to long-acting beta-2-agonists in chronic obstructive pulmonary disease. *COPD*. 2008; 5(4):229–234.

Issue Tiotropium, a drug inhaled into the lungs to open up breathing passages, has been shown to reduce hospitalizations, symptoms, and improve quality of life in patients with chronic obstructive pulmonary disease (COPD). Tiotropium's effect on mortality and its effects relative to another type of bronchodilator, long-acting beta-agonists (LABAs), are unknown.

Study Analyzed 7,218 Ontario residents aged 65 or older who were discharged from hospital with a diagnosis of COPD between January 2003 and March 2006 and who filled a prescription for tiotropium or LABA within 90 days. Patients were observed until death or 180 days after discharge, whichever was earliest.

Key Findings Overall, 41.8% of the study group filled a prescription for tiotropium and the rest filled a prescription for LABA. There were 1,046 (14.5%) deaths within 180 days of discharge. Patients using tiotropium were found to be 20% less likely to die at 180 days than those using LABA.

Implications This large-scale, real-world study supports the use of tiotropium after hospitalization for COPD. It also provides compelling justification for conducting randomized placebo-control studies to confirm results.

Free flu shots linked to fewer deaths and demands on the healthcare system in Ontario

Kwong J, Stukel T, Lim J, McGeer A, Upshur R, Johansen H, Sambell C, Thompson W, Thiruchelvam D, Marra F, Svenson L, Manuel D. The effect of universal influenza immunization on mortality and health care use. *PLoS Med*. 2008; 5(10):1440-1452.

Issue

In October 2000, Ontario launched the world's first universal influenza immunization program (UIIP) to provide free vaccines to all residents aged six months and older. What effect has this program had on influenza-associated mortality, hospitalizations, emergency department (ED) use and visits to doctor's offices and how do these results compare to other jurisdictions in Canada?

Study

Analyzed data on influenza vaccinations, on all deaths, and on hospitalizations for pneumonia and influenza in all Canadian provinces between 1997 and 2004, as well as data on ED and doctor's office visits for pneumonia and influenza in Ontario, Quebec, Alberta and Manitoba. Baseline rates for these outcomes in the absence of influenza activity were estimated and compared to weekly rates for deaths and healthcare use during influenza seasons.

Key Findings

- In 1996–1997, prior to the introduction of the UIIP, 18% of the Ontario population was vaccinated against influenza compared to 13% in the other provinces combined. In the years following the introduction of the UIIP, vaccination rates increased by 20% in Ontario (from 18% to 38%) and 11% for other provinces (from 13% to 24%).
- Over this same period influenza-associated deaths decreased by 74% in Ontario compared to 57% in the other provinces combined.
- Influenza-associated hospitalizations, ED use, and doctors' office visits also decreased more in Ontario than in the other provinces over the same period.

Implications

By reducing financial barriers and increasing awareness and accessibility, universal vaccination may be an effective strategy for increasing a population's protection against influenza and reducing the global burden.

Prescribing patterns linked to age of heart attack survivors and to physician characteristics

Austin P, Tu J, Ko D, Alter D. Factors associated with the use of evidence-based therapies after discharge among elderly patients with myocardial infarction. *CMAJ*. 2008; 179(9):901–908.

Issue

Beta-blockers, angiotensin-modifying drugs and statins have been proven effective in reducing mortality in patients with heart disease. The factors that influence the postdischarge prescribing of these three medications have not been extensively explored.

Study

Examined data for patients aged 65 or older who were discharged from an Ontario hospital between April 2005 and March 2006 with a diagnosis of myocardial infarction (MI). The effect of patient, physician, hospital and community characteristics on the rate of postdischarge medication use was determined.

Key Findings

- Increasing patient age was associated with lower postdischarge use of each of the three medications.
- Having a general or family practitioner, a general internist, or a physician of another specialty as the attending physician, relative to having a cardiologist, was associated with lower postdischarge use of each of the three medications.
- Having an attending physician with 29 or more years of experience, relative to having a physician who had graduated within the past 15 years, was associated with lower use of beta-blockers and statins.
- Community size was not associated with postdischarge drug use.

Implications

There is a need to develop more effective mechanisms, such as standardized discharge orders, to improve the prescribing practice of noncardiology specialists and of physicians who have been in clinical practice for a long time.