Enhancing the effectiveness of health care for Ontarians through research

ICES Institute for Clinical Evaluative Sciences

At A Glance

April 2011

Monthly highlights of ICES research findings for stakeholders

Study compares use of certain cholesterol-lowering drugs in the U.S. and Canada

Jackevicius CA, Tu JV, Ross JS, Ko DT, Carreon D, Krumholz HM. Use of fibrates in the United States and Canada. *JAMA*. 2011; 305(12):1217–24.

Issue Fibrates are a class of drugs used to lower cholesterol levels. While generic formulations of fenofibrate, a newer type of fibrate with uncertain benefit, have long been available in Canada, their use has lagged behind in the U.S. What is the availability and use of fibrates and fenofibrate in the U.S. and Canada?

Study Analyzed the number and cost of generic vs. brand-name formulations of fibrate products prescribed in the U.S. and Canada between January 2002 and December 2009.

Key Findings During the study period, prescriptions of fibrates per 100,000 population rose from 336 to 730 in the U.S. (up 117%) and from 402 to 474 in Canada (up 18%). Prescriptions of fenofibrate per 100,000 population rose from 150 to 440 in the U.S. and from 321 to 429 in Canada. The annual ratio of generic to brand-name fenofibrate use in the U.S. ranged from 0:1 to 0.09:1 between 2002 and 2008, while the ratio in Canada increased from 0.51:1 to 1.89:1 between 2005 and 2008. Fenofibrate expenditures per 100,000 population per month increased from $11,535 in 2002 to $44,975 in 2009 in the U.S. and declined from $17,695 to $16,112 over the same period in Canada.

Implications During the past decade, prescriptions for fibrates (particularly fenofibrate) increased in the U.S. and remained stable in Canada. The ever-increasing pattern of prescribing brand-name over generic drugs without evidence of clinical benefit warrants scrutiny to ensure that medication use is optimized while avoiding unwarranted costs.

Adults with developmental disabilities and psychiatric issues more frequent ED visitors

Lunsky Y, Lin E, Balogh R, Klein-Geltink J, Bennie J, Wilton AS, Kurdyak P. Are adults with developmental disabilities more likely to visit EDs? *Am J Emerg Med*. 2011; 29(4):463–5.

Issue Are Ontario adults with intellectual and developmental disabilities (IDD) more likely to visit emergency departments (EDs) than those without IDD?

Study Compared Ontario ED visit rates, triage levels, and time and frequency of visits between April 2007 and March 2009 for two IDD groups (those with and without a psychiatric disorder) and two groups with no IDD (those with a psychiatric disorder and a random sample of the general population).

Key Findings Both IDD groups had higher rates of ED visits than the non-IDD groups. Triage levels were similar across groups. The ratio of after-hour to regular-hour ED visits was largest for those with IDD and psychiatric disorders. The proportion of high ED users (5 or more visits) was 15.6% for those with both IDD and psychiatric disorders and 5.2% for those with a psychiatric disorder only.

Implications The comparatively frequent use by individuals with an IDD of a health care resource that is expensive and difficult for them to negotiate suggests that non-emergency alternatives are insufficient. There is a need to examine the intersection between health and social services provided to this population, as gaps in social services may be another precipitant of crisis leading to ED visits.

Incidence of upper GI cancers rising dramatically in Ontario

Tinmouth J, Green J, Ko YJ, Liu Y, Paszat L, Sutradhar R, Rabeneck L, Urbach D. A population-based analysis of esophageal and gastric cardia adenocarcinomas in Ontario, Canada: incidence, risk factors, and regional variation. *J Gastrointest Surg*. 2011; 15(5):782–90.

Issue Surgical services for esophageal adenocarcinoma and gastric cardia adenocarcinoma (two relatively rare cancers that are difficult to distinguish in a clinical setting) are being centralized to 11 designated treatment centres in Ontario. What is the incidence of and regional variation in EA/GCA in Ontario?

Study Analyzed data on age, sex, neighbourhood income level, health region and comorbidity at the date of diagnosis for Ontarians over age 18 with a new diagnosis of EA/GCA between 1972 and 2005.

Key Findings Overall, 8,245 patients were diagnosed with EA/GCA. EA/GCA incidence per 100,000 population rose from 1.0 in 1972 to 3.9 in 2005. The highest proportion of cases occurred in the Hamilton Niagara Haldimand Brant health region (15%) and the lowest in the North West health region (2%). The distribution of treatment centres did not align well with the number of EA/GCA cases per health region.

Implications The rising incidence of EA/GCA is an important emerging health problem. Further investigation of regional variation is warranted, particularly in the allocation of cancer health resources.

Health promotion program effective in reducing heart disease hospitalizations in Ontario

Kaczorowski J, Chambers LW, Dolovich L, Paterson JM, Karwalajtys T, Gierman T, Farrell B, McDonough B, Thabane L, Tu K, Zagorski B, Goeree R, Levitt CA, Hogg W, Laryea S, Carter MA, Cross D, Sebaldt RJ. Improving cardiovascular health at population level: 39 community cluster randomized trial of Cardiovascular Health Awareness Program (CHAP). *BMJ*. 2011; 342:d442.

Issue The Cardiovascular Health Awareness Program (CHAP) is a community-based initiative that brings together health care providers, volunteers, and health and social services organizations to actively participate in the prevention and management of heart disease and stroke in Ontario. Has CHAP had an effect on morbidity from cardiovascular disease?

Study Of 39 randomly selected Ontario communities, 20 received CHAP and 19 received no intervention. In the CHAP communities, residents aged 65 or older were invited to attend cardiovascular risk assessment and education sessions in community pharmacies over a 10-week period during the autumn of 2006. Automated blood pressure readings and self-reported risk factor data were collected and shared with participants and their family physicians and pharmacists.

Key Findings All 20 intervention communities successfully implemented CHAP. A total of 1,265 three-hour sessions were held in 129 of 145 (89%) pharmacies during the 10-week program. In total, 15,889 participants had 27,358 cardiovascular assessments with the assistance of 577 volunteers. CHAP was associated with three fewer annual hospital admissions for cardiovascular disease per 1,000 people aged 65 and over.

Implications A collaborative multi-pronged community-based health promotion and prevention program targeted at older adults can reduce cardiovascular morbidity at the population level.

Excessive doses of opioids prescribed for nonmalignant pain linked to increased risk of death

Gomes T, Mamdani MM, Dhalla IA, Paterson JM, Juurlink DN. Opioid dose and drug-related mortality in patients with non-malignant pain. *Arch Intern Med*. 2011; 171(7):686–91.

Issue Opioids, such as oxycodone, codeine and morphine, are widely prescribed to treat chronic pain not related to cancer, often in doses exceeding recommended clinical guidelines. What is the relationship between opioid dose and opioid-related mortality for this population in Ontario?

Study Examined data from more than 607,000 patients aged 15 to 64 who were eligible for publicly-funded provincial drug coverage and received an opioid prescription for nonmalignant pain between August 1997 and December 2006 in Ontario. Of these, 498 patients whose deaths were opioid related were compared to a control group of 1,714 patients who were taking opioids but did not die. The risk of death was compared for various daily doses of opioids.

Key Findings After adjusting for clinical and demographic factors, investigators found that:

- 1,463 patients died of opioid-related causes, the equivalent of 13 deaths per month in this population;
- Opioid doses exceeding recommended guideline maximums (200 mg of morphine per day or equivalent) were associated with an almost three-fold higher risk of mortality compared with those prescribed low doses;
- Moderate doses of opioids (equivalent to 50–199 mg per day) were associated with a doubled risk of opioid-related mortality;
- Patients who died of opioid-related causes were more likely to have a history of alcoholism, to have been treated with benzodiazepines and other sedating medications, and to have obtained opioids from multiple physicians and pharmacies.

Implications Physicians should carefully assess the appropriateness of long-term use of opioids to treat chronic, nonmalignant pain, particularly at high doses.