

At A Glance

April 2010

Monthly highlights of ICES research findings for stakeholders

Study finds many patients with stable angina improve with medicines alone

Wijeyesundera H, Nallamothu B, Krumholz H, Tu J, Ko D. Meta-analysis: effects of percutaneous coronary intervention versus medical therapy on angina relief. *Ann Intern Med.* 2010; 152(6):370–9.

Issue	Does percutaneous coronary intervention (PCI) provide better long-term angina relief than medical therapy in patients with stable coronary artery disease (CAD)?
Study	Searched the medical literature from 1990 to 2009 for randomized trials comparing PCI with medical therapy alone in patients with stable CAD. Duration of patient follow-up, inclusion of patients with recent myocardial infarction, coronary stent utilization, recruitment period and use of evidence-based medications were analyzed.
Key Findings	Fourteen separate trials involving 7,818 patients were identified. Among the three trials that recruited patients before 1995, 67% of PCI patients were angina-free vs. 40% of patients who received medical treatment. Among patients enrolled in the five trials that recruited patients after 1999, 77% of PCI patients were angina-free compared with 75% of patients who received medical therapy.
Implications	Increased use of evidence-based therapies in modern trials led to improved outcomes for patients treated medically. The incremental benefit of PCI on angina relief may be smaller than previously believed. The findings lend support to new guidelines for coronary revascularization that emphasize the need to optimize medical therapy before referring patients for PCI.

At least one in 10 adults suffers from COPD but mortality rate declining

Gershon A, Wang C, Wilson A, Raut R, To T. Trends in chronic obstructive pulmonary disease prevalence, incidence, and mortality in Ontario, Canada, 1996 to 2007: a population-based study. *Arch Intern Med.* 2010; 170(6):560–5.

Issue	Chronic obstructive pulmonary disease (COPD) is a progressive and irreversible respiratory disease associated with substantial mortality. Is COPD prevalence increasing, decreasing or stable over time?
Study	Identified Ontario residents aged 35 or older diagnosed with COPD from April 1991 to March 2008 and estimated age- and sex-adjusted prevalence, incidence and mortality rates from 1996 to 2007.
Key Findings	COPD prevalence increased from 7.8% in 1996 to 9.5% in 2007, rising more than twice as much in women as men (33.4% vs. 12.9%). COPD incidence per 1,000 adults decreased from 11.8 in 1996 to 8.5 in 2007 with greater decreases seen in men than women (32.3% vs. 24.7%). The all-cause mortality rate for COPD decreased from 5.7% in 1996 to 4.3% in 2007 with greater decreases seen in men than women (25.9% vs. 21.2%).
Implications	These findings enable health care providers and policy makers to prepare for the increasing burden of COPD by implementing effective clinical and public health strategies, such as smoking cessation programs and improved therapies that prevent hospitalization.

One-quarter of Ontario nursing home residents visit the ED at least once in six months

Gruneir A, Bell C, Bronskill S, Schull M, Anderson G, Rochon P. Frequency and pattern of emergency department visits by long-term care residents – a population-based study. *J Am Geriatr Soc.* 2010; 58(3):510–7.

Issue	There are no recent population-based studies describing the frequency and characteristics of emergency department (ED) visits by residents of long-term care (LTC) facilities in Ontario.
Study	Identified 64,589 individuals in Ontario's 589 LTC facilities from a 2005 survey of patient charts. ED visits over a six-month period were classified as potentially preventable (avoidable if an existing condition had been adequately managed through primary care at an earlier stage), low acuity (non- or less urgent and resulting in the resident returning directly to the LTC facility), and other (neither preventable nor low acuity).
Key Findings	Nearly one-quarter of LTC residents visited the ED at least once in six months. Of all 21,773 visits, 24.6% were for a potentially preventable reason (pneumonia, urinary tract infection, congestive heart failure). These visits had a high frequency of ambulance transport (90.4%), hospital admission (62.4%) and death within 30 days (23.6%). Of all visits, 11.0% were low acuity (mostly fall-related) and of short duration (average 4.5 hours).
Implications	These visit types show distinct patterns that suggest a need for better access to medical care for common conditions and a greater emphasis on fall prevention in LTC facilities.

Ontario immigrants' duration of residence directly related to likelihood of preterm births

Urquia M, Frank J, Moineddin R, Glazier R. Immigrants' duration of residence and adverse birth outcomes: a population-based study. *BJOG*. 2010; 117(5):591–601.

Issue	Preterm birth (PTB) is a major predictor of perinatal morbidity and mortality, and is associated with childhood disabilities and adult onset of diseases. What effect does duration of residence have on preterm and small-for-gestational-age (SGA) births in Ontario's immigrant population and how does this compare with the Canadian-born population?
Study	Analyzed 397,470 singleton live births in Ontario between April 2002 and March 2007, of which 82,233 were born to immigrant mothers with permanent residence status. Preterm birth (PTB) was defined as a delivery before 37 weeks' gestation. SGA was defined as a birthweight below the 10 th percentile of Canadian birthweights. Immigrant duration of residence was measured as completed years from arrival in Canada to delivery/birth and was categorized as 15 months to 4 years, 5–9 years, 10–14 years and 15 years or more.
Key Findings	Recent immigrants (less than five years) had a lower risk of PTB (4.7%) than non-immigrants (6.2%) but lost their advantage after approximately 10 years. Immigrants with 15 or more years of stay experienced the highest risk of PTB (7.4%). Among immigrants, a five-year increase in Canadian residence was associated with an increase in PTB but not in SGA birth. There was no evidence of an association between duration of residence and PTB by maternal region of origin.
Implications	The fact that important changes in preterm delivery took place within relatively short periods of time after migration suggests that their causes were mainly environmental and, at least theoretically, preventable. Ignoring duration of residence may mask important disparities in preterm delivery between immigrants and non-immigrants and between immigrant subgroups.

With better palliative care, fewer emergency department visits possible for cancer patients

Barbera L, Taylor C, Dudgeon D. Why do patients with cancer visit the emergency department near the end of life? *CMAJ*. 2010; 182 (6):563-68.

Issue	Visits made to the emergency department (ED) by cancer patients near the end of life are considered an indicator of poor-quality cancer care. How often and why do these patients visit the ED?
Study	Identified all patients who died of cancer in Ontario between 2002 and 2005 and analyzed visits made to the ED during the final six months and final two weeks of life.
Key Findings	<ul style="list-style-type: none"> • In total, 91,561 patients died of cancer. Of these, 76,759 patients made 194,017 ED visits during the final six months of life; nearly 37% of these patients made only one visit. Further, 31,076 patients made 36,600 ED visits during the final two weeks of life; 85% of these made one visit. • Of those who visited an ED during the final two weeks of life, 77.2% died in an acute care bed and 5.2% died in the ED. • The most common reasons for visiting the ED in the last six months and last two weeks of life were abdominal pain, lung cancer, shortness of breath, pneumonia, malaise and fatigue, and fluid in the chest. • Avoidable reasons for visits, such as constipation, laboratory exams, attention to dressings or sutures, urinary catheter adjustment or prescription refills, accounted for 2.8% of visits during the final six months and 1.2% of visits during the final two weeks. • Descriptions of patients or families no longer coping were captured by diagnoses of malaise and fatigue, need for palliative care and dehydration. Together, these accounted for 5.1% of visits during the final six months; in the final two weeks, this combination surpassed pain in ranking at 8.4% of visits.
Implications	The majority of the reasons for ED visits are within the scope of palliative care. Dedicated interventions for avoiding ED visits would include: 1) the development of comprehensive and coordinated palliative care such that patients could be managed in clinics, at home and in palliative care units or residential hospices without the need for emergency care; 2) the sharing of standardized assessments and practice guidelines among all care providers; and 3) specific education to help family members and caregivers anticipate, identify and cope with a situation as an expected crisis rather than an emergency.