

At A Glance

October 2010

Monthly highlights of ICES research findings for stakeholders

Regionalization of pancreas cancer surgery linked to mortality drop in Ontario but not Quebec

Simunovic M, Urbach D, Major D, Sutradhar R, Baxter N, To T, Brown A, David D, Levine M. Assessing the volume-outcome hypothesis and region-level quality improvement interventions: pancreas cancer surgery in two Canadian provinces. *Ann Surg Oncol*. 2010; 17(10):2537–44.

Issue	Beginning in 1999, Cancer Care Ontario initiated a series of quality improvement interventions aimed at limiting pancreas cancer surgery to hospitals performing at least 10 such operations a year with an operative mortality rate of less than 5%. Has regionalizing this surgery to high-volume providers improved mortality rates in Ontario? How do mortality rates in Ontario compare with those in Quebec, which made no similar attempt to improve care with the procedure?
Study	Identified annual cohorts of patients aged 20 and older who underwent pancreatic resection for cancer in Ontario and Quebec between 1994 and 2004. Operative mortality, which included all in-hospital deaths during the admission for surgery, was calculated.
Key Findings	Between 1994 and 2004, <ul style="list-style-type: none">• There were 1,895 and 1,396 pancreas cancer resections in Ontario and Quebec, respectively;• The number of procedures performed annually increased from 135 to 230 in Ontario and from 111 to 163 in Quebec;• The percentage of procedures performed in high-volume hospitals increased from 33% to 71% in Ontario and from 36% to 76% in Quebec (where no population-based quality improvement interventions were implemented); and,• The annual rate of operative mortality dropped from 10.4% to 2.2% in Ontario; in Quebec, it changed slightly from 7.2% to 9.8%.
Implications	Efforts to implement improvement strategies or interventions should be accompanied by methodologically rigorous evaluation of results, in order to minimize the use of resources for ineffective interventions.

Diabetes in pregnancy associated with higher rates of complications: POWER study

Booth G, Lipscombe L, Bhattacharyya O, Feig D, Shah B, Degani N, Johns A, Ko B, Bierman A. Diabetes. In: Bierman A, editor. *Project for an Ontario Women's Health Evidence-Based Report: Volume 2*. Toronto: St. Michael's Hospital and Institute for Clinical Evaluative Sciences; 2010.

Issue	As more women develop type 2 diabetes during their childbearing years, pregnancies complicated by diabetes are becoming increasingly common. What outcomes do pregnant women with diabetes experience in Ontario?
Study	Identified all women aged 20 and older who gave birth between April 2002 and March 2007 in Ontario and categorized them as having pregestational diabetes, gestational diabetes or no diabetes. Prenatal care and obstetrical and fetal complications were assessed.
Key Findings	<ul style="list-style-type: none">• Pregnant women with pregestational diabetes were at greater risk for serious complications than pregnant women without diabetes, including hypertension (12.5% vs. 4.4%, respectively), preeclampsia (3.9% vs. 1.2%) and infant shoulder dystocia (3.2% vs. 1.7%); and had higher rates of caesarean section (44.5% vs. 27.4%).• Infants of women with pregestational diabetes had nearly twice the rate of fetal complications than infants of women without diabetes, including major and minor congenital anomalies (7.7% vs. 4.8%, respectively) and stillbirth/in-hospital mortality (5.2% vs. 2.5%)—outcomes that can be prevented through optimal control of glucose and blood pressure at the time of conception and during pregnancy.• Infants of younger women with diabetes (aged 20–29) had the highest rates of fetal complications.• Pregnant women with pregestational diabetes who were living in the lowest-income neighbourhoods were more likely to be seen by an endocrinologist or internist than those living in the highest-income neighbourhoods (59% vs. 52%, respectively). However, a significant percentage of pregnant women with diabetes were not being seen by specialists with experience in intensive diabetes management and the special circumstances of pregnancy.
Implications	Strategies are required to ensure accessibility of specialized services throughout the province and to promote appropriate referral to care.

Young adults with colorectal cancer at increased risk of death 10 years after diagnosis

Forbes S, Sutradhar R, Paszat L, Rabeneck L, Urbach D, Baxter N. Long-term survival in young adults with colorectal cancer: a population-based study. *Dis Colon Rectum*. 2010; 53(7):973–8.

Issue	How does the long-term survival of young adults with colorectal cancer (CRC) compare with their cancer-free counterparts?
Study	Tracked young adults aged 20–44 who were diagnosed with CRC in Ontario between January 1992 and December 1999 and lived for at least five years. Each young adult was age-matched with five controls who were cancer-free at the corresponding date of diagnosis, and their survival times were compared. The median follow-up of those with CRC, after achieving five-year survivor status, was 6.2 years.
Key Findings	CRC was diagnosed in 1,606 young adults, of whom 917 lived at least five years after diagnosis. There were 4,585 matched controls. Colon cancer was diagnosed in 70% of the CRC group; the remainder had rectal cancer. There were 87 deaths in the CRC group (9.5%) vs. 56 in the control group (1.2%). Six years after achieving 10-year survivor status, the mortality rate was 4.7% vs. 1.9% in the CRC and control groups, respectively.
Implications	Though survival estimates improve over time, young adult survivors of CRC continue to be at increased risk of death even after achieving 10-year survivor status. These results provide data for caregivers counselling CRC survivors on their long-term prognosis.

Headache the most common reason for CT brain scan

You J, Gladstone J, Symons S, Rotstein D, Laupacis A, Bell C. Patterns of care and outcomes after computed tomography scans for headache. *Am J Med*. 2010 Oct 18 [Epub ahead of print].

Issue	Concerns exist about the overuse of computed tomography (CT) scans for headache leading to potentially unnecessary exposure to ionizing radiation and straining limited health care resources. Are these concerns justified in Ontario?
Study	Identified 3,930 Ontarians who underwent outpatient CT brain scans in 2005 and examined their health services use, brain tumour diagnosis and death in the following year.
Key Findings	Three-quarters of CT scans were ordered by primary care physicians. Headache was the sole reason for 27% of the scans. Few scans (2.1%) identified findings which were potentially causing the headaches, and only 0.2% led to a brain tumour diagnosis.
Implications	The development of evidence-based decision rules that identify which patients with headache do not require neuroimaging would provide useful guidance for primary care physicians who provide the bulk of care for patients with this common condition.

Increased wait times for long-term care but faster placement for Ontario seniors most in need

Bronskill S, Carter M, Costa A, Esensoy A, Gill S, Gruneir A, Henry D, Hirdes J, Jaakkimainen R, Poss J, Wodchis W. *Aging in Ontario: An ICES Chartbook of Health Service Use by Older Adults*. Toronto: Institute for Clinical Evaluative Sciences; 2010.

Issue	In recent years, the Ontario government has made substantial investments in expanding community services that would enable seniors to live safely in their own homes and alleviate related pressures on hospitals and nursing homes. As a prelude to evaluating the impact of this investment across the province, what patterns of health service use are evident among Ontario's seniors?
Study	Analyzed a collection of linked, province-wide health databases and described patterns of health service use by adults aged 65 and older in Ontario and among the province's 14 Local Health Integration Networks (LHINs) between 2002/03 and 2008/09.
Key Findings	The number of seniors aged 85 and older grew by 36% between 2002/03 and 2008/09, the most of any age group in the adult population. The percentage of adults aged 65 and older varied from 12% of the adult population in the Central West LHIN to 21% of the adult population in the South East LHIN. Wait times for long-term care facilities increased dramatically over time, with the median wait reaching 103 days in 2009; seniors in crisis and those waiting in hospitals had median waits of 79 days and 55 days, respectively. The number of seniors in acute and complex care hospital beds who were designated as alternate level of care (i.e., no longer requiring acute care services) and who had applied for long-term care home placement almost doubled between 2005 and 2008. The proportion of medically complex seniors requiring home care services who received a comprehensive home care assessment within 14 days of application ranged from 22% (Toronto Central LHIN) to 69% (North West LHIN).
Implications	By documenting baseline trends, essential information is provided against which to compare any progress made in caring for Ontario's senior population in future years, and to assess future investments in this area in improving the sustainability of the health system as a whole.