

At A Glance

December 2008

Monthly highlights of ICES research findings for stakeholders

Hernia surgery wait times increase risk for infants and young children

Zamakhshary M, To T, Guan J, Langer J. Risk of incarceration of inguinal hernia among infants and young children awaiting elective surgery. *CMAJ*. 2008; 179(10): 1001–1005.

Issue	An inguinal hernia occurs when an organ, usually part of the intestine, protrudes into the groin through a weak area in the abdominal wall. Left untreated, there is a risk of incarceration, where a loop of bowel gets trapped causing damage or death to the tissue. The effect of prolonged wait times for surgery to repair inguinal hernias has not been well studied in children.
Study	Identified 1,065 children less than two years old who underwent surgical repair of an inguinal hernia between April 2002 and March 2004 in Ontario. The rate of hernia incarceration from the time of diagnosis to surgery was measured, and the relation between wait time and the use of emergency department (ED) services before surgery was examined.
Key Findings	The median wait time from diagnosis to surgery was 35 days. The risk of hernia incarceration doubled with a wait time of 35 days compared with a wait time of 14 days (10.1% vs. 5.2%). Among children waiting for surgery, 11.9% developed incarcerated hernias and 16.8% were seen in an ED at least once.
Implications	These findings support a recommendation that all inguinal hernias in young children should be repaired within 14 days after diagnosis. Health care planners and policy makers must design strategies to reduce wait times and improve outcomes for hernia repair for this population.

Universal access to chicken pox vaccine reduces burden on Ontario's health care system

Kwong J, Tanuseputro P, Zagorski B, Moineddin R, Chan K. Impact of varicella vaccination on health care outcomes in Ontario, Canada: effect of a universal program? *Vaccine*. 2008; 26(47): 6006–6012.

Issue	Varicella vaccines, used to immunize against chicken pox, have been available for private purchase in Canada since 1998. In 2004, Ontario introduced a publicly funded varicella vaccination program. The effect of the vaccination in reducing varicella-related health care use in the province is unknown.
Study	Analyzed all Ontarians with valid public health insurance numbers during three periods: the period prior to the varicella vaccine (1992–1998), the period when the vaccine was privately available (1999–2004) and the period when the vaccine was publicly funded (2005–2006). For each period, varicella-related hospitalizations, emergency department (ED) uses and visits to doctors' offices were calculated.
Key Findings	Rates of hospitalizations, ED use and visits to doctors' offices decreased 53%, 43% and 45% after the vaccine was publicly funded compared to only a 9%, 23% and 29% decrease after private availability. The greatest declines were observed in the 1–4 year age group, the age group targeted by the program.
Implications	Varicella vaccination is effective at reducing varicella-related health care use. Reducing financial barriers by publicly funding vaccination programs is an effective strategy for increasing vaccination coverage rates in children.

Increasing access to antiplatelet drug improves cardiovascular outcomes

Jackevicius C, Tu J, Demers V, Melo M, Cox J, Rinfret S, Kalavrouziotis D, Johansen H, Behloul H, Newman A, Pilote L. Cardiovascular outcomes after a change in prescription policy for clopidogrel. *N Engl J Med*. 2008; 359(17): 1802–1810.

Issue	Clopidogrel in combination with aspirin is the recommended therapy for patients receiving coronary stents to prevent blood clots after acute myocardial infarction (AMI). Did easing restrictive drug-reimbursement policies for clopidogrel have an effect on patient outcomes?
Study	Analyzed patients aged 65 or older with AMI who underwent angioplasty with stenting in Ontario between April 2000 and March 2005, including 3,438 patients under a prior-authorization policy and 2,733 patients under a less restrictive limited-use policy introduced in September 2003.
Key Findings	The rate of clopidogrel use within 30 days after hospital discharge increased from 35% in the pre-authorization period to 88% in the limited-use period. The 12-month major cardiac event rate decreased from 15% during the pre-authorization period to 11% when the requirement was lifted.
Implications	The removal of a prior-authorization drug-reimbursement policy led to more widespread and earlier use of clopidogrel, resulting in improved cardiovascular outcomes for patients. The process of limiting access to cardiac medications that are acutely required may merit reconsideration.

Study finds significant regional variation in rates of diagnostic imaging across Ontario

Coburn N, Przybysz R, Barbera L, Hodgson D, Sharir S, Laupacis A, Law C. CT, MRI and ultrasound scanning rates: evaluation of cancer diagnosis, staging and surveillance in Ontario. *J Surg Oncol.* 2008; 98(7): 490-499.

Issue	In an era of increasing demand for diagnostic services, an investigation of practice patterns and rates of computed tomography (CT), magnetic resonance imaging (MRI) and abdominal ultrasound (AUS) during treatment of cancer patients is needed to establish baseline utilization rates and determine if these rates are reasonable in Ontario.
Study	Identified all patients in the Ontario Cancer Registry diagnosed with breast, colorectal, lung, lymphoma or prostate cancer between 1998 and 2002 and followed them for up to 3 years after diagnosis for CT, MRI or AUS scans performed. Regional variation in scan rates was examined according to the Local Health Integration Network (LHIN) where each patient resided.
Key Findings	<ul style="list-style-type: none"> • From 1998 to 2002, rates of CT scans increased by 57% for breast cancer, 82% for colorectal cancer, 30% for lung cancer, 18% for lymphoma and 21% for prostate cancer. • In that same period, rates of MRI scans increased by over 300% for breast cancer, 200% for colorectal cancer, 179% for lung cancer, 43% for lymphoma and 31% for prostate cancer. • Significant regional variation in imaging rates existed among the 14 LHINS — from a 1.7-fold variation (CT for lung cancer) to a 50-fold variation (MRI for breast cancer). • For breast cancer, there was evidence of possible over-utilization of CT, but rates of scanning appeared reasonable for the other four cancers.
Implications	Considerable regional variation in imaging rates suggests utilization guidelines should be developed. Knowledge transfer initiatives are also needed to improve compliance with existing guidelines. Further studies are needed to determine utilization for each stage, the reason scans were obtained, the impact of the scans on patient outcomes, and the appropriate rate of CT and MRI scans.

New cancer surgery atlas maps variations in patterns of care in Ontario

Urbach D, Simunovic M, Schultz S (editors). *Cancer Surgery in Ontario: ICES Atlas.* Toronto: Institute for Clinical Evaluative Sciences; 2008.

Issue	It has been more than 10 years since the first ICES cancer surgery atlas was published. Health service providers, policy makers and consumers require up-to-date information on patterns of surgical care for Ontarians with cancer, including regional distribution of services, types of providers and their scope of practice.
Study	Identified 31,457 Ontarians who were newly-diagnosed between April 2003 and March 2004 with cancer of the breast, prostate, lung, large bowel (colon and rectum) or female genital tract (uterus, ovary, cervix and vulva) and determined the cancer-related health services provided to them from 12 months before to 12 months after diagnosis.
Key Findings	<ul style="list-style-type: none"> • Many Ontarians newly diagnosed with cancer underwent some kind of surgery in the study period. For some disease sites, the proportion of patients who received surgery was low, but the reasons could not be determined due to the lack of key clinical data, including cancer staging information. • Most patients had cancer-related surgery in hospitals located in their LHIN. • A large proportion of cancer surgery was provided by surgeons who did not specialize solely in cancer surgery. • Most cancer surgery was delivered in the community hospital setting. • Surgeons provided a substantial amount of care to people newly-diagnosed with cancer, regardless of whether they received surgery.
Implications	<p>This information represents an important baseline for understanding the delivery of cancer surgery services in the province and for measuring the impact of many initiatives undertaken over the last four years to improve care. Further work that is required includes the need to:</p> <ul style="list-style-type: none"> • Continue quality improvement in Ontario's system of cancer care. • Establish a program for cancer-related health services research. • Improve the comprehensiveness of information about cancer. • Improve the development and introduction of procedure codes into administrative databases to allow new technologies to be studied; and • Further evaluate the structures and processes of cancer care and associated clinical outcomes.