

At A Glance

December 2005

Monthly highlights of ICES research findings for stakeholders

Certain pregnancy complications may increase the risk of heart disease in women

Ray J, Vermeulen M, Schull M, Redelmeier D. Cardiovascular health after maternal placental syndromes (CHAMPS): population-based retrospective cohort study. *Lancet*. 2005; 366 (9499): 1797-1803.

Issue	The impact of maternal placental syndromes on the risk of premature heart disease in women after giving birth is not known.
Study	Examined over one million pregnant women in Ontario who were free from heart disease, and who delivered for the first time between 1990 and 2002. The number of women who developed pregnancy complications known as maternal placental syndromes (pre-eclampsia, gestational hypertension, placental infarction, or placental abruption) at the time of delivery was identified. Women with complications during pregnancy were compared to women without complications in terms of whether they also developed heart disease and stroke.
Key Findings	The incidence of heart disease doubled for women with a maternal placental syndrome, compared to women who had no such complication. This risk was further increased in women who also had poor fetal growth or death of the fetus while in the womb, and in women with pre-existing risk factors for heart disease.
Implications	Maternal placental syndromes are an additional risk factor for heart disease, and women who develop a maternal placental syndrome should be assessed after delivery to ensure that they are maintaining a healthy weight and blood pressure.

Use of CT and MRI scans increased at a greater rate in non-cancer patients

Coburn N, Przybysz R, Law C, Barbera L, Hodgson D, Sharir S, Laupacis A. *Utilization of CT and MRI Scanning Among Cancer Patients in Ontario, 1993-2002. ICES Investigative Report*. Toronto: Institute for Clinical Evaluative Sciences; 2005.

Issue	Reducing wait times for computerized tomography (CT) and magnetic resonance imaging (MRI) scans are a government priority and are of great concern to the public. Access to these diagnostic services is of particular concern to cancer patients.
Study	Determined the use of CT and MRI resources by cancer patients in Ontario between 1993 and 2002.
Key Findings	Although scans in cancer patients increased 2.3-fold for CT and 4.2-fold for MRI, this increase was slightly less than the increased use in the general population. There was significant variation in the use of CT and MRI by Local Health Integration Network (LHIN), and even greater variation when the location of the scanner was taken into account, indicating that many patients are traveling beyond their LHIN of residence to have these scans.
Implications	Further research should be undertaken to determine whether the greater increase in CT and MRI scans in the general population relative to that seen in cancer patients is having an impact on these wait times for cancer patients. Current patterns of travel to different LHINs for scans should be considered when planning the location of new CT and MRI scanners.

Depression during hospitalization for coronary syndromes can impact mortality rates

Grace S, Abbey S, Kapral M, Fang J, Nolan R, Stewart D. Effect of depression on five-year mortality after an acute coronary syndrome. *Am J Cardiol*. 2005; 96 (9): 1179-1185.

Issue	The effect of depression, both before an acute coronary syndrome (ACS) and at the index cardiac event, on mortality is not clearly understood.
Study	Surveyed 750 patients admitted to hospital in Ontario with unstable angina or heart attack regarding their socio-demographic characteristics, medical history and symptoms of depression. These findings were linked to administrative data to examine the impact that history and symptoms of depression during hospitalization had on five-year all-cause mortality.
Key Findings	After adjusting for factors such as cardiac disease severity, medical history and smoking, symptoms of depression during hospitalization were found to be significantly predictive of mortality, but history of depression was not.
Implications	These results highlight the need for early identification of symptoms of depression, and reinforce the importance of implementing treatments that decrease the risk of mortality.

Study highlights important differences in heart failure care between the U.S. and Ontario

Ko D, Tu J, Masoudi F, Wang Y, Havranek E, Rathore S, Newman A, Donovan L, Lee D, Foody J, Krumholz H. Quality of care and outcomes of older patients hospitalized with heart failure in the United States and Canada. *Arch Intern Med.* 2005; 165 (21): 2486-2492.

Issue	Health care expenditures, per person, are significantly higher in the United States (U.S.) than in Canada. However, the impact of additional spending on quality of care for many conditions, such as heart failure, requires examination.
Study	Compared processes of care, and 30-day and one-year mortality rates among 28,521 U.S. Medicare beneficiaries and 8,180 similarly-aged Ontario patients hospitalized with heart failure between 1998 and 2001.
Key Findings	More U.S. heart failure patients underwent left ventricular ejection fraction (LVEF) assessment (61.2% vs. 41.7%) than Ontario heart failure patients. The use of medications, such as beta-blockers and angiotensin-converting enzyme (ACE) inhibitors, at hospital discharge was not substantially different between the two groups. The 30-day mortality rate was lower for U.S. patients (8.9% vs. 10.7%), but the one-year mortality rate was not different (32.2% vs. 32.3%). Heart failure patients hospitalized in Ontario were sicker than U.S. patients.
Implications	Smaller sizes of many Ontario hospitals, sicker patients and less invasive cardiac facilities could explain the lower use of LVEF in Ontario. Despite these limitations, there were no substantial differences in the use of life-saving medications, such as beta-blockers and ACE inhibitors. Greater intensity of hospital care in the U.S. may explain the better short-term mortality rates, while similar long-term mortality rates may reflect better access to outpatient follow-up and prescription drugs in Ontario.

Elderly have increased use of EDs during flu outbreaks

Schull M, Mamdani M, Fang J. Influenza and emergency department utilization by elders. *Acad Emerg Med.* 2005; 12 (4): 338-344.

Issue	The level of understanding regarding the impact that influenza has on emergency department (ED) overcrowding is poor, which limits opportunities to develop strategies to reduce the burden.
Study	Analyzed weekly data on laboratory-confirmed influenza and other respiratory virus cases, and visits to all EDs in Toronto from January 1996 to April 1999. Determined the association between influenza and changes in ED utilization by younger and older patients, with specific diagnoses grouped as major influenza related (MIR) or upper respiratory infection (URI).
Key Findings	Every ten new cases of influenza, active in the community, were associated with a 1.5% and 1.2% absolute increase in the proportion of elderly ED patients with MIR conditions and URIs, respectively. Influenza was not significantly associated with ED utilization by younger patients; other respiratory viruses were not significantly associated with ED utilization for any patient group.
Implications	Influenza season is associated with increased ED utilization by patients aged 65 years and older, most of whom have major respiratory illnesses and may require hospital admission. Efforts to reduce the impact of influenza seasons on EDs should focus on the elderly, and might include finding alternatives to ED care and increasing the vaccination rate among this population.

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