

At A Glance

April 2007

Monthly highlights of ICES research findings for stakeholders

Diabetes increases risk of hip fracture in the elderly by 20%

Lipscombe L, Jamal S, Booth G, Hawker G. The risk of hip fracture in older persons with diabetes: a population-based study. *Diabetes Care*. 2007; 30 (4): 835-841.

Issue	Although there is growing recognition of an association between diabetes and hip fractures, no study has examined the impact of diabetes on hip fractures in both men and women at the population level.
Study	Identified over 197,000 Ontario residents, 66 years of age and older, with diabetes between 1994 and 1995, and tracked those admitted to hospital for a first hip fracture up to March 31, 2003. Hip fracture rates were then compared to over 400,000 age-matched Ontario residents without diabetes.
Key Findings	Diabetes increased the risk of hip fracture by about 20% in both men and women. Persons with diabetes were more likely to reside in the lowest income neighbourhoods, and were more likely to be prescribed at least one drug that increases falls or decreases bone mineral density (BMD). They were also more likely to have other illnesses and more physician visits, but were less likely to have had a BMD test compared to those without diabetes.
Implications	Until there is further understanding of the mechanisms of diabetes and fractures, broad fracture risk assessment of all diabetes patients and enhanced prevention strategies in this population are warranted.

Ontario EDs miss diagnosing 1 in 20 ruptured brain aneurysms

Schull M, Vermeulen M. Missed diagnosis of subarachnoid hemorrhage in the emergency department. *Stroke*. 2007 Feb. 22; [Epub ahead of print].

Issue	A ruptured brain aneurysm (a type of stroke known as subarachnoid hemorrhage or SAH) is a serious condition that frequently leads to neurological impairment and death. Little is known about population rates of misdiagnosis of SAH, or hospital factors that may contribute to it.
Study	Tracked persons admitted with a non-traumatic SAH to all Ontario hospitals between April 2002 and March 2005. Examined the association between hospital teaching status and missed SAH, and whether annual emergency department (ED) volume of SAH or access to computed tomography (CT) explained this association.
Key Findings	Of 1,507 patients diagnosed with SAH, 5.4% had a missed diagnosis. Patients who visited non-teaching hospitals were more than twice as likely to have a missed SAH, and those with low urgency triage scores had a 2.7-fold increase in the risk of a missed diagnosis. Neither ED SAH volume nor on-site CT access explained the effect of hospital teaching status.
Implications	Reducing the missed diagnosis risk of SAH may have less to do with better access to technology, and more to do with human factors, such as medical staff training and experience, the availability of consultants, or differences in diagnostic protocols.

Study shows impact of antidepressant warnings on prescribing trends

Kurdyak P, Juurlink D, Mamdani M. The effect of antidepressant warnings on prescribing trends in Ontario, Canada. *Am J Public Health*. 2007 Feb 28; [Epub ahead of print].

Issue	The influence of regulatory agency advisories about the possible increased risk of suicidal behaviour during antidepressant therapy on prescribing trends has not been explored.
Study	Analyzed new monthly antidepressant prescriptions in Ontario in three age groups (younger than 20 years, 20-65 years and older than 65 years) between April 1998 and March 2005, to study the impact of five regulatory agency advisories from the UK, the US and Canada about the possible risk of suicide during antidepressant therapy.
Key Findings	The number of new prescriptions for selective serotonin reuptake inhibitors (SSRIs), as a group, did not change after any antidepressant warning in any age group. However, immediately after the first warning for paroxetine was issued in the UK in June 2003, the rate of new paroxetine prescriptions in patients younger than 20 years declined by 54%. There was no change in other age categories.
Implications	The UK warning likely had an impact in Ontario as well because it was the first of its kind, alternatives to paroxetine were available to physicians and patients, and the message was very specific. These findings are important for agencies responsible for issuing drug safety warnings.

Avoidable mortality reduced during first 25 years of universal health insurance

James P, Wilkins R, Detsky A, Tugwell P, Manuel D. Avoidable mortality by neighbourhood income in Canada: 25 years after the establishment of universal health insurance. *J Epidemiol Community Health*. 2007; 61 (4): 287-296.

Issue	The contribution of a universal health system to changes in health outcome inequalities has not been determined.
Study	Obtained census data for metropolitan areas in Canada for 1971, 1986, 1991 and 1996, and looked at deaths amenable to medical care, amenable to public health, and from heart disease and other causes. Data on deaths were grouped into neighbourhood income quintiles to examine neighbourhood income-related differences in avoidable mortality in urban Canada over the 25-year period, after the establishment of universal insurance for physicians and hospital services.
Key Findings	From 1971 to 1996, differences between the wealthiest and poorest quintiles in expected years of life lost were as follows: <ul style="list-style-type: none"> • Amenable to medical care – decreased 60% in men and 78% in women • Amenable to public health – increased 0.7% in men and 20% in women • From heart disease – decreased 58% in men and 38% in women • From other causes – decreased 15% in men and 9% in women
Implications	Continued public support for physician and hospital services appears warranted in the interests of further reducing inequities in health. In addition, public health initiatives have a potentially important, but largely unrealized, role in further reducing mortality disparities in Canada.

Better anticoagulation control has health benefits for entire elderly population

van Walraven C, Oake N, Wells P, Forster A. Burden of potentially avoidable anticoagulant-associated hemorrhagic and thromboembolic events in the elderly. *Chest*. 2007 Feb 22; [Epub ahead of print].

Issue	The potential population-level benefit of improved anticoagulation control is unclear and has not been assessed in previous studies.
Study	Tracked Eastern Ontario residents, 65 years of age and older, between September 1999 and September 2000 who were taking oral anticoagulants (OACs), as well as the elderly population as a whole, to study hospitalizations for hemorrhages or blood clots in these two groups.
Key Findings	Excessively high anticoagulation levels explained 25.6% and 2.0% of all serious hemorrhages in OAC patients and the entire population, respectively. Excessively low anticoagulation levels explained 11.1% and 1.1% of all blood clots in OAC patients and the entire population, respectively.
Implications	Extreme anticoagulation levels have a considerable impact on population health. Improving anticoagulation control will have significant effects on the incidence of serious hemorrhages and blood clots in patients taking OACs and in the general population.

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