

## At A Glance

May 2008

### Monthly highlights of ICES research findings for stakeholders

#### Rise in prevalence of hypertension partly explained by decline in mortality

Tu K, Chen Z, Lipscombe L. Mortality among patients with hypertension from 1995 to 2005: a population-based study. *CMAJ*. 2008; 178 (11): 1436–1440.

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| <b>Issue</b>        | The prevalence of diagnosed hypertension (high blood pressure) increased by 60% in Ontario from 1995 to 2005. Can this increased prevalence be explained by a declining mortality rate?  |
| <b>Study</b>        | Studied health administrative data of over 12 million Ontario residents from 1995 to 2005 and identified patients with hypertension aged 20 years and older. Annual mortality rates were calculated for these patients, and the effect of co-existing conditions (diabetes and cardiovascular disease) on their mortality was assessed.  |
| <b>Key Findings</b> | Mortality rates dropped from 11.3 per 1,000 in 1995 to 9.6 per 1,000 in 2005, resulting in a relative reduction in mortality of 15.5%. Overall, and for both men and women, the largest drop in mortality occurred in the youngest age group (20–34 years) and the smallest drop occurred in the oldest age group (75 years and older). The decline in mortality was higher in men than in women (22.2% vs. 7.3%).               |
| <b>Implications</b> | These findings suggest that the rise in hypertension prevalence was both due to an increase in incidence and a decline in mortality. Despite the increasing presence of diabetes and cardiovascular disease in patients with hypertension, the decrease in mortality rates suggests they are receiving appropriate treatment. Gender- and age-related discrepancies in the reduction of mortality warrant further investigation. |

#### Children of immigrants more likely to be immunized than children of non-immigrants

Guttman A, Manuel D, Stukel T, DesMeules M, Cernat G, Glazier R. Immunization coverage among young children of urban immigrant mothers: findings from a universal health care system. *Ambul Pediatr*. 2008; 8 (3): 205–209.

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| <b>Issue</b>        | The extent to which recent immigrants to Canada access immunization coverage for their infant children has not been studied.  |
| <b>Study</b>        | Analyzed primary care physician claims of children born in hospital in Ontario between July 1997 and June 1998 to determine immunization coverage. Maternal region of origin, period of immigration, visa category and level of educational attainment was obtained from the Landed Immigrant Database.   |
| <b>Key Findings</b> | Of 98,123 children, 66.5% had up-to-date immunization coverage at age two years. Children of immigrant mothers were significantly more likely to be immunized than children born to non-immigrant mothers (69.0% vs 65.9%). Maternal region of origin was the most important predictor of immunization status, with those from Southeast and Northeast Asia 63% more likely to be up to date than those from Latin and Central America. |
| <b>Implications</b> | While universal access to care reduces disparities in immunization coverage, overall rates are too low. Interventions to improve immunization coverage would include reminder-recall systems, outreach to disadvantaged populations, and systems to minimize missed opportunities for immunization.   |

#### Study finds risk of serious assault spikes with alcohol sales

Ray J, Moineddin R, Bell C, Thiruchelvam D, Creatore M, Gozdyra P, Cusimano M, Redelmeier D. Alcohol sales and risk of serious assault. *PLoS Med*. 2008; 5 (5): e104.

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| <b>Issue</b>        | The risk of being hospitalized in Ontario due to assault in association with alcohol sales is unknown.   |
| <b>Study</b>        | Analyzed all persons aged 13 years and older hospitalized for assault in Ontario from April 2002 to December 2004. On the day prior to each assault case's hospitalization, the volume of alcohol sold at the store in closest proximity to the victim's home was compared to the volume sold at the same store seven days earlier. The associated relative risk of assault per 1,000 litres higher daily sales of alcohol was calculated. |
| <b>Key Findings</b> | Of the 3,212 persons admitted to hospital for assault, 24% were between the ages of 13 and 20 years, 83% were male, and 85% lived in urban areas. For every additional 1,000 litres of alcohol sold per store per day, the relative risk of being hospitalized for assault was 13% higher. At peak sales times, this risk was 41% higher than at times when alcohol sales were lowest.   |
| <b>Implications</b> | Consideration should be given to creating public awareness programs that stigmatize alcohol-related brawling, similar to those aimed at making driving under the influence of alcohol socially unacceptable.   |

## Some ACE inhibitors less beneficial in treating elderly patients with congestive heart failure

Pilote L, Abrahamowicz M, Eisenberg M, Humphries K, Behloul H, Tu J. Effects of different angiotensin-converting-enzyme inhibitors on mortality among elderly patients with congestive heart failure. *CMAJ*. 2008; 178 (10): 1303–1311.

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| <b>Issue</b>        | Existing clinical trial studies do not address whether all angiotensin-converting-enzyme (ACE) inhibitors are similarly beneficial in the treatment of patients with congestive heart failure (CHF).   |
| <b>Study</b>        | Analyzed hospital discharge and prescription claims data for 43,316 patients aged 65 years or older who were first admitted to hospitals in Quebec, Ontario and British Columbia because of CHF between January 1998 and March 2002. Patients who filled their first prescription for 1 of 8 commonly used ACE inhibitors within 30 days after discharge were followed until December 2002. The association between type of ACE inhibitor prescribed and mortality was assessed. |
| <b>Key Findings</b> | During the follow-up period, 16,618 patients died. Patients who filled prescriptions for fosinopril, lisinopril, and quinapril did not have a significantly different mortality than those who filled prescriptions for ramipril, the most frequently prescribed ACE inhibitor. Use of enalapril or captopril was associated with 10–15% higher mortality than ramipril. The results were inconclusive for patients taking perindopril and cilazapril.                           |
| <b>Implications</b> | When prescribing ACE inhibitors to elderly patients with CHF, physicians should consider the possible increase in mortality associated with enalapril and captopril compared with ramipril. Further evidence is required to fully assess the comparability between ramipril and the newer ACE inhibitors.  |

## Study describes indicators of aggressive end-of-life care among lung cancer patients

Barbera L, Paszat L, Qiu F. End-of-life care in lung cancer patients in Ontario: aggressiveness of care in the population and a description of hospital admissions. *J Pain Symptom Manage*. 2008; 35 (3): 267–274.

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| <b>Issue</b>        | Lung cancer is the most common cause of cancer death in the United States and Canada. No studies have examined indicators of the aggressiveness of end-of-life care among patients with lung cancer who died in an acute care hospital and those who died elsewhere.   |
| <b>Study</b>        | Used the Ontario Cancer Registry to identify 5,855 patients who died of lung cancer in Ontario in 2002. The hospital charts of 491 randomly selected patients were examined and classified as either dying in hospital (DH) or being admitted to hospital during the last six months of life but dying outside of hospital (DO), either at home or in a hospice setting. The DH and DO groups were similar with respect to age, gender, income level and extent of metastatic disease.   |
| <b>Key Findings</b> | Of the total lung cancer population, 59.5% died in an acute care bed, 32.2% had at least one emergency room visit during the last two weeks of life, 5.5% had an admission to the intensive care unit, and 4.6% received at least one injection of chemotherapy during the last two weeks of life. Compared to those in the DO group, patients in the DH group presented with pain more often (19.0% vs. 9.6%), and were more likely to be admitted with progressive chest disease (29.6% vs. 20.8%). Regardless of the reason for admission, pain was commonly documented as a problem during admission: 73.5% in the DH group and 62.4% in the DO group. Of the DH patients, 14% were awaiting transfer to another institution, likely a palliative care unit. |
| <b>Implications</b> | The use of acute care resources by cancer patients with advanced illness diminishes the ability of this hospital sector to manage other patients with acute illnesses. For those who provide supportive care, improvements are needed in the management of shortness of breath and pain in the community. For those involved in healthcare system planning, adequate palliative care structures and processes must be established to support patients in the community with significant symptom distress.  |