

At A Glance

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Monthly highlights of ICES research findings for stakeholders

Different form of heart failure found to be common and deadly

Bhatia S, Tu J, Lee D, Austin P, Fang J, Haouzi A, Gong Y, Liu P. Outcome of heart failure with preserved ejection fraction in a population-based study. *N Engl J Med.* 2006; 355 (3): 20-29.

Issue	Ejection fraction (EF) refers to the percentage of blood pumped out of the heart with each heartbeat. Normally, the EF should be above 50%. Physicians often rely on low EF to diagnose heart failure patients; however, more patients with a different form of heart failure are coming to hospital with a "normal" or "preserved" EF, thus eluding the usual tools for diagnosis.
Study	Tracked 2,802 patients with heart failure admitted to 103 Ontario hospitals between April 1, 1999 and March 31, 2001, and examined the mortality and hospital readmission rates between heart failure patients with "preserved" or "normal" EF and those with "reduced" EF.
Key Findings	Mortality rates for "preserved" EF heart failure patients were not significantly different from those with "reduced" EF at 30 days (5% vs. 7%) or at one year (22% vs. 26%). The one-year hospital readmission rate was also similar between "reduced" EF and "preserved" EF patients (16% vs. 14%).
Implications	Patients with heart failure and preserved EF should be treated as aggressively as those with reduced EF. New treatments for heart failure patients with preserved EF also need to be developed, as these patients have historically been excluded from most clinical trials of new heart failure therapies.

Local availability of rheumatologists affects specialist utilization by arthritis patients

Boyle E, Badley E, Glazier R. The relationship between local availability and first-time use of specialists in an arthritis population. *Can J Public Health.* 2006; 97 (3): 210-213.

Issue	Although arthritis is one of the leading causes of morbidity and disability in Canada, only a small number of patients are referred to a specialist for treatment. Whether this has to do with the local availability of musculoskeletal (MSK) specialists is unclear.
Study	Respondents aged 15 years and older from the 1996/97 Ontario Health Survey, who self-reported arthritis and rheumatism (A&R) and/or had a primary care encounter for A&R during the two years preceding the survey, were followed during the three-year post-survey period to determine the outcome of an encounter with a MSK specialist for A&R.
Key Findings	The A&R group was composed of 5,052 respondents, of whom 11% had an A&R encounter with a MSK specialist in the post-survey period. There was marked geographic variation in the rate of MSK specialist utilization for A&R patients. The local availability of rheumatologists explained much of the variation in the utilization of MSK specialist care in the A&R group. However, the local availability of other MSK specialists, including orthopedic surgeons or general internists, was not related to the use of MSK specialists.
Implications	The findings of this study suggest there are areas in the province that are underserved with regard to A&R provision. This is important for future health human resources planning because the population's A&R-related disability could be reduced by having local specialist services available.

Study shows no significant difference among ACE inhibitors for heart attack patients

Tu K, Gunraj N, Mamdani M. Is ramipril really better than other angiotensin-converting enzyme inhibitors after acute myocardial infarction? *Am J Cardiol.* 2006; 98 (1): 6-9.

Issue	Whether angiotensin-converting enzyme (ACE) inhibitors are interchangeable and equally efficacious after acute myocardial infarction (AMI) is controversial.
Study	Tracked over 1.4 million elderly Ontarians admitted to hospital for AMI who survived for 30 days or more after discharge, and were started on an ACE inhibitor and remained on that same ACE inhibitor between April 1, 1997 and March 31, 2000. Within this group, readmission for AMI or mortality was tracked for two years following hospital discharge.
Key Findings	Compared with patients on enalapril, there was no significant difference for hospital readmission for AMI or mortality across users of ramipril, lisinopril, or other ACE inhibitors.
Implications	These findings support a class effect among ACE inhibitors in treatment following AMI.

ICES report examines state of primary care services for specific patient populations

Jaakkimainen L, Upshur R, Schultz S, Maaten S, editors. *Primary Care in Ontario: ICES Atlas*. Toronto: Institute for Clinical Evaluative Sciences; 2006.

Issue	With the current policy focus on expanding and improving primary care in Ontario, examining health service delivery for certain populations and for people with specific conditions can help to determine priorities for more targeted service provision.
Study	Describes how primary care services were provided to patients with congestive heart failure, cancer, respiratory diseases, and mental health problems between 1992/93 and 2002/03. Also examines the care provided to disadvantaged populations in 2000/01.
Key Findings	Heart failure patients cared for by a general practitioner/family physician (GP/FP) without specialist consultation had poorer outcomes in terms of mortality, hospital readmission and receipt of some recommended heart failure medications. GP/FPs play a key role throughout the continuum of cancer care, and patients have more contact with their GP/FP than with any cancer specialist or other type of physician. There are clear seasonal outbreaks of respiratory diseases and nearly all patients visit a primary care physician for their care. Among Ontarians who seek mental health care, the most commonly contacted provider is a GP/FP. Despite wide variations in health needs and preventive health care, disadvantaged populations (those who have low socioeconomic status, report unmet health needs, live in rural areas, and are immigrants or members of visible minorities) all have similar levels of primary and specialist care.
Implications	There is a need to promote more organized and collaborative care between primary care providers and specialists for patients with cancer and heart failure. Consistent, updated diagnostic and treatment decision aids and guidelines are also required to support primary care providers. Special efforts must be made to ensure that disadvantaged populations receive the care they need. In addition, policy makers need to ensure that there will be sufficient numbers of GP/FPs to provide the necessary care for these patient populations in the future.

Mortality of patients on life support does not differ by hospital volume

Needham D, Bronskill S, Rothwell D, Sibbald W, Pronovost P, Laupacis A, Stukel T. Hospital volume and mortality for mechanical ventilation of medical and surgical patients: a population-based analysis using administrative data. *Crit Care Med*. 2006; 34 (9): 2349-2354.

Issue	Although it has been suggested that adult intensive care services in Ontario be regionalized to high volume hospitals similar to trauma, neonatal and pediatric intensive care services, previous research has demonstrated conflicting results regarding the benefits of higher volume hospitals for adult intensive care patients.
Study	Tracked more than 20,000 adult medical and surgical patients who received mechanical ventilation for at least three days in an Ontario intensive care unit (ICU) between 1998 and 2000. The odds of death within 30 days of initiation of mechanical ventilation, in relation to the hospital's volume of ventilated patients, was examined for these two groups.
Key Findings	Hospital volume had no effect on 30-day mortality for <i>surgical</i> patients. Most low volume hospitals are already transferring many of their <i>medical</i> patients requiring ventilation for at least three days to higher volume hospitals. Consequently, for most ventilated <i>medical</i> patients there is also no effect of hospital volume on 30-day mortality. However, at low volume hospitals that did not routinely transfer ventilated <i>medical</i> patients, there may be an increase in mortality compared to the highest volume hospitals.
Implications	Only a minority of <i>medical</i> patients receiving mechanical ventilation at the lowest volume hospitals in Ontario may benefit from an increased rate of transfer to high volume facilities, so this could be done fairly easily within the current organization of services. Moreover, having some <i>surgical</i> patients requiring mechanical ventilation remain at low volume hospitals may be beneficial in maintaining physician staff skills and equipment at these hospitals.

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