

At A Glance

February 2012

Monthly highlights of ICES research findings for stakeholders

Study examines effect of government policies on payments to Ontario physicians

Henry DA, Schultz SE, Glazier RH, Bhatia RS, Dhalla IA, Laupacis A. *Payments to Ontario Physicians from Ministry of Health and Long-Term Care Sources, 1992/93 to 2009/10. ICES Investigative Report.* Toronto: Institute for Clinical Evaluative Sciences; 2012.

Issue	How have government policies in Ontario affected trends in physician payments over time?
Study	Using data from six funding sources, estimated public payments to physicians in Ontario by specialty and specialty group between 1992/93 and 2009/10. Analyzed how different payment models contributed to increases in physician payments.
Key Findings	Ontario spent \$8 billion on physician services in 2009/10, up from \$3.7 billion in 1992/93. About 63% of the \$4.3 billion increase was related to an increase in physician payments; the remainder was a result of increased physician supply. Average payments to physicians remained at or below the rate of inflation until 2004/05, after which they increased sharply and exceeded inflation. Efforts to reduce wait times in a fee-for-service environment disproportionately benefited key specialties, including ophthalmology and diagnostic imaging. These groups also gained financially from demographic changes, technological advances and increased health system capacity that enabled larger numbers of services to be provided.
Implications	These findings cannot answer whether increased investment has led to better patient outcomes or improved functioning of the health care system. Further research is critical to ensuring that taxpayer dollars provide maximal benefits for Ontario patients.

Stroke patients treated with tPA progress through inpatient rehabilitation more rapidly

Meyer M, Murie-Fernandez M, Hall R, Liu Y, Fang J, Salter K, et al. Assessing the impact of thrombolysis on progress through inpatient rehabilitation after stroke: a multivariable approach. *Int J Stroke.* 2012 Jan 20 [Epub ahead of print].

Issue	Tissue plasminogen activator (tPA), a blood thinner, improves immediate and long-term patient recovery after ischemic stroke (IS) if administered within 2.5 hours of onset. Is tPA administration associated with accelerated progress through inpatient rehabilitation?
Study	Identified IS patients admitted to a hospital and an inpatient rehabilitation unit in Ontario between July 2003 and March 2008 and divided them into two groups: 448 patients who received tPA and 1,514 patients who were medically eligible but did not. Three indicators of rehabilitation progress—Functional Independence Measure gain, active length of stay and discharge destination—were compared between the two groups.
Key Findings	On average, patients who received tPA experienced a 4% shorter active length of stay (approximately 1.5 days) and had a 35% greater probability of being discharged home or to the community compared to the non-tPA group. No differences were noted on functional independence during rehabilitation.
Implications	These findings represent benefits that are not only meaningful to the patient but may also reduce the burden on the stroke rehabilitation system as a whole. Future studies should focus on the impact of the rehabilitation facility on patient progress and explore the difference between tPA patients who do and do not experience post-treatment complications.

Dementia drug does not increase risk of adverse pulmonary outcomes in seniors with COPD

Stephenson A, Seitz DP, Fischer HD, Gruneir A, Bell CM, Gershon AS, et al. Cholinesterase inhibitors and adverse pulmonary events in older people with chronic obstructive pulmonary disease and concomitant dementia: a population-based cohort study. *Drugs Aging.* 2012; 29(3):213–23

Issue	Cholinesterase inhibitors (ChEIs) provide cognitive and functional benefits to some individuals with dementia; however, they may worsen airflow obstruction. What is the risk of pulmonary complications in patients with dementia and chronic obstructive pulmonary disease (COPD) who are receiving ChEIs?
Study	Identified Ontario residents over the age of 66 who were diagnosed with both dementia and COPD between April 2003 and March 2010 and determined their exposure to ChEIs. The outcome of interest was ER visits or hospitalizations for COPD within 60 days of receipt of a prescription for any ChEI.
Key Findings	Of 266,840 patients with COPD, 45,503 (17.1%) had a diagnosis of dementia. Of these, 7,166 unexposed patients were matched to patients newly exposed to ChEIs. New users of ChEIs were not at significantly higher risk of ER visits or hospitalizations for COPD. Further, ER visits for any respiratory diagnoses were not increased among new users when compared to non-users.
Implications	While ChEIs did not increase the risk of acute complications, this study did not include a sub-group analysis of those with severe airflow obstruction. Therefore, individuals with severe COPD may benefit from close monitoring for increased respiratory symptoms after initiation of ChEI medication.

Women more likely to experience complications after ICD implantation

MacFadden DR, Crystal E, Krahn AD, Mangat I, Healey JS, Dorian P, et al. Sex differences in implantable cardioverter-defibrillator outcomes: findings from a prospective defibrillator database. *Ann Intern Med.* 2012; 156(3):195-203.

Issue	An estimated 2,000 Ontarians receive their first implantable cardioverter-defibrillator (ICD) each year. Do women receive ICDs in the same proportion as men and do they experience the same outcomes?
Study	Identified 6,021 patients (4,733 men) who were referred for ICD implantation at 18 Ontario hospitals between February 2007 and July 2010, and evaluated 45-day complication rates, device outcomes and mortality at one year.
Key Findings	<ul style="list-style-type: none"> • A total of 5,450 patients received an ICD. Although women made up a smaller proportion of all referred patients, they were equally likely to be implanted with an ICD after referral. • Women experienced a 78% increase in the odds of a major complication occurring within 45 days after implantation. • In longer-term follow-up, 13.9% of women and 7.4% of men developed major complications at one year post-implantation. • The most common early major complications were lead repositioning in men and lead replacement in women. Late complications for both sexes included pocket infection and electrical storm. • Women who were implanted with an ICD were 31% less likely to receive an appropriate shock and 27% less likely to receive an appropriate therapy from the device. • One-year mortality rates were similar for women and men.
Implications	Although most of the differences in ICD complications were lead-related, differences in body size, delayed presentation in women and innate differences in response to disease may have been contributing factors. The risks and benefits of ICD placement may not be the same for men and women. Clinicians may need to tailor selection criteria in women.

Funding and safety warnings have significant effect on ESA use in cancer patients

Weir MA, Gomes T, Winquist E, Juurlink DN, Cuerden MS, Mamdani M. Effects of funding policy changes and health warnings on the use of erythropoiesis-stimulating agents. *J Oncology Pract.* 2012 Jan 17 [Epub ahead of print].

Issue	Erythropoiesis-stimulating agents (ESAs) are used to treat anemia, a common blood disorder in cancer patients. What are the effects of formulary changes and governmental safety warnings on the use of ESAs in this population?
Study	Identified all ESA initiations among Ontario patients diagnosed with cancer between January 1997 and December 2009 and explored the effects of two formulary changes that liberalized ESA coverage: rescinding the blood transfusion requirement in 2003, and removing all restrictions in 2007. Examined the effect of US and Canadian regulatory warnings issued in 2007. ESA prescription rates for each of Ontario's 14 regional cancer centres were determined.
Key Findings	After the 2003 formulary change, the ESA initiation rate increased to 1.7 new users per 1,000 patients with cancer, 374% more than predicted. After the 2007 formulary change, the initiation rate increased to 4.0 new users per 1,000 patients with cancer, 73% more than predicted. After the safety warnings, this rate declined 81% by study end. There was significant regional variation in ESA use.
Implications	Formulary access and safety warnings had significant impacts on the new use of ESAs in patients with cancer, suggesting that both are effective means of influencing use. Variable prescription rates across regions may reflect a lack of consensus regarding the utility of ESAs.

ICES is an independent, non-profit organization that conducts research on a broad range of topical issues to enhance the effectiveness of health care for Ontarians. Internationally recognized for its innovative use of population-based health information, ICES research provides evidence to support health policy development and changes to the organization and delivery of health care services.