Enhancing the effectiveness of health care for Ontarians through research

ICES Institute for Clinical Evaluative Sciences

At A Glance

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Monthly highlights of ICES research findings for stakeholders

Study provides insights into non-invasive cardiac testing in Ontario

Alter D, Przybysz R, Iron K. *Non-invasive cardiac testing in Ontario*. Toronto: Institute for Clinical Evaluative Sciences; 2004.

Issue While invasive cardiac procedures have been studied extensively, non-invasive cardiac testing (NICT) has not been widely evaluated, despite its fundamental role in the selection of patients for invasive cardiac interventions.

Study Examined the temporal trends, utilization rates, referral and repeat testing patterns, and regional variations of NICT in Ontario between 1992 and 2001.

Key Findings

- With the exception of a modest decline in wall motion imaging, utilization of all other NICTs increased during the study period: electrocardiography (ECG) (1.23-fold), echocardiography (ECHO) (1.6-fold), ambulatory electrocardiography (AECG) (1.4-fold), myocardial perfusion imaging (MPI) (1.4-fold) and graded exercise treadmill testing (GXT) (1.43-fold).
- A proportionately higher number of NICT utilization is allocated to older and wealthier individuals.
- With the exception of ECG, fewer than 20% of patients had one or more NICT(s) and fewer than 5% had two or more repeated NICT investigations during the two years following their first test.
- There is considerable regional variation for NICT in Ontario.

Implications While this study does not address the appropriateness of NICT, it can serve as the foundation for future outcome analyses and prospective evaluations.

Higher income people more likely to receive colorectal cancer tests

Singh S, Paszat L, Li C, He J, Vinden C, Rabeneck L. Association of socioeconomic status and receipt of colorectal cancer investigations: a population-based retrospective cohort study. *CMAJ*. 2004; 171 (5): 461-465.

Issue The relationship between socioeconomic status (SES) and the receipt of colorectal cancer (CRC) screening tests has not been explored.

Study Identified over 1.6 million Ontarians aged 50 to 70 years on Jan. 1, 1997 that did not have a history of CRC, inflammatory bowel disease, or screening for CRC in the previous five years. These individuals were followed to Dec. 31, 2001 to evaluate the association between income and receipt of any method of CRC screening. A separate analysis specifically examined income and receipt of colonoscopy.

Key Findings Only 21% of the study group received CRC screening. People with higher incomes were not only more likely to be among those who received a screening test, but were also 1.5 times more likely to have had a colonoscopy.

Implications Universal health insurance alone may not reduce the impact of SES differences in CRC screening. Organized screening programs should be instituted immediately to reduce this disparity.

Little evidence available to support the use of atypical antipsychotics to treat dementia

Lee P, Gill S, Freedman M, Bronskill S, Hillmer M, Rochon P. Atypical antipsychotic drugs in the treatment of behavioural and psychological symptoms of dementia: systematic review. *BMJ*. 2004; 329 (7457): 75-80.

Issue Atypical antipsychotics are increasingly used to treat older patients with behavioural and psychological symptoms of dementia (BPSD), despite the fact that there is little evidence to support the efficacy and safety of these drugs in older adults.

Study Reviewed all published randomized controlled trials that evaluated the four oral antipsychotic drugs used to treat BPSD (clozapine, risperidone, olanzapine, and quetiapine) to assess the benefits and risks of these medications.

Key Findings Of the 77 abstracts reviewed only five trials evaluating the use of oral atypical antipsychotic drugs to treat BPSD were identified. No randomized controlled trials assessed clozapine or quetiapine for BPSD. There have been no head-to-head trials comparing atypical antipsychotics.

Implications In light of prior concerns regarding potential adverse events associated with the use of atypical antipsychotics, as well as the high cost of these drugs, further evidence is required before their use can be endorsed in the management of BPSD.

Flu outbreaks account for nearly 25% of ED overcrowding

Schull M, Mamdani M, Fang J. Community influenza outbreaks and emergency department ambulance diversion. *Ann Emerg Med*. 2004; 44 (1): 61-67.

Issue Influenza has long since been considered to impact emergency department (ED) overcrowding, yet few studies have examined this association.

Study Obtained weekly data on laboratory-confirmed flu and other respiratory virus cases, ED overcrowding (measured as the average number of hours per week in which EDs were forced to divert all ambulances), and visits to the 21 acute care hospital EDs in Toronto between January 1996 and April 1999 to study the specific effect that flu outbreaks have on ED overcrowding.

Key Findings

- Overall, EDs experienced an average of 3.4 hours per week of overcrowding.
- During flu season, for every 100 flu cases that occurred in the community, there were an extra 2.5 hours per week of overcrowding in EDs, on average.
- On average, EDs experienced a total of 344 hours of overcrowding over all four flu seasons examined in the study, of which 83 hours were attributable to the flu. This represents 24.3% of the duration of ED overcrowding during flu seasons.

Implications The impact of flu season on ED overcrowding is mainly attributed to a smaller number of patients, particularly elderly patients ill with flu complications, who are more likely to require hospitalization. Increasing community-wide rates of flu vaccination, improving access to inpatient beds during outbreaks, and enhancing alternatives to EDs for the medical care of patients suffering flu complications, particularly the elderly, could help to address ED overcrowding during flu season.

Antihypertensive medications do not increase risk of type 2 diabetes

Padwal R, Mamdani M, Alter D, Hux J, Rothwell D, Tu K, Laupacis A. Antihypertensive therapy and incidence of type 2 diabetes in an elderly cohort. *Diabetes Care*. 2004; 27 (10): 2458-2463.

Issue Previous studies that have looked into the possibility of certain antihypertensive drug classes accelerating or delaying the development of type 2 diabetes (DM2) have been inconsistent.

Study Compared diabetes incidence in new users, aged 66 years and older, of angiotensin-converting enzyme (ACE) inhibitors, beta-blockers, and calcium channel blockers (CCBs) in Ontario between 1995 and 2000. In a secondary analysis, thiazide diuretics were added as a fourth drug group.

Key Findings Compared to CCBs as a control group, neither ACE inhibitors, nor beta-blockers were associated with a statistically significant difference in DM2 incidence. In the secondary analysis, compared to CCBs, DM2 incidence was not significantly different between ACE inhibitors, beta-blockers, or thiazide diuretics.

Implications Clinicians should guide their choice of initial antihypertensive therapy on the basis of more established factors, such as the availability of evidence regarding efficacy, the presence of co-morbid medical conditions and cost.

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