



# CCORT PULSE

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## CCORT Objectives

Improve the quality of cardiovascular care in Canada

Work with local, provincial and national partners on policy-relevant research projects & knowledge exchange

Train future leaders of cardiovascular outcomes research in Canada

Make a measurable impact on the CV health of Canadians through research that changes clinical practice, health policy & patient outcomes

## This Issue

New papers	1
CCORT Profile	2
Making the rounds	2
Calendar	2
CCORT at the CCC	2

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## Clodidogrel reimbursement policies affect patient outcomes in Ontario

In a study published in the October 23 issue of the *New England Journal of Medicine*, CCORT investigators found that Ontario's drug policy for clopidogrel affected patient outcomes.

Prior to September 2003, use of clopidogrel, an expensive cardiovascular medication beneficial to a limited population, was managed as a prior authorization plan drug to ensure appropriate use. During this time period, 35% of patients discharged from hospital following a heart attack received a prescription for clopidogrel within 30 days.

In September 2003, classification of clopidogrel changed and it became part of the less restrictive limited-use drug program. Following this change, the rate of clopidogrel use within 30 days after hospital discharge by patients who were hospitalized for a heart attack increased markedly to 88%.

Further, the number of patients who experienced an adverse cardiac event one year after hospital discharge following a heart attack decreased from 15% during the time when clopidogrel required prior authorization to 11% when it

became part of the limited use program.

While the original prior authorization policy was designed to curb costs and prevent inappropriate/harmful use of clopidogrel, the authors show that this policy may have prevented patients from receiving timely access to beneficial medication.

In future, similar policies may need to be re-evaluated not only to ensure appropriate use of medication, but to also ensure that patient access to necessary medication is not delayed.

## CCORT updates acute myocardial infarction quality indicators

CCORT recently updated the acute myocardial infarction quality indicators first published in 2003 in conjunction with the Canadian Cardiovascular Society (CCS).

Developed by a 12-member expert panel from across Canada, the updated indicators reflect changes in evidence and practice guidelines. The new indicators serve as a guide for optimal patient care, and can be used to measure the current status of cardiovascular care in Canada.

While some of the original indicators remain unchanged, significant changes were made to others including the following in-hospital process of care indicators:

- ASA within 24 hours before hospital arrival or within 3 hours after hospital arrival
- ECG within 10 minutes after hospital arrival
- Smoking cessation advice counseling or therapy during hospital stay

The pre-hospital period was also included through indicators focused on the following:

- Prehospital 12-lead ECG
- Fibrinolytic therapy within 60 minutes after call for emergency medical services

These pre-hospital indicators are important as they address a period of time where gains can be made in reducing call-to-intervention time.

Many thanks to the panel members who participated in this process:

*Christopher Buller (British Columbia)*  
*Virginia Flintoft (Ontario)*  
*Thao Huynh (Quebec)*  
*Cynthia Jackevicius (Ontario)*  
*Laurie Lambert (Quebec)*  
*Michael Love (Nova Scotia)*  
*Michael Schull (Ontario)*  
*Heather Sherrard (Ontario)*  
*Edward Tsoi (Saskatchewan)*  
*Alain Vadeboncoeur (Quebec)*

For more information about the CCORT/CCS AMI Quality Indicators, visit: <http://www.ccort.ca/Research/QualityIndicators/CCORTCCSAMICHFQualityIndicators/tabid/67/Default.aspx>

## Access to primary PCI varies across Canada

A new paper entitled "A survey of primary percutaneous coronary intervention (PCI) for patients with ST segment elevation myocardial infarction (STEMI) in Canadian hospitals" led by CCORT investigator Dr. Dennis Ko, explores the availability of primary PCI for STEMI patients across Canada and whether hospitals are implementing strategies shown to reduce door-to-balloon times.

Conducted in 2007, the PCI survey was completed by all 38 Canadian

PCI hospitals. The survey found that 27 of the 38 PCI hospitals offered around-the-clock provision of PCI for STEMI patients. The survey also identified service variations between regions in Canada. For example, all PCI hospitals in Montreal reported around-the-clock primary PCI services, as compared to a subset of PCI hospitals in Toronto.

The survey's objective was to determine whether Canadian hospitals are adopting the various strategies

shown to reduce door-to-balloon times to support improved patient outcomes.

As increasing evidence shows that decreasing door-to-balloon times saves lives, ongoing review of services and outcomes can help to ensure patients receive optimal care.

Our thanks to the 38 PCI centres for their participation.



## CCORT Profile—Alka Patel, MGIS

Currently a PhD student in Health Services Research under the supervision of Dr. William Ghali at the University of Calgary, Alka Patel has undergraduate degrees in Zoology and Geography and a Masters degree in Geographic Information Systems (GIS).

Alka began working with CCORT in 2007/2008 after receiving a CCORT doctoral fellowship for her research focusing on geographic access to primary percutaneous coronary intervention (PCI). In 2007, her paper titled, "Determining geographic areas and populations with timely access to cardiac catheterization facilities for acute myocardial infarction care in Alberta, Canada" was published in the International Journal of Health Geographics. **(Patel AB, Waters NM, Ghali WA. Int J Health Geogr 2007; 6 (1):47)**

As a CCORT fellow, Alka is collaborating with CCORT investigators on a study evaluating geographic access to Primary PCI for patients with ST-Segment Elevation Myocardial Infarction (STEMI) in Canada.

Alka describes CCORT as an important part of her doctoral research, which uses GIS to study access to PCI in order to inform regional care models for STEMI patients.

"The opportunity to collaborate with clinical and cardiovascular outcomes experts has allowed my research to become truly interdisciplinary."



## 2008-09 CALENDAR OF EVENTS



### January 2009

CCORT Student Competition Opens  
Visit the CCORT website for details

<http://www.ccart.ca/StudentTraining/tabid/69/Default.aspx>

### March 10-14 2009

Joint Conference-49th Cardiovascular Disease Epidemiology and Prevention and Nutrition, Physical Activity and Metabolism  
Palm Harbor, FL

### March 29-31 2009

ACC.09 58th Annual Scientific Session  
Orlando, Florida

### April 23-25 2009

Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke Conference  
Washington, DC

### CCORT makes the rounds

#### PUBLICATIONS

Austin PC, Tu JV, Ko DT, Alter DA. Use of evidence-based therapies after discharge among elderly patients with acute myocardial infarction. *CMAJ* 2008; 179(9):895-900.

Austin PC, Tu JV, Ko DT, Alter DA. Factors associated with the use of evidence-based therapies after discharge among elderly patients with myocardial infarction. *CMAJ* 2008; 179(9):901-908.

Austin PC. Using the bootstrap to improve estimation and confidence intervals for regression coefficients selected using backwards variable elimination. *Stat Med* 2008; 27(17):3286-3300.

Jackevicius CA, Tu JV, Demers V, et al. Cardiovascular Outcomes after a Change in Prescription Policy for Clopidogrel. *N Engl J Med* 2008; 359 (17):1802-1810.

Ko DT, Alter DA, Austin PC, You JJ, Lee DS, Qiu F et al. Life expectancy after an index hospitalization for patients with heart failure: a population-based study. *Am Heart J* 2008; 155(2):324-331.

Ko DT, Donovan LR, Huynh T et al. A survey of primary percutaneous coronary intervention for patients with ST segment elevation myocardial infarction in Canadian hospitals. *Can J Cardiol* 2008; 24(11):839-843.

Lee DS, Tu JV, Chong A, Alter DA. Patient Satisfaction and Its Relationship With Quality and Outcomes of Care After Acute Myocardial Infarction. *Circulation* 2008; Published online ahead of print.

Mitiku TF, Tu K. Using Data from Electronic Medical Records: Theory versus Practice. *Healthcare Quarterly* 2008; 11(4):23-25.

Stoica SC, Kalavrouziotis D, Martin B, Buth KJ, et al. Long-Term Results of Heart Operations Performed by Surgeons-in-Training. *Circulation* 2008; 118:S1-S6.

Tu JV, Khalid L, Donovan L, et al. Indicators of quality of care for patients with acute myocardial infarction. *CMAJ* 2008; 179(9):909-15.

## CCORT at the Canadian Cardiovascular Congress

CCORT was well represented at the annual CCC conference held this past September in Toronto. All 7 of the abstracts submitted were accepted as abstracts/posters during the 5-day conference. Investigators and students presented their work to a range of attendees including physicians, researchers and healthcare professionals—all sessions were well attended. The topics included the following:

- **Hussam Abdel Qadir**—Effect of right and left bundle branch blocks on short- and long-term outcomes in patients hospitalized with acute heart failure (oral)
- **Ansar Hassan**—Increasing PCI-to-CABG ratios across Canada (oral)
- **Cynthia Jackevicius**—Cardiovascular Outcomes with Removal of Clopidogrel prior authorization in patients receiving coronary stents post-myocardial infarction (poster)
- **Dennis Ko**—Canadian Quality Indicators for Percutaneous Coronary Intervention (oral)
- **Douglas Lee**—Impact of blood pressure at hospital discharge on mortality and morbidity in the acute to chronic heart failure transition (oral)
- **Derek McFadden**—The effect of sex and comorbid conditions on the use of implantable cardioverter defibrillators (poster)
- **Jack Tu**—CCORT/CCS Quality Indicators for acute myocardial infarction care in Canada 2008 Update (oral)

For information about CCORT or to send newsletter comments and contributions, contact Tara O'Neill at [tara.oneill@ices.on.ca](mailto:tara.oneill@ices.on.ca)