

### Safer Healthcare Now! interventions

- AMI - Acute Myocardial Infarction
- CLI - Central-line associated Bloodstream Infections
- Falls - Falls Collaborative in Long-term care
- MedRec - Medication Reconciliation (Acute care and Long-term care)
- MRSA - Antibiotic-resistant organisms (AROs)/Methicillin-resistant *Staphylococcus aureus*
- RRT - Rapid Response Teams
- SSI - Surgical Site Infections
- VAP - Ventilator-associated Pneumonia
- VTE - Venous thromboembolism

### Pilot Projects:

- Medication reconciliation in home care
- Prevent adverse drug events related to high-risk medications in paediatrics

### Goal

Prevent deaths among patients hospitalized for acute myocardial infarction (AMI) by ensuring reliable delivery of evidence-based care

### Background

- Acute Myocardial Infarction (AMI) is caused by a sudden loss of blood supply to an area of the heart that may cause permanent heart damage or death. The lay term for AMI is "heart attack".
- Every year, several million people in Canada and the United States are diagnosed with an AMI. Approximately one third of patients die during the acute phase of the AMI.
- Health Canada has identified cardiovascular disease or heart disease as the number one killer and the most costly disease in Canada, putting the greatest burden on our health care system.<sup>1</sup>
- Studies report that prompt aspirin administration results in a 15 per cent reduction in vascular events. Beta-blockers reduce AMI mortality in the first week by 14 per cent and long-term mortality by 23 per cent.<sup>2</sup>
- A review of post-AMI care in four Canadian provinces revealed that although utilization rates for beta-blockers, ACE inhibitors and statins increased over the study period, rates were still far below optimal levels. Similar results were found in Saskatchewan.<sup>3</sup>
- Care and system process improvements to ensure timely diagnosis of AMI and timely initiation of care components within evidence-based windows are essential to improve team and system performance in the delivery of AMI care.
- Contraindications to any component of the AMI bundle of care should be clearly documented (if not, why not). Use of standardized order sets and clinical documentation checklists are recommended.
- Teams are encouraged to begin small tests of change with baseline data collection to test clinical documentation tools and checklists that will serve as reminders of care components and assist them with collecting and monitoring outcome measures.
- Variability in results over time is commonplace. Upon achieving the goal for each measure continue to monitor your performance for at least six months to assure you are able to sustain your gains.

<sup>1</sup> Health Canada: Heart and Stroke webpage: [www.hc-sc.gc.ca/dc-ma/heart-coeur/index\\_e.html](http://www.hc-sc.gc.ca/dc-ma/heart-coeur/index_e.html)  
Economic Burden of Illness in Canada 1998 webpage: <http://www.phac-aspc.gc.ca/publicat/ebic-femc98/pdf/ebic1998.pdf>

<sup>2</sup> Antman EM, et al. JAMA. 1992; 268 :240-247. Hennekens CH, et al. N Engl J Med. 1996; 335 :1660-1666.

<sup>3</sup> Pilote L et al. Canadian Journal of Cardiology 2004 Jan; 20(1) :61-67. Chan BTB, et al. Improving the Quality of Heart Attack Care in Saskatchewan: Outcomes and Secondary Prevention. Saskatoon: Health Quality Council, September 2004. (Available at [www.hqc.sk.ca](http://www.hqc.sk.ca))



## Intervention

Seven key components of reliable, evidence-based AMI care, unless contraindications exist that are clearly documented in the patient's health record:

### Admission Care Components (Emergency Departments & Ambulance/Home)

- Early administration of aspirin
- Timely initiation of reperfusion (thrombolysis or percutaneous intervention)

### Care Components

- ACE-inhibitor or angiotensin receptor blockers (ARB) at discharge for patients with systolic dysfunction
- Beta-blocker
- Aspirin
- Statins
- Smoking cessation counseling / referral to cardiac rehabilitation program

Based on new evidence from the COMMIT/CCS-2 Study Trial, many Canadian cardiologists explicitly caution that the broad, early use of beta-blockers may not be in the patient's best interest and have not endorsed this care component in the AMI guidelines.<sup>4</sup>

## Intervention Measures

### *Intervention Measures (CCORT/CCS and Supported by Canadian AMI Faculty)*

#### Admission Measures

1. % AMI patients who received aspirin within 24 hours before or after hospital arrival. **Target 90%**
2. % AMI patients who receive thrombolytic agent within 30 minutes of ER arrival. **Target: 85%**  
OR % AMI patients who receive primary PCI within 90 minutes. **Target: 90%**

#### Discharge Measures (See Measurement Worksheets for contraindications)

3. % AMI patients prescribed aspirin. **Target 90%**
4. % AMI patients prescribed beta-blocker. **Target 90%**
5. % AMI patients prescribed ACEI or ARB. **Target: 100%**
6. % AMI patients prescribed statin. **Target: 90%**
7. % AMI patients who received all elements or "perfect care" for which they were eligible. **Target: 95%**
8. % AMI patients who died during hospital stay. **Target: Decrease baseline AMI mortality by 40%**

## Success Stories

- Success stories are shared in National AMI Calls, learning sessions, regional quality week storyboards, regional and national newsletters and on the SHN Community of Practice. Success stories in Canada to date include: active improvement and reduction of time to diagnosis and intervention; Regional Emergency Department by-pass and fast track PCI protocols; hospital routines to standardize all clocks and equipment (ECG) at an established hour each 24-hour period; improved use of clinical documentation checklists and standard order sets that capture accurate times of arrival, diagnosis, intervention and the nature of any contraindications; patient, family and community education; standardized staff education; maximizing professional scopes of practice to improve timing and reliability; and feedback of performance measures for QI use by the team and organization.
- If you are interested in sharing your success story please contact the Safety Improvement Advisor in your Node. They will assist you with the development of your story line.

<sup>4</sup> Second Chinese Cardiac Study (CCS-2) Collaborative Group. Journal of Cardiovascular Risk 2000, 7(6): 435-441. Second Chinese Cardiac Study (CCS-2) Collaborative Group. COMMIT CCS-2 (Clopidogrel and Metoprolol in Myocardial infarction Trial). Slide presentations at the annual conference of the American College of Cardiology in Orlando, March 9, 2005. [www.commit-ccs2.org/](http://www.commit-ccs2.org/)