

Improved Care for Acute Myocardial Infarction

GOAL: PREVENT DEATHS AMONG PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION (AMI) BY ENSURING THE RELIABLE DELIVERY OF EVIDENCE-BASED CARE.

BACKGROUND

- Each year, 1.1 million individuals experience an AMI. One-third die during the acute phase.
- The American College of Cardiology and the American Heart Association have issued evidence-based guidelines for the management of patients with AMI.
 - Antman EM, Anbe DT, Armstrong PW, et al. ACC/AHA guidelines for the management of patients with ST-elevation myocardial infarction – executive summary. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the 1999 Guidelines for the Management of Patients with Acute Myocardial Infarction). *J Am Coll Cardiol.* 2004;44:671-719.
- Implementation of the therapies addressed by these guidelines has been shown to reduce mortality among patients with AMI. For example, prompt administration of aspirin has been shown to reduce the risk of death from vascular events by 15 percent. Beta-blockers have been shown to reduce the risk of death in the first week after AMI by 13 percent and long-term mortality by 23 percent.
 - Antman EM, Lau J, Kupelnick B, Mosteller F, Chalmers TC. A comparison of results of meta-analyses of randomized controlled trials and recommendations of clinical experts: treatments for myocardial infarction. *JAMA.* 1992;268:240-248.
 - Hennekens CH, Albert CM, Godfried SL, Gaziano JM, Buring JE. Adjunctive drug therapy of acute myocardial infarction – evidence from clinical trials. *N Engl J Med.* 1996;335:1660-1667.
- Despite evidence of effectiveness for aspirin and beta-blockers, many patients hospitalized for AMI do not receive these therapies. A recent study by investigators at RAND showed that only 61 percent of AMI patients received aspirin and only 45 percent received beta-blockers.
 - McGlynn EA, Asch SM, Adams J, et al. The quality of health care delivered to adults in the United States. *N Engl J Med.* 2003;348:2635-2645.
- The Institute of Medicine (IOM) has identified the care of ischemic heart disease as a priority area for health care quality improvement.
 - Adams K, Corrigan JM, eds. *Priority areas for national action: transforming health care quality.* Washington, DC: The National Academies Press, 2003.
- The Centers for Medicare and Medicaid Services (CMS) has made improved care for patients with AMI part of its Hospital Quality Initiative. Improved AMI care is part of the QIO 7th Scope of Work (SOW) and will also be part of the 8th SOW.

<http://www.cms.hhs.gov/quality/hospital/>
- The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has included care of AMI patients as one of the core measure sets from which hospitals may select for required quality reporting.

<http://www.jcaho.org/pms/core+measures/core+measures.htm>

INTERVENTIONS – AMI KEY MEASURES

- Early administration of aspirin
- Aspirin at discharge
- Early administration of beta-blocker
- Beta-blocker at discharge

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- ACE-inhibitor or angiotensin receptor blockers (ARB) at discharge for patients with systolic dysfunction
- Timely initiation of reperfusion (thrombolysis or percutaneous intervention)
- Smoking cessation counseling

SUCCESS STORIES

- By implementing a discharge medication program including key AMI measures, Intermountain Health Care, Salt Lake City, UT, was able to achieve greater than 90 percent compliance with aspirin and beta-blocker guidelines among AMI patients.

- Lappe JM, Muhlestein JB, Lappe DL, et al. Improvements in 1-year cardiovascular clinical outcomes associated with a hospital-based discharge medication program. *Ann Intern Med.* 2004;141:446-453.

- Through their Cardiac Service Line, Hackensack University Medical Center, Hackensack, NJ, developed standardized processes for AMI care, resulting in an increase in the composite AMI score as calculated by CMS (aggregate of the key measures). The composite score increased from an average of 72% in the first quarter of 2003 to an average of 91% by the fourth quarter of 2003, resulting in a decrease in AMI inpatient mortality from 7% to 5.2% in the same time period.

- Hackensack University Medical Center AMI Report, Sept 10, 2004.

- By developing protocols based on the evidence, McLeod Regional Medical Center, Florence, SC, increased the percent of patients who received “perfect care” (all AMI key measures) from 80% in January 2001 to 100% by November 2003. This has reduced average inpatient mortality rate for AMI to 4% for the past year, below the CMS reported average of 7% in 2003.

- McLeod Regional Medical Center Storyboard for the 2004 IHI National Forum.

RESOURCES

- CMS National Acute Myocardial Infarction Project
www.medqic.org/content/nationalpriorities/topics
- JCAHO Core Measures: Change Announcement
<http://www.jcaho.org/pms/core+measures/changeinaceforlvsdmeasuresincorparbs.pdf>
- American College of Cardiology
<http://www.acc.org/index.htm>

We welcome your comments, suggestions for revision, and enhancements to this document. Please send suggestions, with contact information when possible, to 100k@IHI.org.

INSTITUTE FOR HEALTHCARE IMPROVEMENT
20 University Road, 7th Floor, Cambridge, MA 02138
(866) 787-0831

WWW.IHI.ORG