

**ACEI Prescribed at Discharge for AMI –
Achieving the Standard of Care
Tools and Resources for Hospital Performance Measurement
Improvement Activities**

Third in a series of targeted quality improvement articles

June 11, 2004

Illinois Hospital Association

ACEI Prescribed at Discharge for AMI – Achieving the Standard of Care Tools and Resources for Hospital Performance Measurement Improvement Activities

Achieving the Highest Standard of Care

Angiotensin-converting enzyme inhibitor (ACEI) Prescribed at Discharge examines whether patients with acute myocardial infarction (AMI) complicated by left ventricular systolic dysfunction (LVSD) were prescribed ACE inhibitors at hospital discharge. Illinois hospitals in 3rd quarter of 2003 achieved 81.9% compliance compared to nationally reporting Joint Commission on Accreditation of Healthcare Organizations (JCAHO) hospitals achieved 78.1% for the same time period. The goal for all Illinois hospitals should be 100% compliance with this and all the National Quality Performance Measurements.

ACEI for LVSD Measurement Description

Myocardial damage during infarction impairs left ventricular function and can lead to heart failure. Evidence-based practice has demonstrated that giving ACE inhibitors to AMI patients during the early stages of an AMI helps support myocardial function and reduces mortality. The greatest benefits seem to be with patients with “high risks” including anterior wall infarctions and LVSD.

Debate on ACEI versus ARBs Continues

The medical community continues to debate the use and therapeutic benefit of angiotensin-converting enzyme inhibitors (ACEI) medications and angiotensin receptor blockers (ARBs) medications for LVSD or heart failure. Background information on this debate can be found at the two major web sites, MedQIC and the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

Calculating the Measure’s Performance. ACEI prescribed at discharge is reported as a percent, based on:

- Numerator includes AMI patients who are prescribed an ACEI at hospital discharge.
- Denominator includes AMI patients with LVSD and without ACEI contraindications.
- Eligible patients include discharges:
 - o - Principle Diagnosis code of 410.1xx, with some exceptions; refer to technical specifications, and
 - o - Chart documentation left ventricular ejection fraction (LVEF) <40% or a narrative description of left ventricular function (LVF) consistent with moderate or severe systolic dysfunction.

The Impact of Medical Record Documentation on Measure Calculation

ACEI prescribed at discharge measure is sensitive to medical record documentation practices as proper documentation is required with medications, contraindications to medications, and LVSD.

Documenting LVSD

When LVSD is present but is inadequately documented or not documented at all in the current medical record, the denominator is not populated and the case is grouped into “missing data”. This results in a “smaller sample size” and affects the validity of the measure. Among the core measures, missing data rates are highest with ACEI. Many hospitals report documentation as one important barrier to their improvement efforts.

Documenting Contradictions to ACEI

When ACEI is not prescribed at discharge, the contraindications or reasons for not prescribing ACEI must be documented in the medical record otherwise numerator is not populated and this will result in a “lower” compliance rate as the denominator will be populated. When contradictions or reasons for not prescribing ACEI are documented in the medical record, the denominator is not populated and the patient is not included in the measure.

The *Technical Specifications* manuals are a resource for the measure description, rationale, the numerator and denominator, inclusions and exclusions, contraindications, and how data is processed including what results in *missing data* and *not in measure populations*. To view, click on the direct links below.

- JCAHO:

<http://www.jcaho.org/pms/core+measures/information+on+final+specifications.htm>

Successful Quality Improvement and Compliance Experiences Shared by Illinois Hospitals

The experiences and successes for achieving compliance with ACE inhibitors prescribed at discharge for AMI are presented below from hospitals representing a variety of characteristics and locations throughout Illinois. The Illinois Hospital Association appreciates the efforts of these hospitals in sharing their experiences with others and also the sharing of contact names at each hospital for additional follow up questions or discussions.

Some common and unique success factors or strategies include:

- . • Strong executive and physician leadership and involvement
- . • Use of Six-Sigma in the change process
- . • Process-based changes
- . • Review non-compliant events.

Decatur Memorial Hospital

Strong leadership and vision drive the effort and success with Core Measures at Decatur Memorial Hospital, Decatur, Illinois. “We credit our CEO, Ken Smithmier, for setting high standards,” states Beth Paul, Director Quality Systems Management. “We were challenged to be at 100% compliance on all Core Measures,” Paul relates, “Our CEO supports public reporting of quality data as it is beneficial to the hospital and the communities they serve.”

Paul outlined several important steps that have contributed to their success.

- . • Hospital leadership demonstrated interest and involvement in AMI and all the c
- . • Core Measures before public release
- . • Six Sigma teams were used to examine Core Measures and the care of AMI patients to identify how to improve care processes
- . • Staff developed processes to ensure that patients with positive laboratory diagnostic tests for AMI have the cardiac Core Measures incorporated in the treatment plan
- . • Case Managers review a patient's medical record 24 hours post admission to determine if the AMI Core Measures are reflected in the patient care record. Cases out of compliance are sent for review and an explanation for the variance.

Paul also identifies the importance of physician involvement and data reporting. "Our physicians are involved in quality initiatives and core measures. All the AMI patients are seen by cardiologists who understand the importance of the core measures in the care of these patients." Paul continues, "Data is reported to Clinical Management Council, the Medical Executive Committee and the Board of Directors. Reporting performance data keeps key staff aware of how we are performing." Contact: Beth Paul, Director Quality Systems Management at bethp@dmhhs.org.

Trinity Regional Health System

Trinity Regional Health System, located in Rock Island, Illinois, serves the Illinois/Iowa Quad-City area. Becky Covemaker, Performance Improvement Analyst identifies physician commitment and the role of a physician "champion" as two critical factors to their success with the AMI core measures. According to Ann Sellers, Facilitator of the Cardiology Improvement Council, "Our AMI program was embraced by our physicians [we had a physician champion] over a decade ago when treatment of AMI was a major focus. Care was and is more definitive and engrained for this particular group of patients. AMI is easier to diagnosis than heart failure."

Current improvement initiatives at Trinity Regional Health System are directed at documentation and reporting. "We are working with physicians on care documentation, particularly the contraindications for ACEI administration. Standing orders are also used to improve care processes and documentation."

Physicians also receive reports on their performance data. Covermaker states, "The Vice President of Medical Affairs, Mark Valliere, MD is sharing with the involved physicians, their respective performance data regarding heart failure, AMI and pneumonia." Contact: Becky Covemaker, Performance Improvement Analyst at covemakerb@trinityqc.com.

Blessing Hospital

Blessing Hospital, located in Quincy, Illinois, is designated a rural hospital and is the largest sole community center in a 100 mile radius. Tena Jones, Director of Quality Management, outlines several recent interventions that have contributed to Blessing Hospital's high compliance with ACE inhibitors in the AMI population.

Blessing changed system processes and review practices to improve compliance. "We have made efforts to place the most recent LV assessment on the patient's chart...this helps remind physicians to make the appropriate documentation for these patients." A second intervention looks at cases that fall out of compliance for ACE care standards. "Cases that are out of compliance for ACE are reviewed at the Medical and Family Practice case review meetings to determine the cause...perhaps a missed order, something overlooked, a documentation issue."

Jones identified a current barrier to improvement involves the prescribing of ARBs in place of ACE inhibitors. "Many of our physicians may use ARBs as these drugs are more appropriate for some of our patient population – we have heavy renal population." Therefore, documenting contraindications to ACE inhibitors in the medical record is important. "We have discussions with physicians about improving documentation and getting what's in their head into the medical record."

Currently, Blessing Hospital Board of Directors has been reviewing performance with core measures and setting goals. Jones states, "Our ultimate goal is 100% compliance, we are working to develop processes that will enable us to deliver those results!" Contact: Tena Jones, Director of Quality Management at tjones@blessinghospital.com

ACEI at Discharge Web Based Resources

See Appendix I. for additional web based resources for ACEI at Discharge.

Future Series

- July 02 Aspirin Prescribed at Discharge (AMI-2)
- July 23 Beta Blocker Prescribed at Discharge (AMI-5)
- August 13 LVF Assessment (HF-2)
- September 03 ACEI Prescribed at Discharge (HF-3)
- September 24 Pneumococcal Screening and/or Vaccination (CAP-2)
- October 15 Antibiotic Timing (CAP-5)
- November 05 Oxygenation Assessment at Arrival (CAP-1)

For additional information about ACEI Prescribed at Discharge, the Ten National or Starter Measurements, or to comment on this series, please contact Tim Philipp, Director, Quality Improvement at tphilipp@ihastaff.org.

APPENDIX I. ACEI Specific Web Based Resources

A common set of web based resources identified for the AMI core measures can be reviewed in document “Acute Myocardial Infarction Web Based Resources” on the IHA web site. This document outlines web resources addressing clinical guidelines, educational materials, evidence-based materials, and intervention tools. New or updated materials specific to ACEI are listed below. For a general description of the web sites used, see the document “Generic Sources of Information for All Measures” on the IHA web site. To access the materials below, click on the web address and follow the additional steps.

- National Heart Care Annotated Bibliography (April 2004) lists ACE inhibitor articles for AMI (see pages 8, 11, 13-14, 22, and 27), go to link below and scroll to the end of the listings.

Frequently Asked Questions – (FAQs) FAQs often reflect the insights and concerns of hospital staff involved in clinical care and data collection. Use FAQs as your first source to answer clinical and data related questions. FAQs are also an important educational tool for novice and expert. A search on:

- *ACE and AMI* returns 16 results addressing clinical situations about drugs, systolic dysfunction, contraindications, and documentation issues.

- *ARB and AMI* returns 7 results addressing drug equivalency, ACEI contraindications, and documentation.

- *LVF and AMI* returns 30 results addressing clinical issues about appropriate qualifying diagnostic tests, patient transfers, test interpretation and documentation.

- *LVSD and AMI* returns 40 results addressing clinical issues about medical terminology consistent with “moderate or severe systolic dysfunction, ejection fractions, and other documentation concerns.

- *Discharge and AMI* returns 59 results (not all related to ACE) addressing clinical issues about LVF, discharge medication orders, discharge summary, and other documentation concerns.

To review FAQs or to ask a new question, go to:

<http://www.qnetquest.org/quest/index.do?mode=96&image=http://www.medqic.org/assets/medqic-images/medqicquestbanner.jpg>

American Health Quality Association – (AHQA)

The AHQA web site lists four hospital projects related to ACEI at Discharge for AMI. Contact names are provided. Locate these projects under the states of Iowa, Mississippi, Massachusetts, and Tennessee. To view these project descriptions, go to:

http://www.ahqa.org/pub/media/159_766_4627.CFM

Locate “Quality Improvement in Action”, click on “state” then locate by state.

The Massachusetts project provided the most detail. Key success strategies included:

- . • use of preprinted order sets
- . • use of internet-based patient management tool for treatment, reminders, and decision support
- . • “creating a culture of excellence in which any missed opportunity to provide evidence-based treatment for patients with AMI is viewed as a error of omission.”

The Massachusetts experience is also describe in greater detail in these two sources:

- Web site Medscape from WebMD, enter “LaBresh” into search criteria. Registration required for 1st time users and is free. Go to:

www.medscape.com

- Professional literature, check with your medical librarian. See:

LaBresh, K., et.al. (2004). Get with the guidelines for cardiovascular secondary prevention. Archives of Internal Medicine, 164:2, 203-209.