



Complete Summary

TITLE

Heart failure: percentage of patients aged greater than or equal to 18 years with diagnosed heart failure who also have left ventricular systolic dysfunction (LVSD) who were prescribed angiotensin-converting enzyme (ACE) inhibitor therapy.

SOURCE(S)

American College of Cardiology, American Heart Association, Physician Consortium for Performance Improvement. Clinical performance measures: heart failure. Tools developed by physicians for physicians. Chicago (IL): American Medical Association (AMA); 2003. 8 p.

Brief Abstract

DESCRIPTION

This measure assesses the percentage of patients aged greater than or equal to 18 years with diagnosed heart failure who also have left ventricular systolic dysfunction (LVSD) who were prescribed angiotensin-converting enzyme (ACE) inhibitor therapy.

RATIONALE

According to American College of Cardiology/American Heart Association (ACC/AHA) guidelines, for patients with asymptomatic left ventricular systolic dysfunction (LVSD) (Stage B), angiotensin-converting enzyme (ACE) inhibitor therapy is recommended for heart failure (HF) patients with recent myocardial infarction (MI) and for patients with reduced ejection fraction.

For patients with symptomatic LVSD (Stage C), ACE inhibitor therapy is recommended in all patients, unless contraindicated.

PRIMARY CLINICAL COMPONENT

Heart failure; left ventricular systolic dysfunction; angiotensin-converting enzyme (ACE) inhibitor therapy

DENOMINATOR DESCRIPTION

All heart failure (HF) patients aged greater than or equal to 18 years with left ventricular systolic dysfunction (LVSD) and with left ventricular ejection fraction (LVEF) less than 40 percent, or with moderately or severely depressed left ventricular systolic function

NUMERATOR DESCRIPTION

Patients in the denominator who were prescribed angiotensin-converting enzyme (ACE) inhibitor therapy

Evidence Supporting the Measure

PRIMARY MEASURE DOMAIN

Process

SECONDARY MEASURE DOMAIN

Not applicable

EVIDENCE SUPPORTING THE MEASURE

A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [ACC/AHA guidelines for the evaluation and management of chronic heart failure in the adult: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines \(Committee to Revise the 1995 Guidelines for the Evaluation and Management of Heart Failure\).](#)

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Wide variation in quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

Gheorghide M, Gattis WA, O'Connor CM. Treatment gaps in the pharmacologic management of heart failure. Rev Cardiovasc Med 2002;3(Suppl 3):S11-9. [27 references] [PubMed](#)

Jencks SF, Huff ED, Cuerdon T. Change in the quality of care delivered to Medicare beneficiaries, 1998-1999 to 2000-2001. JAMA 2003 Jan 15;289(3):305-12. [PubMed](#)

State of Use of the Measure

STATE OF USE

Pilot testing

CURRENT USE

Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Ambulatory Care
Community Health Care
Managed Care Plans
Physician Group Practices/Clinics
Rural Health Care

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Advanced Practice Nurses
Physician Assistants
Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Individual Clinicians

TARGET POPULATION AGE

Age greater than or equal to 18 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

A person aged 40 years or older has a 1 in 5 chance of developing heart failure (HF). Currently about 5 million Americans are living with HF, and about 550,000 new cases are diagnosed each year. The high prevalence combined with multiple complications from this condition increase health care costs significantly.

Despite potential risks and established guidelines, recent data suggest that some patients are not being managed optimally for their disease. It has been reported that in some states:

- Only 68% of Medicare patients with left ventricular ejection fraction less than 0.40 were prescribed an angiotensin-converting enzyme (ACE) inhibitor.
- Only 75% of all HF patients who are candidates for ACE inhibitors are prescribed them.

EVIDENCE FOR INCIDENCE/PREVALENCE

American Heart Association. Heart disease and stroke statistics - 2003 update. Dallas (TX): American Heart Association; 2002. 46 p.

Gheorghiade M, Gattis WA, O'Connor CM. Treatment gaps in the pharmacologic management of heart failure. *Rev Cardiovasc Med* 2002; 3(Suppl 3):S11-9. [27 references] [PubMed](#)

Jencks SF, Huff ED, Cuerdon T. Change in the quality of care delivered to Medicare beneficiaries, 1998-1999 to 2000-2001. *JAMA* 2003 Jan 15; 289(3):305-12. [PubMed](#)

Lloyd-Jones DM, Larson MG, Leip EP, Beiser A, D'Agostino RB, Kannel WB, Murabito JM, Vasan RS, Benjamin EJ, Levy D. Lifetime risk for developing congestive heart failure: the Framingham Heart Study. *Circulation* 2002 Dec 10; 106(24):3068-72. [PubMed](#)

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

From 1979 to 2000, heart failure (HF) deaths increased 148%.

About 22% of male and 46% of female heart attack victims will be disabled with HF within 6 years.

In individuals diagnosed with HF, sudden cardiac death occurs at 6 to 9 times the rate in the general population.

EVIDENCE FOR BURDEN OF ILLNESS

American Heart Association. Heart disease and stroke statistics - 2003 update. Dallas (TX): American Heart Association; 2002. 46 p.

UTILIZATION

Unspecified

COSTS

In 2003, the annual direct and indirect costs of heart failure (HF) in the United States are expected to exceed \$24 billion.

EVIDENCE FOR COSTS

American Heart Association. Heart disease and stroke statistics - 2003 update. Dallas (TX): American Heart Association; 2002. 46 p.

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

All heart failure (HF) patients aged greater than or equal to 18 years with left ventricular systolic dysfunction (LVSD) and with left ventricular ejection fraction (LVEF) less than 40 percent, or with moderately or severely depressed left ventricular systolic function

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR (INDEX) EVENT

Clinical Condition

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

All heart failure (HF) patients aged greater than or equal to 18 years with left ventricular systolic dysfunction (LVSD) and with left ventricular ejection fraction (LVEF) less than 40 percent or with moderately or severely depressed left ventricular systolic function

Exclusions

Documentation that angiotensin-converting enzyme (ACE) inhibitor was not indicated (e.g., patients on angiotensin receptor blockers [ARB]); documentation of medical reason(s)* for not prescribing ACE inhibitor therapy; documentation of patient reason(s)** for not prescribing ACE inhibitor therapy

*Medical reasons for not prescribing ACE inhibitor: allergy, angioedema due to ACE inhibitor, anuric renal failure due to ACE inhibitor, pregnancy, moderate or severe aortic stenosis, etc.

**Patient reasons for not prescribing ACE inhibitor: economic, social, and/or religious, etc.

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

Patients in the denominator who were prescribed angiotensin-converting enzyme (ACE) inhibitor therapy

Exclusions

None

DENOMINATOR TIME WINDOW

Time window follows index event

NUMERATOR TIME WINDOW

Episode of care

DATA SOURCE

Administrative data

Medical record

Pharmacy data

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

None

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

Heart failure: ACE inhibitor therapy.

MEASURE COLLECTION

[The Physician Consortium for Performance Improvement Measurement Sets](#)

MEASURE SET NAME

[American College of Cardiology, American Heart Association, and Physician Consortium for Performance Improvement: Heart Failure Core Physician Performance Measurement Set](#)

SUBMITTER

American Medical Association on behalf of the American College of Cardiology, the American Heart Association, and the Physician Consortium for Performance Improvement

DEVELOPER

American College of Cardiology
American Heart Association
Physician Consortium for Performance Improvement

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2003 Oct

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

American College of Cardiology, American Heart Association, Physician Consortium for Performance Improvement. Clinical performance measures: heart failure. Tools developed by physicians for physicians. Chicago (IL): American Medical Association (AMA); 2003. 8 p.

MEASURE AVAILABILITY

The individual measure, "Heart Failure: ACE Inhibitor Therapy," is published in the "Clinical Performance Measures: Heart Failure." This document is available from the American Medical Association (AMA) Division of Clinical Quality Improvement Web site: www.ama-assn.org/go/quality.

For further information, please contact AMA staff by e-mail at cqi@ama-assn.org.

COMPANION DOCUMENTS

The following are available:

- Physician Consortium for Performance Improvement. Introduction to physician performance measurement sets. Tools developed by physicians for physicians. Chicago (IL): American Medical Association (AMA); 2001 Oct. 21 p. This document is available from the American Medical Association (AMA) Clinical Quality Improvement Web site: www.ama-assn.org/go/quality.
- Physician Consortium for Performance Improvement. Principles for performance measurement in health care. A consensus statement. [online]. Chicago (IL): American Medical Association (AMA), Joint Commission on the Accreditation of Healthcare Organizations (JCAHO), National Committee for Quality Assurance (NCQA); [3 p]. This document is available from the AMA Clinical Quality Improvement Web site: www.ama-assn.org/go/quality.
- Physician Consortium for Performance Improvement. Desirable attributes of performance measures. A consensus statement. [online]. American Medical Association (AMA), Joint Commission on Accreditation of Healthcare Organizations (JCAHO), National Committee for Quality Assurance (NCQA); 1999 Apr 19 [cited 2002 Jun 19]. [5 p]. This document is available from the AMA Clinical Quality Improvement Web site: www.ama-assn.org/go/quality.

For further information, please contact AMA staff by e-mail at cqi@ama-assn.org.

NQMC STATUS

This NQMC summary was completed by ECRI on March 3, 2004. The information was verified by the measure developer on October 29, 2004.

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Date Modified: 11/8/2004

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