



## Complete Summary

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### TITLE

Adult diabetes: percentage of patients receiving at least one complete foot examination (visual inspection, sensory exam with monofilament, and pulse exam).

### SOURCE(S)

National Diabetes Quality Improvement Alliance performance measurement set for adult diabetes. Chicago (IL): National Diabetes Quality Improvement Alliance; 2003 May 1. 11 p.

## Brief Abstract

### DESCRIPTION

This measure assesses the percentage of adult diabetes patients aged 18-75 years receiving at least one complete foot examination (visual inspection, sensory exam with monofilament, and pulse exam).

This measure is used for the purpose of quality improvement.

### RATIONALE

Persons with diabetes are at increased risk for foot ulcers and amputations. Annual, thorough foot examinations and management of risk factors can prevent or delay adverse outcomes.

American Association of Clinical Endocrinologists/American College of Endocrinology (AACE/ACE) and American Diabetes Association (ADA) recommend that a foot examination (visual inspection, sensory exam, and pulse exam) be performed during an initial assessment.

AACE/ACE recommends that a foot examination be a part of every follow-up assessment visit, which should occur quarterly.

ADA recommends that all individuals with diabetes should receive an annual foot examination to identify high-risk foot conditions. This examination should include assessment of protective sensation, foot structure and biomechanics, vascular status, and skin integrity.

The ADA recommends that people with one or more high-risk foot conditions should be evaluated more frequently for the development of additional risk

factors. People with neuropathy should have a visual inspection of their feet at every contact with a health care professional.

#### PRIMARY CLINICAL COMPONENT

Diabetes mellitus; foot examination

#### DENOMINATOR DESCRIPTION

All patients diagnosed with diabetes aged 18-75 years

#### NUMERATOR DESCRIPTION

The number of patients from the denominator receiving at least one complete foot examination (visual inspection, sensory exam with monofilament, and pulse exam)

### 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

A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

#### NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [The American Association of Clinical Endocrinologists medical guidelines for the management of diabetes mellitus: the AACE system of intensive diabetes self-management--2002 update.](#)

### Evidence Supporting Need for the Measure

#### NEED FOR THE MEASURE

Wide variation in quality for the performance measured

#### EVIDENCE SUPPORTING NEED FOR THE MEASURE

American Association of Clinical Endocrinologists, American College of Endocrinology. Medical guidelines for the management of diabetes mellitus: the AACE system of intensive diabetes self-management--2002 update. Endocr Pract 2002 Jan-Feb;8(Suppl 1):40-82. [96 references]

Preventive foot care in people with diabetes. Diabetes Care 2002 Jan;25(Suppl 1):S69-70. [2 references]

### State of Use of the Measure

#### STATE OF USE

Current routine use

#### 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  
Podiatrists

#### LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Individual Clinicians

#### TARGET POPULATION AGE

Age 18-75 years

#### TARGET POPULATION GENDER

Either male or female

#### STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

## Characteristics of the Primary Clinical Component

### INCIDENCE/PREVALENCE

- Total: 18.2 million people - 6.3% of the population - have diabetes
- Diagnosed: 13 million people
- Undiagnosed: 5.2 million people
- New cases diagnosed per year: 1.3 million
- About one third of these individuals do not know that they have the disease.

### EVIDENCE FOR INCIDENCE/PREVALENCE

American Diabetes Association. Diabetes statistics. [internet]. Alexandria (VA): American Diabetes Association; [cited 2004 Jun 11]. [2 p].

National diabetes fact sheet: national estimates on diabetes. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion; 2003 [updated 2003 Dec 04]; [cited 2004 Feb 01]. [8 p].

### ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

### BURDEN OF ILLNESS

- Diabetes is the leading cause of end-stage renal disease, accounting for 43% of new cases. Adults with diabetes account for more than 60% of nontraumatic lower limb amputations and are also twice as likely to have heart disease than people without diabetes.
- Diabetes is the sixth leading cause of death listed on U.S. death certificates in 2000. This is based on the 69,301 death certificates in which diabetes was listed as the underlying cause of death. Altogether, diabetes contributed to 213,062 deaths.
- Complications from diabetes include heart disease, stroke, hypertension, retinopathy, end-stage renal disease, peripheral neuropathy, non-traumatic lower limb amputations, periodontal disease, pregnancy complications affecting mother and fetus, ketoacidosis, and coma.
- Persons with diabetes are at increased risk for foot ulcers and amputations. Annual, thorough foot examinations and management of risk factors can prevent or delay adverse outcomes.

### EVIDENCE FOR BURDEN OF ILLNESS

American Association of Clinical Endocrinologists, American College of Endocrinology. Medical guidelines for the management of diabetes mellitus: the AACE system of intensive diabetes self-management--2002 update. Endocr Pract 2002 Jan-Feb;8(Suppl 1):40-82. [96 references]

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Preventive foot care in people with diabetes. Diabetes Care 2002 Jan; 25(Suppl 1): S69-70. [2 references]

Standards of medical care for patients with diabetes mellitus. Diabetes Care 2002 Jan; 25(Suppl 1): S33-49. [91 references]

## UTILIZATION

Unspecified

## COSTS

- 2002 cost of diabetes in the United States: \$132 billion
- Direct medical costs: \$92 billion
- Indirect costs: \$40 billion (disability, work loss, premature mortality)

## EVIDENCE FOR COSTS

American Diabetes Association. Diabetes statistics. [internet]. Alexandria (VA): American Diabetes Association; [cited 2004 Jun 11]. [2 p].

National diabetes fact sheet: national estimates on diabetes. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion; 2003 [updated 2003 Dec 04]; [cited 2004 Feb 01]. [8 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 patients diagnosed with diabetes aged 18-75 years

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR (INDEX) EVENT

Clinical Condition

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

All patients diagnosed with diabetes aged 18-75 years

Exclusions

Patients with bilateral foot amputation

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

The number of patients from the denominator receiving at least one complete foot examination (visual inspection, sensory exam with monofilament, and pulse exam)

Exclusions

None

DENOMINATOR TIME WINDOW

Time window follows index event

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Medical record

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

Percentage of patients receiving at least one complete foot examination (visual inspection, sensory exam with monofilament, and pulse exam).

### MEASURE COLLECTION

[National Diabetes Quality Improvement Alliance Performance Measures](#)

### MEASURE SET NAME

[National Diabetes Quality Improvement Alliance Performance Measurement Set for Adult Diabetes](#)

### DEVELOPER

National Diabetes Quality Improvement Alliance

### ADAPTATION

Measure was not adapted from another source.

#### RELEASE DATE

2003 May

#### MEASURE STATUS

This is the current release of the measure.

#### SOURCE(S)

National Diabetes Quality Improvement Alliance performance measurement set for adult diabetes. Chicago (IL): National Diabetes Quality Improvement Alliance; 2003 May 1. 11 p.

#### MEASURE AVAILABILITY

The individual measure, "Percentage of Patients Receiving at Least One Complete Foot Examination (Visual Inspection, Sensory Exam with Monofilament, and Pulse Exam)," is published in the "National Diabetes Quality Improvement Alliance Performance Measurement Set for Adult Diabetes." This document is available in Portable Document Format (PDF) from the [National Diabetes Quality Improvement Alliance Web site](#).

#### NQMC STATUS

This NQMC summary was completed by ECRI on December 9, 2003. The information was verified by the measure developer on August 19, 2004.

#### COPYRIGHT STATEMENT

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