



## Complete Summary

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### TITLE

Adult diabetes: percentage of patients with most recent blood pressure less than 140/90 mm Hg.

### 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 with most recent blood pressure less than 140/90 mm Hg

This measure is used for the purpose of public reporting. The measure is currently in use for public reporting through the National Committee on Quality Assurance (NCQA) HEDIS® Program.

### RATIONALE

Intensive control of blood pressure in patients with diabetes reduces diabetes complications, diabetes-related deaths, strokes, heart failure, and microvascular complications.

American Association of Clinical Endocrinologists/American College of Endocrinology (AACE/ACE) recommends that a blood pressure determination during the initial evaluation, including orthostatic evaluation, be included in the initial and every interim physical examination.

American Diabetes Association (ADA) recommends a blood pressure determination during the initial evaluation (with orthostatic measurements when indicated) and comparison to age-related norms. The routine follow-up examinations should include blood pressure measurement.

The Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC VI) recommends that to detect evidence of autonomic dysfunction and orthostatic hypertension, blood pressure should be measured in the supine, sitting, and standing positions in all patients with diabetes mellitus; automated ambulatory blood pressure monitoring may be especially helpful.

The National Kidney Foundation (NKF) recommends that all individuals should be evaluated during health encounters to determine whether they are at increased risk of having or of developing chronic kidney disease. This evaluation of risk factors should include blood pressure measurement.

Clearly, the clinical recommendations and treatment goals for persons with diabetes define as the target blood pressure less than 130/85 mm Hg.

The Alliance public reporting measure remains at less than 140/90 for two reasons:

1. Many valid reasons may exist why an individual patient does not achieve a target blood pressure less than 130/85 mm Hg. Therefore, it is not appropriate to hold a large group (e.g., a health plan) accountable for a population reaching a blood pressure less than 130/85 mm Hg.
2. For population-based measurement, it is desirable to have a distribution of results so that populations can be distinguished. Based on National Committee for Quality Assurance (NCQA) Health Plan Employer Data and Information Set (HEDIS®) 2001 data for the treatment of hypertension, at least 55% of commercial health plans currently do not meet a population level of less than 140/90. Therefore, room for improvement remains at this level.

#### PRIMARY CLINICAL COMPONENT

Diabetes mellitus; hypertension; blood pressure management

#### DENOMINATOR DESCRIPTION

All patients diagnosed with diabetes aged 18-75 years

#### NUMERATOR DESCRIPTION

The number of patients from the denominator with most recent blood pressure less than 140/90 mm Hg

### Evidence Supporting the Measure

#### PRIMARY MEASURE DOMAIN

Outcome

#### 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.](#)
- [K/DOQI clinical practice guidelines for chronic kidney disease: evaluation, classification, and stratification.](#)

#### 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]

K/DOQI clinical practice guidelines for chronic kidney disease: evaluation, classification, and stratification. Kidney Disease Outcome Quality Initiative. *Am J Kidney Dis* 2002 Feb;39(2 Suppl 2):S1-246. [PubMed](#)

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

UK Prospective Diabetes Study Group. Tight blood pressure control and risk of macrovascular and microvascular complications in type 2 diabetes: UKPDS 38 [published erratum appears in *BMJ* 1999 Jan 2;318(7175):29]. *BMJ* 1998 Sep 12;317(7160):703-13. [PubMed](#)

#### State of Use of the Measure

##### STATE OF USE

Current routine use

##### CURRENT USE

Internal quality improvement  
National health care quality reporting

## 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 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.
- Intensive control of blood pressure in patients with diabetes reduces diabetes complications, diabetes-related deaths, strokes, heart failure, and microvascular complications.

## 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]

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

Diabetes Control and Complications Trial Research Group. The absence of a glycemic threshold for the development of long-term complications: the perspective of the Diabetes Control and Complications Trial. *Diabetes* 1996 Oct;45(10):1289-98. [PubMed](#)

Diabetes Control and Complications Trial Research Group. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. *N Engl J Med* 1993 Sep 30;329(14):977-86. [PubMed](#)

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].

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## 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

None

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

The number of patients from the denominator with most recent blood pressure less than 140/90 mm Hg

Exclusions

None

DENOMINATOR TIME WINDOW

Time window follows index event

NUMERATOR TIME WINDOW

Encounter or point in time

DATA SOURCE

Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

OUTCOME TYPE

Clinical Outcome

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 with most recent blood pressure less than 140/90 mm Hg.

### 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

### INCLUDED IN

National Healthcare Quality Report (NHQR)

### 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 with Most Recent Blood Pressure Less Than 140/90 mm Hg," 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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