

<b>eMeasure Title</b>	<b>Diabetes: Foot Exam</b>		
<b>eMeasure Identifier (Measure Authoring Tool)</b>	123	<b>eMeasure Version number</b>	5.0.000
<b>NQF Number</b>	0056	<b>GUID</b>	c0d72444-7c26-4863-9b51-8080f8928a85
<b>Measurement Period</b>	January 1, 20XX through December 31, 20XX		
<b>Measure Steward</b>	National Committee for Quality Assurance		
<b>Measure Developer</b>	National Committee for Quality Assurance		
<b>Endorsed By</b>	National Quality Forum		
<b>Description</b>	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received a foot exam (visual inspection and sensory exam with mono filament and a pulse exam) during the measurement year		
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<b>Measure Scoring</b>	Proportion		
<b>Measure Type</b>	Process		
<b>Stratification</b>	None		
<b>Risk Adjustment</b>	None		
<b>Rate Aggregation</b>	None		
<b>Rationale</b>	<p>As the seventh leading cause of death in the U.S., diabetes kills approximately 75,000 people a year (CDC FastStats 2015). Diabetes is a group of diseases marked by high blood glucose levels, resulting from the body's inability to produce or use insulin (CDC Statistics 2014, ADA Basics 2013). People with diabetes are at increased risk of serious health complications including vision loss, heart disease, stroke, kidney failure, amputation of toes, feet or legs, and premature death. (CDC Fact Sheet 2014).</p> <p>In 2012, diabetes cost the U.S. an estimated \$245 billion: \$176 billion in direct medical costs and \$69 billion in reduced productivity. This is a 41 percent increase from the estimated \$174 billion spent on diabetes in 2007 (ADA Economic 2013).</p> <p>Complications due to improper or poor quality of foot care in diabetics can include amputations of the toe, foot, lower and upper leg. Between 1993 and 2009, the CDC monitored the rates of nontraumatic amputations in the diabetic population. Overall, the rates peaked in 1996 with toe amputations at 3.7 per 1,000 diabetic population. Amputations for the foot, lower leg, and upper leg were 1.5, 2.3, and 1.1 per 1,000 diabetic population, respectively, in 1996. Since the late nineties, lower extremity amputation rates in the diabetic population have declined, witnessed by the following rates in 2009: for toe amputations (1.8 per 1,000 diabetic population), followed by lower leg (0.9), foot (0.5) and upper leg (0.4) amputations (CDC, 2012).</p>		
<b>Clinical Recommendation</b>	American Diabetes Association (2015) Guidelines/ Recommendations: Perform annual comprehensive foot examination to identify risk factors predictive of ulcers and amputations. The foot examination should include		

<b>Statement</b>	inspection, assessment of foot pulses, and testing for loss of protective sensation (10-g monofilament plus testing any one of: vibration using 128-Hz tuning fork, pinprick sensation, ankle reflexes, or vibration perception threshold).
<b>Improvement Notation</b>	Higher score indicates better quality
<b>Reference</b>	American Diabetes Association. Microvascular complications and foot care. Sec. 9. In Standards of Medical Care in Diabetes 2015. Diabetes Care 2015; 38(Suppl. 1): S58-S66
<b>Reference</b>	American Diabetes Association (ADA). 2013. Diabetes Statistics. Retrieved from <a href="http://www.diabetes.org/diabetes-basics/diabetes-statistics/">http://www.diabetes.org/diabetes-basics/diabetes-statistics/</a> .
<b>Reference</b>	Centers for Disease Control and Prevention (CDC). 2012. CDC's Diabetes Program-Data and Trends-Diabetes Surveillance System-Nontraumatic Lower Extremity Amputation with Diabetes by Level of Amputation. Retrieved from <a href="http://www.cdc.gov/diabetes/statistics/lealevel/fig8.htm">http://www.cdc.gov/diabetes/statistics/lealevel/fig8.htm</a> .
<b>Reference</b>	Centers for Disease Control and Prevention (CDC). 2014. National Diabetes Statistics Report. <a href="http://www.cdc.gov/diabetes/pdfs/data/2014-report-estimates-of-diabetes-and-its-burden-in-the-united-states.pdf">http://www.cdc.gov/diabetes/pdfs/data/2014-report-estimates-of-diabetes-and-its-burden-in-the-united-states.pdf</a>
<b>Reference</b>	Centers for Disease Control and Prevention (CDC). 2015. FastStats: Deaths and Mortality. <a href="http://www.cdc.gov/nchs/fastats/deaths.htm">www.cdc.gov/nchs/fastats/deaths.htm</a> .
<b>Reference</b>	Centers for Disease Control and Prevention. 2014. CDC Features. Diabetes Latest. <a href="http://www.cdc.gov/features/diabetesfactsheet/">www.cdc.gov/features/diabetesfactsheet/</a> .
<b>Reference</b>	American Diabetes Association. 2013. Diabetes Basics. <a href="http://www.diabetes.org/diabetes-basics/?loc=GlobalNavDB">www.diabetes.org/diabetes-basics/?loc=GlobalNavDB</a>
<b>Reference</b>	American Diabetes Association (ADA). April 2013. Economic Costs of Diabetes in the U.S. in 2012. Diabetes Care. Vol. 36 no. 4 1033-46. <a href="http://care.diabetesjournals.org/content/36/4/1033.full">http://care.diabetesjournals.org/content/36/4/1033.full</a>
<b>Definition</b>	Foot exam: visual inspection with either a sensory exam or a pulse exam
<b>Guidance</b>	Only patients with a diagnosis of Type 1 or Type 2 diabetes should be included in the denominator of this measure; patients with a diagnosis of secondary diabetes due to another condition should not be included
<b>Transmission Format</b>	TBD
<b>Initial Population</b>	Patients 18-75 years of age with diabetes with a visit during the measurement period
<b>Denominator</b>	Equals Initial Population
<b>Denominator Exclusions</b>	Patients who have had either a bilateral amputation above or below the knee, or both a left and right amputation above or below the knee before or during the measurement period
<b>Numerator</b>	Patients who received visual, pulse and sensory foot examinations during the measurement period
<b>Numerator Exclusions</b>	Not Applicable
<b>Denominator Exceptions</b>	None
<b>Supplemental Data Elements</b>	For every patient evaluated by this measure also identify payer, race, ethnicity and sex

## Table of Contents

- [Population Criteria](#)
- [Data Criteria \(ODM Variables\)](#)
- [Data Criteria \(ODM Data Elements\)](#)
- [Supplemental Data Elements](#)
- [Risk Adjustment Variables](#)

## Population Criteria

- **Initial Population =**
  - AND: "Diagnosis: Diabetes" overlaps "Measurement Period"
  - AND: Age >= 18 year(s) at: "Measurement Period"
  - AND: Age < 75 year(s) at: "Measurement Period"
  - AND: Union of:
    - "Encounter, Performed: Office Visit"
    - "Encounter, Performed: Face-to-Face Interaction"
    - "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up"
    - "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up"
    - "Encounter, Performed: Home Healthcare Services"
    - "Encounter, Performed: Annual Wellness Visit"
    - during "Measurement Period"
- **Denominator =**
  - AND: Initial Population

- **Denominator Exclusions =**
  - OR: "Diagnosis: Bilateral amputation of leg below or above knee" starts before end of "Measurement Period"
  - OR:
    - AND: Union of:
      - "Diagnosis: Right Unilateral Amputation Above or Below Knee"
      - "Diagnosis: Unilateral Amputation Below or Above Knee, Unspecified Laterality (anatomical location site: Right)"
      - starts before end of "Measurement Period"
    - AND: Union of:
      - "Diagnosis: Left Unilateral Amputation Above or Below Knee"
      - "Diagnosis: Unilateral Amputation Below or Above Knee, Unspecified Laterality (anatomical location site: Left)"
      - starts before end of "Measurement Period"
- **Numerator =**
  - AND: "Physical Exam, Performed: Visual Exam of Foot" during "Measurement Period"
  - AND: "Physical Exam, Performed: Sensory Exam of Foot" during "Measurement Period"
  - AND: "Physical Exam, Performed: Pulse Exam of Foot" during "Measurement Period"
- **Numerator Exclusions =**
  - None
- **Denominator Exceptions =**
  - None
- **Stratification =**
  - None

### Data Criteria (QDM Variables)

- None

### Data Criteria (QDM Data Elements)

- "Diagnosis: Bilateral amputation of leg below or above knee" using "Bilateral amputation of leg below or above knee Grouping Value Set (2.16.840.1.113883.3.464.1003.113.12.1056)"
- "Diagnosis: Diabetes" using "Diabetes Grouping Value Set (2.16.840.1.113883.3.464.1003.103.12.1001)"
- "Diagnosis: Left Unilateral Amputation Above or Below Knee" using "Left Unilateral Amputation Above or Below Knee Grouping Value Set (2.16.840.1.113883.3.464.1003.113.12.1058)"
- "Diagnosis: Right Unilateral Amputation Above or Below Knee" using "Right Unilateral Amputation Above or Below Knee Grouping Value Set (2.16.840.1.113883.3.464.1003.113.12.1057)"
- "Diagnosis: Unilateral Amputation Below or Above Knee, Unspecified Laterality" using "Unilateral Amputation Below or Above Knee, Unspecified Laterality Grouping Value Set (2.16.840.1.113883.3.464.1003.113.12.1059)"
- "Encounter, Performed: Annual Wellness Visit" using "Annual Wellness Visit Grouping Value Set (2.16.840.1.113883.3.526.3.1240)"
- "Encounter, Performed: Face-to-Face Interaction" using "Face-to-Face Interaction Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1048)"
- "Encounter, Performed: Home Healthcare Services" using "Home Healthcare Services Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1016)"
- "Encounter, Performed: Office Visit" using "Office Visit Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1001)"
- "Encounter, Performed: Preventive Care Services - Established Office Visit, 18 and Up" using "Preventive Care Services - Established Office Visit, 18 and Up Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1025)"
- "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up" using "Preventive Care Services-Initial Office Visit, 18 and Up Grouping Value Set (2.16.840.1.113883.3.464.1003.101.12.1023)"
- "Physical Exam, Performed: Pulse Exam of Foot" using "Pulse Exam of Foot Grouping Value Set (2.16.840.1.113883.3.464.1003.103.12.1015)"
- "Physical Exam, Performed: Sensory Exam of Foot" using "Sensory Exam of Foot Grouping Value Set (2.16.840.1.113883.3.464.1003.103.12.1014)"
- "Physical Exam, Performed: Visual Exam of Foot" using "Visual Exam of Foot Grouping Value Set (2.16.840.1.113883.3.464.1003.103.12.1013)"
- Attribute: "Anatomical location site: Left" using "Left Grouping Value Set (2.16.840.1.113883.3.464.1003.122.12.1036)"
- Attribute: "Anatomical location site: Right" using "Right Grouping Value Set (2.16.840.1.113883.3.464.1003.122.12.1035)"

### Supplemental Data Elements

- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity CDCREC Value Set (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer SOP Value Set (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race CDCREC Value Set (2.16.840.1.114222.4.11.836)"
- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex AdministrativeGender Value Set (2.16.840.1.113762.1.4.1)"

### Risk Adjustment Variables

- None

Measure  
Set

None