NQF-Endorsed Measures for Endocrine Conditions: Cycle 1, 2014

DRAFT REPORT FOR VOTING

June 6, 2014

NATIONAL QUALITY FORUM

This report is funded by the Department of Health and Human Services under contract HHSM-500-2012-00009I Task HHSM-500-T0008

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Executive Summary

Endocrine conditions result from disorders of the endocrine system, most often when either too much or too little of a particular hormone is produced.[1] In the United States, two of the most common endocrine disorders are diabetes and osteoporosis.[2] Diabetes, a group of diseases characterized by high blood glucose levels, affects as many as 25.8 million Americans and ranks as the 7th leading cause of death in the United States.[3] Major complications[3] of diabetes include heart disease and heart attack, stroke, high blood pressure, retinopathy and blindness, chronic kidney disease and end-stage renal disease, peripheral neuropathy, poor wound healing and chronic ulceration, and lower limb amputation. Osteoporosis, a bone disease characterized by low bone mass and density, affects an estimated 9% of U.S. adults aged 50 and over.[4] Major complications of osteoporosis include hip fracture, spinal compression fractures, and other fragility fractures.[5]

Currently, NQF's Endocrine portfolio includes measures for diabetes and osteoporosis only. Many of the diabetes measures in the portfolio are among NQF's longest-standing measures. Several of the measures in the portfolio currently are used in public and/or private accountability and quality improvement programs.

NQF selected the Endocrine measure evaluation project to pilot a potential change in the measure submission process, allowing for more frequent submission and evaluation of measures than what is possible in our current 3-year measure maintenance cycle. This 22-month project will include three full endorsement "cycles," allowing for the submission and review of both new and previously-endorsed measures every six months. In addition, this project is one of the first to transition to the use of Standing Committees. The 20-member Endocrine Standing Committee will oversee the NQF Endocrine measure portfolio, including evaluating both newly-submitted and previously-endorsed measures against NQF's measure evaluation criteria, identifying gaps in the measurement portfolio, providing feedback on how the portfolio should evolve, and serving on any ad hoc or expedited projects in their designated topic areas. All other elements of the standard endorsement process will remain unchanged in this pilot.

In Cycle 1 of the pilot, the Standing Committee evaluated 5 new measures and 12 measures undergoing maintenance review against NQF's standard evaluation criteria. Fourteen of the measures were recommended for endorsement by the Committee, ~~two were~~one was not recommended (#2418 ~~and #2468~~), and two were withdrawn from consideration (these will be brought back to the Committee in Cycle 2 of the pilot). The 1~~43~~ measures that were recommended by the Standing Committee are:

- 0055: Comprehensive Diabetes Care: Eye Exam (retinal) performed
- 0056: Diabetes: Foot Exam

- 0057: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing
- 0059: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)
- 0062: Comprehensive Diabetes Care: Medical Attention for Nephropathy
- 0519: Diabetic Foot Care and Patient Education Implemented
- 0545: Adherence to Statins for Individuals with Diabetes Mellitus
- 0575: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
- 2362: Glycemic Control - Hyperglycemia
- 2363: Glycemic Control - Hypoglycemia
- 2416: Laboratory Investigation for Secondary Causes of Fracture
- 2417: Risk Assessment/Treatment After Fracture
- 2467: Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus
- #2468 (Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus)

Brief summaries of the measures currently under review are included in the body of this report; detailed summaries of the Committee's discussion and ratings of the criteria are included in Appendix A.

Introduction

Endocrine conditions result from disorders of the endocrine system—the network of glands that produce and release hormones that regulate many bodily functions such as growth and development, metabolism, and reproduction.[6] Endocrine disorders most often result when either too much or too little of a particular hormone is produced.[1] In the United States, two of the most common endocrine disorders are diabetes and osteoporosis.[2]

Diabetes

Diabetes is a group of diseases characterized by high blood glucose levels. An estimated 25.8 million people in the United States have the disease, including more than one-quarter of who are overdiagnosised.[3] Diabetes affects all age groups but is most prevalent in those aged 45-64 (13.7%) and in those aged 65 and older (26.9%).[3] It is the 7th leading cause of death in the United States and is associated with an estimated $174 billion in direct medical costs and costs related to disability, work loss, and premature mortality.[3] Major complications[3] of diabetes include:

- **heart disease and heart attack** (heart disease mortality is 2-4 times higher in those with diabetes)
- **stroke** (stroke risk is 2-4 times higher among those with diabetes)
- **high blood pressure** (two-thirds of those with diabetes have hypertension)
- **retinopathy and blindness** (over one quarter of those aged 40 and older with diabetes had diabetic retinopathy and diabetes is the leading cause of new cases of blindness for people aged 20-74 years)
- **chronic kidney disease/end-stage renal disease** (diabetes is the leading cause of kidney failure)
- **peripheral neuropathy** (as many as 60-70% of those with diabetes have nervous system damage)
- **peripheral arterial disease**

- **poor wound healing/chronic ulceration**
- **lower limb amputation** (more than 60 percent occur among those with diabetes)

Osteoporosis

Osteoporosis is bone disease characterized by low bone mass and density. An estimated 9% of U.S. adults aged 50 and over have osteoporosis.[4] Overall, osteoporosis is more common in women than in men (4% vs. 16%); in women, the prevalence increases for each decade of age after age 50, but in men, the prevalence remains fairly stable between the ages of 50 and 80, but then increases substantially.[4] Osteoporosis can be diagnosed either through the occurrence of fragility fractures[1] or through measurement of bone mineral density.[5, 7] The major complications[5] of osteoporosis include:

- **Hip fracture**. Hip fracture is more common in women than in men (>250,000 per year vs. > 75,000 per year) and an estimated 33% of women and 17% of men will have a hip fracture by age 90. Typically, half of women with hip fracture do not recover full functionality post-fracture. Approximately 1 in 5 older adults die within one year following hip fracture, although the risk is higher for men than for women.
- **Spinal compression fracture.** Spinal compression fractures are more common in women that in men (>500,000 per year vs. > 175,000 per year); the lifetime risk is approximately 12% for both men and women.
- **Other fragility fractures**. These fractures, which include wrist/forearm fractures, pelvic fractures, and other types of fractures, comprise an estimated 59% of osteoporosis-related fractures.[8]

Such fractures decrease quality of life and increase the likelihood of functional impairment, morbidity, and mortality.[5] As much as $20 billion in direct medical costs can be attributed to osteoporosis.[8]

National Quality Strategy

The National Quality Strategy (NQS) serves as the overarching framework for guiding and aligning public and private efforts across all levels (local, state, and national) to improve the quality of health care in the United States.[9] The NQS establishes the "triple aim" of better care, affordable care, and healthy people/communities, focusing on six priorities to achieve those aims: *Safety, Person and Family Centered Care, Communication and Care Coordination, Effective Prevention and Treatment of Illness, Best Practices for Healthy Living,* and *Affordable Care*.[10]

Improvement efforts for diabetes and osteoporosis care are consistent with the NQS triple aim and align with several of the NQS priorities, including:

- Effective Prevention and Treatment of Illness. Diabetes is the 7th leading cause of death in the United States and both diabetes and osteoporosis rank as two of the 20 high-impact Medicare conditions.[11]

[1] Breaks caused by falls from standing height or less, usually in spine, wrist, or hip

- Communication and Care Coordination. Coordination is a priority because often care for patients with diabetes occurs across provider types (e.g., primary care, endocrinologists, podiatrists, optometrists) and similarly, fractures due to osteoporosis require both acute and post-acute care across settings (e.g., emergency department, inpatient facilities, rehabilitation-facilities). Also, improving care for these conditions can reduce complications, thus helping to decrease the number of hospital admissions and readmissions.
- Best Practices for Healthy Living. Engagement in health behavior (e.g., weight control, stopping smoking) and accessing preventive services such as screening is critical for both the prevention and management of both diabetes and osteoporosis.

Trends and Performance

Studies have shown that providing routine preventive care such as foot and eye exams and controlling risk factors (e.g., blood pressure, LDL cholesterol, and HbA1c[2] levels) can prevent or ameliorate some complications of diabetes.[12, 13] The proportions of patients receiving these preventive services have increased since the mid-1990s, when performance measures for these activities were first developed.[14, 15] Similarly, the proportions of diabetic patients with well-controlled HbA1c, blood pressure, and LDL levels have increased.[14, 15] There has also been an overall decrease in the United States in several of the major complications of diabetes, including visual impairment, mortality due to hyperglycemic crises, end-stage renal disease, and lower-extremity amputations, at least in part due to quality measurement efforts.[14, 15] Localized impact of measurement also has been quantified. For example, after implementation of the 5-component Optimal Diabetes Care composite (NQF #0729) in Minnesota, performance on the measure increased from 4% to 38%; for one large regional health plan, this lead to 387 fewer heart attacks and 69 fewer leg amputations, and 777 fewer members who developed vision complications.[16]

Results from the Healthcare Effectiveness Data and Information Set (HEDIS) indicate relatively small yet steady increases since 2007 in the percentage of older women who received a bone density test to screen for osteoporosis and in the percentage older women with a fracture who had a bone density test or pharmacological treatment within six months of the fracture.[17] Data spanning the 18-year period between 1986 and 2004 indicate a decrease in the incidence of hip fracture since the mid-1990s among both men and women, as well as a decrease in post-hip fracture mortality since 2002.[18]

Endocrine Measure Evaluation: Refining the Evaluation Process

Two changes to the Consensus Development Process (CDP)—transitioning to Standing Steering Committees and allowing for more frequent measure submission and evaluation—have been incorporated into the ongoing maintenance activities for the Endocrine portfolio. These changes are described below.

[2] HbA1c is a measure of the average levels of glucose in the blood.

Standing Steering Committee

In an effort to remain responsive to its stakeholders' needs, NQF is constantly working to improve the CDP. Volunteer, multi-stakeholder steering committees are the central component to the endorsement process, and the success of the CDP projects is due in large part to the participation of its Steering Committee members. In the past, NQF initiated the Steering Committee nominations process and seated new project-specific committees only when funding for a particular project had been secured. Seating new committees with each project not only lengthened the project timeline, but also resulted in a loss of process continuity and consistency because committee membership changed—often quite substantially—over time.

To address these issues in the CDP, NQF is beginning to transition to the use of Standing Steering Committees for various topic areas. These Standing Committees will oversee the various measure portfolios; this oversight function will include evaluating both newly-submitted and previously-endorsed measures against NQF's measure evaluation criteria, identifying gaps in the measurement portfolio, providing feedback on how the portfolio should evolve, and serving on any ad hoc or expedited projects in their designated topic areas.

The Endocrine Standing Committee currently includes 20 members (see Appendix C). Each member has been randomly appointed to serve an initial two- or three- year term, after which he/she may serve a subsequent 3-year term if desired.

Piloting More Frequent Submission and Evaluation

In response to stakeholder desire for a more efficient, consistent, and user-friendly process for measure evaluation, NQF recently has developed new educational products, implemented new procedures and activities, and begun piloting two new elements for the CDP. One of these new elements—allowing for more frequent submission and evaluation of measures than what is possible in our current 3-year measure maintenance cycle—is being piloted in the current endocrine measure evaluation project. Specifically, NQF has structured this 22-month project to conduct three full endorsement "cycles", allowing for the submission and review of both new and previously-endorsed measures every six months.

Although the frequency of the measure submission and evaluation is changing for this pilot project, the remainder of the endorsement process remains unchanged. The Standing Committee will evaluate all measures submitted in each cycle against the NQF Measure Evaluation Criteria. Stakeholders will continue to be able to attend meetings and conference calls and provide comments, and NQF members will continue to have the opportunity to vote on endorsement recommendations.

Although the desire for more flexible CDP scheduling is long-standing for many of NQF's stakeholders, NQF is aware that such a change could result in unintended consequences for staff, measure developers, members, volunteers, and other stakeholders. Accordingly, as a part of this pilot effort, NQF will seek feedback throughout the project duration from our committees, measure developers, and those who provide comments, votes, or attend our meetings and use this information to compile an analysis of "lessons learned" at the conclusion of the project. This analysis will include a formal

evaluation of the pilot, as well as recommendations for full-scale implementation of more frequent measure submission and evaluation, as warranted.

NQF Portfolio of performance measures for endocrine conditions

Currently, NQF's portfolio of endocrine measures includes measures for diabetes and osteoporosis only. This portfolio contains 39 measures: 28 process measures, 10 outcome and resource use measures, and 1 composite measure (see table below). Twenty-three of these measures will be evaluated by the Endocrine Committee.

NQF Endocrine Portfolio of Measures

	Process	Outcome/Resource Use	Composite
Diabetes	21	9	1
Osteoporosis	7	1	0
Total	**28**	**10**	**1**

The remaining 16 measures have been assigned, for various reasons, to other projects. These include various diabetes assessment and screening measures (Health and Well-being/Behavioral Health project), eye care measures (HEENT project), ACEI/ARB medication measures (Cardiovascular project), complications and outcomes measures (Health and Well-being/Surgery projects), and one cost and resource use measure (Resource Use project).

Endorsement of measures by NQF is valued not only because the evaluation process itself is both rigorous and transparent, but also because evaluations are conducted by multi-stakeholder committees comprised of clinicians and other experts from hospitals and other healthcare providers, employers, health plans, public agencies, community coalitions, and patients—many of whom use measures on a daily basis to ensure better care. Moreover, NQF-endorsed measures undergo routine "maintenance" (i.e., re-evaluation) to ensure that they are still the best-available measures and reflect the current science. Importantly, legislative mandate requires that preference be given to NQF-endorsed measures for use in federal public reporting and performance-based payment programs. NQF measures also are used by a variety of stakeholders in the private sector, including hospitals, health plans, and communities.

Over time, and for various reasons, some previously-endorsed endocrine-related measures have been dropped from the full NQF portfolio (see Appendix E). In some cases, the measure steward may not want to continue maintaining the measure for endorsement (e.g., update specifications as new drugs/tests become available or as diagnosis/procedure codes evolve or go through NQF's measure maintenance process). In other cases, measures may lose endorsement upon maintenance review. Loss of endorsement can occur for many different reasons including—but not limited to—a change in evidence without an associated change in specifications, high performance on a measure signifying no further opportunity for improvement, and endorsement of a superior measure.

The Endocrine portfolio of measures is organized—for diabetes and osteoporosis separately—according to NQF's Episode of Care model.[19] This patient-centric framework, which is broadly applicable to both acute and chronic conditions, can be used to map existing performance measures and highlight gaps in measurement.

The model for diabetes[20] was developed in 2008 by a panel of experts in diabetes and in performance measurement in an effort designed to provide recommendations for a pathway forward for diabetes quality measurement (see Appendix A). It reflects the full spectrum of the disease by incorporating four trajectories specific to diabetes type and related outcomes/comorbidities. Key measurement opportunities portrayed in the model include prevention through behavioral and lifestyle interventions and glycemic, lipid, and blood pressure management (Phase 1), screening and diagnosis and prevention/screening/early treatment for complications (Phase2), and management and treatment of complications (Phase 3).

NQF staff applied the Episode of Care model to osteoporosis as part of the current Endocrine endorsement maintenance work. In this draft framework (see Appendix A), three trajectories are described: one reflecting ongoing control and management of the disease needed for those who are relatively healthy, and two reflecting the exacerbation of the disease, including fracture and other complications.

Use of measures in the portfolio

Many of the diabetes measures in the portfolio are among NQF's most long-standing measures, several of which have been endorsed since 2002. Many are in use in at least one federal program[11] (and/or in at least one of the communities involved in the Aligning Forces for Quality initiative.[3] Also, several of the diabetes measures have been included in the Diabetes Family of Measures[21] by the NQF-convened Measure Applications Partnership (MAP). The osteoporosis measures in the portfolio currently are used in at least one federal program, as well as in various internal quality improvement accreditation programs. See Appendix B for details of federal program use for the measures in the portfolio that are currently under review.

Improving NQF's Endocrine Portfolio

Update to measurement framework

As mentioned earlier, NQF staff drafted a measurement framework for osteoporosis using the Episode of Care model. During the portfolio review discussion at the in-person meeting, Committee members suggested several modifications to that draft, including:

- Including fracture prevention in all three trajectories, not just in trajectory A (because having a previous fracture is the biggest risk factor for subsequent fracture)
- Including injury prevention in all three trajectories

[3] Data from NQF's Community Tool to Align Measurement Measure Spreadsheet (http://www.qualityforum.org/AlignmentTool/)

This revised framework is included in Appendix A.

Alignment with diabetes and osteoporosis Episode of Care models

NQF's Endocrine portfolio (or related portfolios) includes at least a few measures for each of the Episode of Care phases for both diabetes and osteoporosis. However, as mentioned earlier, most are process measures and therefore do not address the need for patient-reported outcomes that are noted in the diabetes model. Also, several of the issues noted in the models (e.g., need for consideration of access, psychosocial needs, therapy risk) are not reflected in the measures that are currently in the portfolio.

Committee input on gaps in the portfolio

During their discussions the Committee identified numerous areas where additional measure development is needed, including:

- Measures of other endocrine-related conditions, particularly thyroid disease, both for adults and for the pediatric population
- Incidence of heart attacks and strokes among persons with diabetes, measured at the health plan level
- Measures of overuse, particularly for thyroid conditions (e.g., ultrasound for thyroid nodules, overdiagnosis/overtreatment of thyroid cancer)
- Measures for pre-diabetes/metabolic syndrome
- "Delta" measures for intermediate clinical outcomes (e.g., LDL levels, HbA1c levels)
- Education measures (e.g., for diabetes) that go beyond asking if education was provided and instead assesses whether the patient was able to understand and apply the education (needed at diagnosis, not just when complications arise)
- Measures that utilize other types of patient information (e.g., time-in-range measures for patients with continuous glucose monitors)
- More complex measures, including composite measures for diabetes screening and for neuropathy care
- Measures of hypoglycemia among the elderly, including medication safety measures
- Measures focusing on the use of testosterone
- Measures of Body Mass Index (BMI) or in adult patients with diabetes mellitus

Additional gaps in diabetes and osteoporosis measurement have been identified by the MAP[22] and by NQF staff (as part of a recent analysis[11] of the full NQF portfolio). These include:

- Patient-centered measures of lifestyle management and health-related quality of life
- Access to care and medications
- Treatment preferences, psychosocial needs, shared decision making, family engagement, cultural diversity, and health literacy
- Communication, coordination, and transitions of care
- General prevention and treatment of diabetes, as well as measures of the sequelae of diabetes
- Glycemic control for complex patients (e.g., geriatric population, multiple chronic conditions) and for the pediatric population at the clinician, facility, and system levels of analysis

- Evaluation of bone density, and prevention and treatment of osteoporosis in ambulatory settings

Measures in the "pipeline"

NQF recently launched a *Measure Inventory Pipeline*—a virtual space for developers to share information on measure development activities. Developers can use the Pipeline to display data on current and planned measure development and to share successes and challenges. Information shared via the Pipeline is available in real time and can be revised at any time. NQF expects that developers will use the Pipeline as a tool to connect to, and collaborate with, their peers on measurement development ideas.

Currently, no measures related to endocrine conditions have been submitted to the Pipeline. However, in their discussions, Committee members did report familiarity with on-going development of radiology measures, particularly around overuse (e.g., thyroid nodules).

Endocrine Measure Evaluation: Cycle 1 Review: December 2013 – March 2014

In Cycle 1 of the Endocrine Measure Evaluation pilot, the Endocrine Standing Committee evaluated 5 new measures and 12 measures undergoing maintenance review against NQF's standard evaluation criteria. Two of the new measures were intermediate clinical outcome measures of hyperglycemia and hypoglycemia, and three were process measures related to osteoporosis. All of the measures under maintenance review were diabetes measures.

The full Committee discussed these measures during their February 26-27, 2014 in-person meeting and in a follow-up call on March 12, 2014. To facilitate this evaluation, the Committee and candidate standards were divided into four workgroups for preliminary evaluation of the measures prior to consideration by the full Committee.

Endocrine Cycle 1 Measure Review Summary

	Maintenance	New	Total
Measures under consideration	12	5	17
Measures withdrawn from consideration	2	0	2
Measures recommended	9	~~4~~5	1~~4~~3
Measures not recommended	1	~~1~~0	~~2~~1

	Maintenance	New	Total
Reasons for not recommending	Importance – 0 Scientific Acceptability – 1 Overall – 0 Competing Measure – 0	Importance – 1 Scientific Acceptability – 0 Overall – 0 Competing Measure – 0	

Comments Received

NQF solicits comments on endorsed measures on an ongoing basis through the Quality Positioning System (QPS). In addition, NQF has begun soliciting comments prior to the evaluation of the measures via an online tool located on the project webpage. NQF solicits comments on measures undergoing review in various ways and at various times throughout the evaluation process. First, NQF solicits comments on endorsed measures on an ongoing basis through the Quality Positioning System (QPS). Second, NQF soliciting member and public comments prior to the evaluation of the measures via an online tool located on the project webpage. Third, NQF opens a 30-day comment period to both members and the public after measures have been evaluated by the full committee and once a report of the proceedings has been drafted.

Comments received prior to Committee evaluation

For this evaluation cycle, the pre-evaluation comment period was open from January 21-February 7, 2014 for 8 of the 17 measures under review.[4] All submitted comments were provided to the Committee prior to their initial deliberations held during the workgroups calls.

A total of 76 pre-evaluation comments were received (see Appendix E). Seventy-one of these comments pertained to, and were supportive of, the three newly-submitted osteoporosis measures. Commenters on these measures included members of the public and NQF members from the consumer and supplier/industry councils. Many of these commenters particularly noted the effectiveness of Fracture Liaison Service programs in reducing risk of subsequent fragility fractures. Two comments documented concerns with the specifications and feasibility of the hyperglycemia and hypoglycemia measures (#2362 and #2363) but acknowledged the potential usefulness of the measures. Three comments documented concerns with the specifications of the foot care measures stewarded by American Podiatric Medical Association (measures #0416 and #0417), noting non-alignment with American Diabetes Association standards. Finally, in reference to the CMS foot care education measure, one comment questioned the need for additional education if it had been provided prior to the home health episode.

Comments received after Committee evaluation

The 30-day post-evaluation comment was open from April 03, 2014 to May 2, 2014. During this commenting period, NQF received 83 comments from 10 member organizations. The Committee discussed these comments and took action on measure-specific comments as needed, during the

[4] Comments on the six measures stewarded by NCQA and the three medication adherence measures stewarded by CMS were not requested because measure submission materials could not be posted during this period.

Committee's post-comment call, which was held on May 20, 2014. A majority of the comments expressed support of the Committee's decisions; some also requested clarification regarding measure specifications.

Four comments reflected support of the Committee's decision not to recommend measure #2468 (Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus) for endorsement because it did not exclude patients who switch from oral agents to insulin during the measurement period. The Committee encouraged the developer to quantify the number of patients who transitioned to insulin and, if possible, revise the measure to exclude those patients. In response, the measure developer conducted additional analyses, made changes to the measure specifications, and retested the measure. The committee agreed to revote on the measure, and ultimately recommended the respecified measure for endorsement.

Four of the comments reflected disagreement with the Committee's decision not to recommend measure #2418 (Discharge Instructions – Emergency Department) for endorsement; however, none of the comments referenced any additional evidence to show that provision of discharge instructions would help to prevent future fractures and the Committee declined to revote on the measure.

Several comments pertained to measure #0055 (Comprehensive Diabetes Care: Eye Exam (retinal) performed): most were supportive of the measure, although one questioned allowing remote imaging as an option for meeting the measure and one suggested that the upper age limit be removed). Committee members noted that the ADA guidelines, as well as other evidence, indicate that retinal photographs are acceptable and therefore did not recommend a change to the specifications of the measure. Also, the Committee agreed that because complications of diabetes disproportionately affects older patients, the measure developer should consider changing the specifications to include those aged 18 and older rather than including only those aged 18-75.Finally, comments pertained to measures #2362(Glycemic Control – Hyperglycemia) and #2363 (Glycemic Control – Hypoglycemia), three of which questioned the reliability of the measures and one that requested that the measures be constructed consistently. The Committee supported the construction of the measures and accepted the explanation of the developer regarding reliability.

Overarching Issues

During the Standing Committee's discussion of the measures, two overarching issues emerged and were factored into the Committee's ratings and recommendations for multiple measures; these issues are not repeated in detail with each individual measure.

Threshold values

Committee members noted that although threshold values used for clinical decision making (and therefore for measurement) typically are derived from population-based studies, they often are arbitrary (e.g., bone mineral density values to define osteoporosis; HbA1c values to diagnose/manage diabetes). Members acknowledged the need for threshold values, particularly for intermediate clinical outcomes such as HbA1c levels, but noted the potential for unintended negative consequences for some patients, particularly if their values are close to the threshold values.

Implications of removing endorsement

Committee members were concerned with the implications of removal of endorsement. In particular, they wanted to ensure that a recommendation against endorsement would not be interpreted as meaning that the associated care process is unimportant. They acknowledged the evolving needs for performance measurement, especially policy or programmatic reasons for endorsing particular measures that may or may not still apply in the current healthcare environment. They also briefly discussed the "higher bar" for endorsement because of changes in evaluation criteria and guidance, as well as the potential for unintended consequences due to how measures may eventually be used.

Summary of Cycle 1 Measure Evaluation

The following brief summaries of the measures and the evaluation highlight the major issues that were considered by the Committee. Details of the Committee's discussion and ratings of the criteria are included in Appendix E.

Diabetes: Foot care

Four previously NQF-endorsed measures addressing foot care were reviewed. Two of the four measures were recommended for endorsement. The developer withdrew the other two foot care measures (#0416 and #0417) after the in-person meeting and will resubmit to NQF at a later date.

0056: Diabetes: Foot Exam (NCQA): Recommended

***Description**: 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.* ***Measure Type**: Process;* ***Level of Analysis**: Clinician Group/Practice, Clinician Individual;* ***Setting of Care**: Ambulatory Care Clinician Office/Clinic;* ***Data Source**: Administrative Claims, Paper Medical Records, Electronic Clinical Data Pharmacy*

This measure has been NQF-endorsed since 2002 and is publicly reported by PQRS and through the NCQA Diabetes Recognition Program. When reviewing this measure, the Committee raised concern that evidence does not exist for the specific intervention of performing a foot exam alone, without also performing risk assessment and creating treatment plans for high risk patients; however, the Committee determined that the evidence provided was sufficient to indicate that foot exams for high risk patients can lead to improved outcomes. The Committee recommended that the developer remove the upper age limit on the measure, as those over age 75 are at highest risk for lower limb complications; the developer agreed to this change in specifications. The Committee acknowledged the overall high performance rate for this measure and the lack of demonstrated improvement over the past 3 years; however, the Committee stated that the high priority of preventing amputations and other lower limb complications in diabetes patients warranted maintaining endorsement of the measure. Given this and the sufficient reliability and validity of the measure, the Committee ultimately recommended the measure.

0519 Diabetic Foot Care and Patient Education Implemented (CMS): Recommended

***Description**: Percentage of home health episodes of care in which diabetic foot care and patient/caregiver education were included in the physician-ordered plan of care and implemented for*

diabetic patients since the previous OASIS assessment. ***Measure Type****: Process;* ***Level of Analysis****: Facility;* ***Setting of Care****: Home Health;* ***Data Source****: Electronic Clinical Data*

This measure has been NQF-endorsed since 2009 and is used by CMS for public reporting and quality improvement with benchmarking. Similar to the NCQA foot exam measure (#0056), when reviewing this measure, the Committee raised the concern that evidence does not exist for the specific intervention of providing foot care education alone, without also performing risk assessment and creating treatment plans for high risk patients. Further, the evidence provided was from an ambulatory care setting, not home health. The Committee discussed the differences between home health facilities and ambulatory care settings, stating that in home health, many orders come at the behest of the agency. The Committee also acknowledged the high performance rate for the measure; this was attributed to the reporting of the measure being required by the CMS OASIS assessment. Concern was raised that absent this reporting requirement, diabetes patient foot education in home health facilities would decrease. As such, and while also considering the high priority of preventing amputations and other lower limb complications in diabetes patients, the Committee recommended the measure in order to maintain accountability for home health agencies to continue requesting orders for foot education for diabetes patients.

Diabetes: Eye care

One previously NQF-endorsed measure addressing eye care was reviewed and recommended for endorsement.

0055 Comprehensive Diabetes Care: Eye Exam (retinal) performed (NCQA): Recommended

Description*: The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who had an eye exam (retinal) performed.* ***Measure Type****: Process;* ***Level of Analysis****: Clinician Group/Practice, Health Plan, Clinician Individual, Integrated Delivery System;* ***Setting of Care****: Ambulatory Care Clinician Office/Clinic;* ***Data Source****: Administrative Claims, Electronic Clinical Data, Paper Medical Records, Electronic Clinical Data Pharmacy*

This measure has been NQF-endorsed since 2002 and is used for public reporting, payment, and quality improvement programs at the health plan level, and in public reporting at the clinician level. When recommending this measure, the Committee stated the importance of the retinal exam to diabetes patients, as diabetes is the leading cause of blindness in adults aged 20-74 years. The Committee agreed that there was a strong demonstration of reliability at the health plan level of analysis but expressed concerned at the weaker demonstration of reliability at the clinician level. Ultimately, the Committee found the physician-level reliability to be acceptable, determining it to be an artifact of the data tested through the NCQA Diabetes Recognition Program.

Diabetes: Nephropathy Screening

One previously NQF-endorsed measure addressing eye care was reviewed and recommended for endorsement.

0062 Comprehensive Diabetes Care: Medical Attention for Nephropathy (NCQA): Recommended

Description: *The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received a nephropathy screening test or had evidence of nephropathy during the measurement year.* ***Measure Type:*** *Process;* ***Level of Analysis:*** *Clinician Group/Practice, Clinician Individual, Health Plan, Integrated Delivery System;* ***Setting of Care:*** *Ambulatory Care Clinician Office/Clinic;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data, Electronic Clinical Data Laboratory, Electronic Clinical Data Pharmacy, Paper Medical Records*

This measure has been NQF-endorsed since 2002 and is used at the health plan level for public reporting and payment, and at the physician level for public reporting. When recommending the measure, the Committee determined that the evidence for nephropathy screening was high, and also noted that the information presented indicated that a substantial number of physician and practices fail to meet minimum screening requirements. The Committee stated that kidney disease is a serious concern for diabetes patients, as it results in high levels of largely preventable morbidity, mortality, and costs; additionally, it was noted that early diagnosis of kidney disease via nephropathy screening can help slow the progression of Chronic Kidney Disease and End Stage Renal Disease. The Committee agreed that the reliability and validity of the measure at both the physician and the health plan level was sufficient.

Diabetes: Blood glucose control

Three previously NQF-endorsed measures and two newly submitted measures addressing blood glucose were reviewed. All five measures were recommended for endorsement.

0057 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing (NCQA): Recommended

Description: *The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received an HbA1c test during the measurement year.* ***Measure Type:*** *Process;* ***Level of Analysis:*** *Health Plan, Integrated Delivery System;* ***Setting of Care:*** *Ambulatory Care Clinician Office/Clinic;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data Electronic Health Record, Electronic Clinical Data Laboratory, Paper Medical Records*

This measure has been NQF-endorsed since 2002 and is used for payment, public reporting, regulatory and accreditation programs, professional certification or recognition, and quality improvement with benchmarking. When reviewed by the Committee, there was strong agreement about the importance of performing HbA1c testing for diabetes patients; however, there was some concern raised that the frequency of testing should be greater than as specified by the measure. Though performance on testing for HbA1c is relatively high, there is significant variance, particularly for certain ethnic patient populations. Given this and the sufficient reliability and validity of the measure, the Committee ultimately recommended the measure. Because this measure competes with the HbA1c poor control measure (HbA1c >9%, #0059) and the HbA1c "good control" measure (HbA1c <8%, #0575) (i.e., the absence of testing is incorporated into the two HbA1c measures), the Committee was asked to discuss whether there is justification for continued endorsement of this measure. The Committee acknowledged that some implementers must rely on this measure to identify those patients who have not been tested because they cannot easily obtain the information through measures #0059 and #0575. Members agreed that the data collection burden for this measure is relatively low and that performance

rates still indicate opportunity for improvement; therefore, they concluded that there is justification to continue endorsement of this measure at this time.

0059 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%) (NCQA): Recommended

Description: *The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level during the measurement year was greater than 9.0% (poor control) or was missing a result, or if an HbA1c test was not done during the measurement year.* ***Measure Type:*** *Intermediate Outcome;* ***Level of Analysis:*** *Clinician Group/Practice, Clinician Individual, Health Plan, Integrated Delivery System, Population National, Population Regional, Population State;* ***Setting of Care:*** *Ambulatory Care Clinician Office/Clinic;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data, Electronic Clinical Data Laboratory, Electronic Clinical Data Pharmacy, Paper Medical Records*

This measure has been NQF-endorsed since 2002 and is used in public reporting, payment, accreditation, and quality improvement programs at the health plan level, and in public reporting and certification programs at the clinician level. The Committee agreed that evidence clearly indicates that poor control of diabetes results in poor (and costly) health outcomes. While the Committee noted that there was no evidence supporting a particular threshold value for poor control, members acknowledged that HbA1c >9% is a reasonable cutoff given that risk has been demonstrated when values are greater than 9%. The Committee also agreed that the reliability testing results were strong at the health plan level but weak at the physician level; however, the Committee found the physician level reliability to be acceptable, determining it to be an artifact of the testing data that were obtained through the NCQA Diabetes Recognition Program.

0575 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%) (NCQA): Recommended

Description: *The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level is <8.0% during the measurement year.* ***Measure Type:*** *Intermediate Outcome;* ***Level of Analysis:*** *Clinician Group/Practice, Health Plan, Clinician Individual, Integrated Delivery System;* ***Setting of Care:*** *Ambulatory Care Clinician Office/Clinic;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data, Electronic Clinical Data Laboratory; Paper Medical Records, Electronic Clinical Data Pharmacy*

This measure has been NQF-endorsed since 2009 and is used at the health plan level for payment and public reporting, and at the physician level for public reporting. When recommended by the Committee, there was strong agreement that uncontrolled diabetes is responsible for the majority of severe and costly complications and poor quality of life for patients and their families. However, the Committee raised concern that while the evidence clearly indicates that poor control of diabetes results in poorer outcomes and good control results in better outcomes, there is evidence that where HbA1c is too tightly controlled, there are unintended consequences such as increased total mortality. The Committee stated that the unintended consequences occurred with HbA1c targets less than 7.0%. After significant discussion and review of the evidence, the Committee reached consensus that the 8.0% cutoff was a reasonable target for the majority of the population; however, the Committee stated that this may result in a disincentive for providers to treat those patients with difficult to manage HbA1c. The

Committee also stated that while health plan level reliability testing results were strong, the physician level results were weak; however, the Committee found the physician level reliability to be acceptable, determining it to be an artifact of the data tested through the NCQA Diabetes Recognition Program.

2362 Glycemic Control – Hyperglycemia (CMS): Recommended

Description: *Average percentage of hyperglycemic hospital days for individuals with a diagnosis of diabetes mellitus, anti-diabetic drugs (except metformin) administered, or at least one elevated glucose level during the hospital stay.* ***Measure Type:*** *Intermediate Outcome;* ***Level of Analysis:*** *Facility;* ***Setting of Care:*** *Hospital/Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy*

This measure was newly submitted to NQF as one of the first de novo e-measures for review, and while not currently in use, has been submitted for use in the CMS Hospital Inpatient Quality Reporting Program and Meaningful Use Stage 3. When reviewing this measure, the Committee noted the evidence that poor outcomes are associated with hyperglycemia and also highlighted the importance of this being the first measure of hospital glucometrics, stating that currently there is no baseline assessment of how hospitals are performing with respect to hyperglycemic control. The Committee acknowledged that there are many ways to capture glucometrics and that the evidence does not necessarily indicate that the measure specifications are the gold standard for capturing this information; however, the Committee agreed that the measure presented a reasonable approach and would allow for data to be collected, with opportunity for refinement of the approach once more data had been collected. The Committee recommended the measure, noting in particular that this measure will serve as a companion measure to balance the Glycemic Control – Hypoglycemia (2363) measure.

2363 Glycemic Control – Hypoglycemia (CMS): Recommended

Description: *The rate of hypoglycemic events following the administration of an anti-diabetic agent.* ***Measure Type:*** *Intermediate Outcome;* ***Level of Analysis:*** *Facility;* ***Setting of Care:*** *Hospital/Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy*

This measure was newly submitted to NQF as one of the first de novo e-measures for review, and while not currently in use, has been submitted for use in the CMS Hospital Inpatient Quality Reporting Program and Meaningful Use Stage 3. When reviewing this measure, the Committee agreed that the evidence that poor outcomes and mortality are associated with hypoglycemia is very strong, as this is a recognized Adverse Drug Event and has been identified as an important issue to address by the National Quality Strategy. The Committee acknowledged that even though this event is relatively rare, it is such a severe and dangerous event that it should be publicly reported. The Committee discussed whether blood glucose <40 was the appropriate cutoff for hypoglycemia, noting that some patients can experience poor outcomes with blood glucose of <70; however, the Committee coalesced around the notion that blood glucose <40 should be preventable, but blood glucose <70 may not be preventable in some patients. The Committee agreed that for public reporting and accountability purposes, <40 was an appropriate cutoff for identifying hypoglycemia. The Committee recommended the measure, noting in particular that this measure will serve as a companion measure to balance the Glycemic Control – Hyperglycemia (2362) measure.

Diabetes: Medication Adherence

Three previously NQF-endorsed measures addressing adherence to medications were reviewed. Two of the three measures were recommended for endorsement.

0545 Adherence to Statins for Individuals with Diabetes Mellitus (CMS): Recommended

Description: *The measure addresses adherence to statins. The measure is reported as the percentage of eligible individuals with diabetes mellitus who had at least two prescriptions for statins and who have a Proportion of Days Covered (PDC) of at least 0.8 during the measurement period (12 consecutive months).* ***Measure Type:*** *Process;* ***Level of Analysis:*** *Clinician Group/Practice, Health Plan, Integrated Delivery System, Population State;* ***Setting of Care:*** *Ambulatory Care Clinician Office/Clinic;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data Pharmacy, Other*

This measure has been NQF-endorsed since 2009 and, while not currently in use, has been submitted for use in the CMS Accountable Care Organization (ACO) Shared Savings program. When reviewing this measure, the Committee acknowledged that adherence to ACEIs/ARBs is not directly assessed in the guidelines. The Committee was comfortable inferring that a link between adherence to a statin medication and achievement of target LDL cholesterol does exist, as the benefits described related to use of statins assume adherence. The Committee acknowledged that this measure does not address appropriateness of statin prescriptions, but agreed that the measure was important given the significant gap in adherence supplied by the developer. The reliability of the measure was assessed to be strong for states and ACOS and moderate for physician groups and drug plans. The Committee recommended the measure, acknowledging that its use has the potential to encourage development of processes to improve adherence to statins, resulting in lower rates of hyperlipidemia, cardiovascular events, and mortality.

2467 Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus: Recommended

Description: *The measure addresses adherence to angiotensin converting enzyme inhibitors (ACEIs)/angiotensin receptor blockers (ARBs). The measure is reported as the percentage of eligible individuals with diabetes mellitus who had at least two prescriptions for ACEIs/ARBs and who have a Proportion of Days Covered (PDC) of at least 0.8 during the measurement period (12 consecutive months).* ***Measure Type:*** *Process;* ***Level of Analysis:*** *Clinician Group/Practice, Health Plan, Integrated Delivery System, Population State;* ***Setting of Care:*** *Ambulatory Care Clinician Office/Clinic;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data Pharmacy, Other*

This measure has been NQF-endorsed since 2009 and, while not currently in use, has been submitted for use in the CMS Accountable Care Organization (ACO) Shared Savings program. When reviewing this measure, the Committee acknowledged that adherence to statins is not directly assessed in the guidelines. The Committee was comfortable inferring that a link between adherence to ACEIs/ARBs and lower rates of cardiovascular disease exists, as the benefits described related to use of ACEIs/ARBs assume medication adherence. The reliability of the measure was assessed to be strong for states and ACOS and moderate for physician groups and drug plans. The Committee recommended the measure, acknowledging that its use has the potential to encourage development of processes to improve

adherence to ACEIs/ARBs, resulting in lower rates of elevated blood pressure, cardiovascular events, and mortality.

2468 Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus (CMS): ~~Not~~ Recommended

Description: *The measure addresses adherence to oral diabetes agents (ODA). The measure is reported as the percentage of eligible individuals with diabetes mellitus who had at least two prescriptions for a single oral diabetes agent or at least two prescriptions for multiple agents within a diabetes drug class and who have a Proportion of Days Covered (PDC) of at least 0.8 for at least one diabetes drug class during the measurement period (12 consecutive months.* ***Measure Type:*** *Process;* ***Level of Analysis:*** *Clinician Group/Practice, Health Plan, Integrated Delivery System, Population State;* ***Setting of Care:*** *Ambulatory Care Clinician Office/Clinic;* ***Data Source:*** *Administrative Claims, Electronic Clinical Data Pharmacy, Other*

This measure has been NQF-endorsed since 2009 and, while not currently in use, has been submitted for use in the CMS Accountable Care Organization (ACO) Shared Savings program. When reviewing this measure, the Committee acknowledged that adherence to oral diabetes agents is not directly assessed in the guidelines. The Committee was comfortable inferring that a link between adherence to oral diabetes agents and lower rates of cardiovascular disease exists, as the benefits described related to use of ACEIs/ARBs assume medication adherence. The reliability of the measure was assessed to be strong for states and ACOS and moderate for physician groups and drug plans; however, the Committee questioned the validity of the specifications, as the measure does not exclude patients who are prescribed insulin during the measurement period. The Committee stated that this exclusion is necessary for this measure to be endorsed, as the measure as currently specified could incentivize physicians to leave patients on oral diabetes agents rather than switch the patients to insulin when indicated. The developer agreed to investigate this exclusion; however, the Committee voted not to recommend this measure for NQF endorsement as currently specified.

During the Member and Public Commenting period, the measure developer conducted additional analyses, made changes to the measure specifications so as to account for those patients who switch from oral diabetes agents to insulin-only therapy, and retested the measure. The Committee agreed that these changes to the measure addressed their concerns, and ultimately recommended the respecified measure for endorsement.

Osteoporosis—Post-fracture treatment

Three newly-submitted measures addressing fracture treatment were reviewed. Two of the three measures were recommended for endorsement.

2416 Laboratory Investigation for Secondary Causes of Fracture (TJC): Recommended

Description: *Percentage of patients age 50 and over with fragility fracture who have had appropriate laboratory investigation for secondary causes of fracture ordered or performed prior to discharge from inpatient status.* ***Measure Type:*** *Process;* ***Level of Analysis:*** *Facility;* ***Setting of Care:*** *Hospital/Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data, Electronic Clinical Data Electronic Health Record, Paper Medical Records*

This measure was newly submitted to NQF and, while not currently in use, is anticipated to be used by The Joint Commission for accreditation purposes and public reporting. When reviewing this measure, the Committee noted the importance of evaluating patients with fractures for secondary causes so that underlying causes can be treated and potentially prevent future fractures, readmissions, mortality, and unnecessary associated costs. The Committee acknowledged the opportunity for improvement, as an average performance of 16.6% was reported by the developers. Concern was raised as to whether the evidence substantiated the specified tests required for the measure; however, the consensus of the Committee was that these tests would provide actionable information for treating underlying secondary causes of fracture. The Committee recommended the measure, stating that it as an excellent starting point for improving the care of osteoporosis patients that have had a fragility fracture and is essential in the prevention of subsequent fractures.

2417 Risk Assessment/Treatment After Fracture (TJC): Recommended

Description: *Patients age 50 or over with a fragility fracture who have either a dual-energy X-Ray absorptiometry (DXA) scan ordered or performed, or a prescription for FDA-approved pharmacotherapy for osteoporosis, or who are seen by or linked to a fracture liaison service prior to discharge from inpatient status,. If DXA is not available and documented as such, then any other specified fracture risk assessment method may be ordered or performed.* ***Measure Type:*** *Process;* ***Level of Analysis:*** *Facility;* ***Setting of Care:*** *Hospital/Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data, Electronic Clinical Data Electronic Health Record, Paper Medical Records*

This measure was newly submitted to NQF and, while not currently in use, is anticipated to be used by The Joint Commission for accreditation purposes and public reporting. The Committee stated that there is strong evidence supporting use of DXA to measure bone density, and agreed that by including a fracture liaison service in the numerator, the measure would capture hospitals without an in-house DXA machine. The Committee raised concern that ordering the test or setting up the appointment is not equivalent to completing the test; however, this was not seen as detracting from the overall importance of the measure. The Committee recommended the measure, stating that it as an excellent starting point for improving the care of osteoporosis patients that have had a fragility fracture and is essential in the prevention of subsequent fractures.

2418 Discharge Instructions – Emergency Department (TJC): Not Recommended

Description: *Proportion of patients age 50 or over with a fracture of the vertebra, pelvis, wrist, ankle, or humerus discharged from the Emergency Department to home, or their caregivers, who have received written discharge instructions regarding the need to follow up with a primary care physician, hospital outpatient department or specialist for possible osteoporosis to reduce the risk of future fracture, or who were contacted by a fracture liaison service.* ***Measure Type:*** *Process;* ***Level of Analysis:*** *Facility;* ***Setting of Care:*** *Hospital/Acute Care Facility;* ***Data Source:*** *Electronic Clinical Data, Electronic Clinical Data Electronic Health Record, Paper Medical Records*

This measure was newly submitted to NQF and, while not currently in use, is anticipated to be used by The Joint Commission for accreditation purposes and public reporting. When reviewing this measure, the Committee acknowledged the importance of care coordination following an Emergency Department visit; however, the Committee stated that discharge instructions do not equate to coordination of care.

The Committee noted that there is minimal evidence indicating that written discharge instructions improve care for osteoporosis patients or have any impact on outcomes such as prevention of future fractures. Consequently, the Committee voted not to recommend this measure for NQF endorsement.

Measures withdrawn by the developer from further consideration of endorsement

The following measures were withdrawn during the measure evaluation period.

Measure	Measure Steward	Reason for withdrawal
0416: Diabetic Foot and Ankle Care, Ulcer Prevention – Evaluation of Footwear	APMA	Developer to update measure specifications and resubmit to NQF in Cycle #2 of the Endocrine pilot project.
0417: Diabetic Foot and Ankle Care, Peripheral Neuropathy – Neurological Evaluation	APMA	Developer to update measure specifications and resubmit to NQF in Cycle #2 of the Endocrine pilot project.

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Appendix A: Details of Measure Evaluation

Measures recommended

Measures not recommended

Measures withdrawn from consideration

Measures Recommended

Rating Scale: H=High; M=Moderate; L=Low; I=Insufficient; IE=Insufficient with Exception; NA=Not Applicable; Y=Yes; N=No

0056 Diabetes: Foot Exam

Submission | Specifications

Description: 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.

Numerator Statement: Patients who received a foot exam (visual inspection and sensory exam with monofilament and pulse exam) during the measurement period.

Denominator Statement: Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.

Exclusions: A diagnosis of gestational or steroid-induced diabetes

Adjustment/Stratification: None

Level of Analysis: Clinician : Group/Practice, Clinician : Individual

Setting of Care: Ambulatory Care : Clinician Office/Clinic

Type of Measure: Process

Data Source: Administrative claims, Paper Medical Records, Electronic Clinical Data : Pharmacy

Measure Steward: National Committee for Quality Assurance

STANDING COMMITTEE MEETING [02/26/2014-02/27/2015]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-4**; **M-13**; **L-3**; **I- 0; IE-0**; 1b. Performance Gap: **H-14**; **M-5**; **L-1**; **I-0** 1c. High Priority: **H-17**; **M-3; L-0**; **I-0**

Rationale:

- The Committee acknowledged that evidence exists indicating the benefit of a foot exam in conjunction with other interventions such as performing risk assessment and creating treatment plans for high risk patients; however, the Committee found it difficult to apply the evidence to performing a foot exam alone.
- While the evidence for foot exams may not exist, the Committee felt the evidence provided did indicate foot exam interventions for patients who are high risk can lead to improved outcomes.
- The measure specifies that a foot exam include a visual inspection and sensory exam with monofilament and a pulse exam. While there was agreement that the monofilament foot exam is an acceptable method for reducing diabetes complications and improving quality of life, the Committee questioned if the evidence was strong enough to classify this exam as the gold standard intervention. Some Committee members felt that the monofilament exam is cumbersome, difficult to use, and not that useful, while others felt it was better than the alternatives. Data presented by the developer indicated that monofilament, vibratory, and other similar interventions have equal predictive value for lower limb complications.
- Data presented by the developer showed relatively high performance, with most percentiles reaching 100%. Though performance data was high, the Committee stated that during the time-period that the measure has been used, there is evidence of decreased lower limb complications. The Committee stated that it is difficult to ascertain whether the measure itself or another unknown intervention led to this

improvement; as such, the Committee concluded maintaining endorsement of the measure was necessary.

- Diabetes is the 7th leading cause of death in the US and when unmanaged can cause serious health complications, including heart disease and stroke, hypertension, blindness, kidney disease, nervous system disease, amputations, dental disease, and pregnancy complications.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H-3**; **M-13**; **L-4**; **I-0** 2b. Validity: **H-8**; **M-9**; **L-2**; **I-0**

Rationale:

- The Committee found the signal-to-noise reliability testing results using the beta binomial method to be strong with most of the reliability results being above .7 and the majority above .9.
- Face validity was assessed with several panels of experts from diverse backgrounds. The Committee stated concern that the upper age limit of 75 specified in the denominator was not justified by the evidence, as patients over 75 are at a higher risk for lower limb complications and thus would benefit the most from this measure intervention. The developer agreed to remove the upper age limit.

3. Feasibility: H-1; M-15; L-3; I-0

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)

Rationale:

- The Committee agreed that the measure was feasible to implement, as the measure has already been in use and the data elements necessary to compute the measure score are generated during care and easily captured.
- The Committee expressed concern that the measure requires three actions to occur in order to meet the requirements of the measure, which may create confusion regarding proper documentation as there is not currently a common data element that collects this information. The Committee felt this may result in difficulties in extracting data correctly. Ultimately the Committee agreed that the endorsement of the measure would drive EMR developers to create a distinct field to collect the data.

4. Use and Usability: H-7; M-9; L-2; I-0

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

- The measure is currently used in NCQA's accountability programs, Diabetes Physician Recognition Program (DPRP) and Physician Quality Reporting System (PQRS).
- The Committee acknowledged that there has been little improvement in performance of the measure over time; however, mean performance of 78% at the physician level in 2012 indicates a significant opportunity for more improvement.
- Continued use of this measure maintains pressure and a priority on performing (and measuring) annual foot exams. Foot exams are a low-burden procedure with minimal risks to patient, with significant potential benefits for patients including decreased wounds and amputations.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-16; N-3

6. Public and Member Comment:

Comments received:

- Commenters generally expressed support for the measure and the Committee's recommendation for

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endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0519 Diabetic Foot Care and Patient Education Implemented
Submission | Specifications
Description: Percentage of home health episodes of care in which diabetic foot care and patient/caregiver education were included in the physician-ordered plan of care and implemented for diabetic patientssince the previous OASIS assessment. **Numerator Statement**: Number of home health episodes where at end of episode, diabetic foot care and education specified in the care plan had been implemented. **Denominator Statement**: Number of home health episodes of care ending with a discharge or transfer to inpatient facility during the reporting period, other than those covered by generic or measure-specific exclusions. **Exclusions**: Episodes in which the patient was not diabetic and/or had bilateral foot/lower leg amputations. Episodes ending in patient death. **Adjustment/Stratification**: None **Level of Analysis:** Facility **Setting of Care:** Home Health **Type of Measure**: Process **Data Source**: Electronic Clinical Data **Measure Steward**: Centers for Medicare & Medicaid
STANDING COMMITTEE MEETING [02/26/2014-02/27/2014] **1. Importance to Measure and Report: The measure meets the Importance criteria** (1a. Evidence: 1b. Performance Gap, 1c. High Priority) 1a. Evidence: **H-0**; **M-1**; **L-4**; **I-1; IE-13;** 1b. Performance Gap: **H-0**; **M-11**; **L-8**; **I-0** 1c. High Priority: **H-9**; **M-8**; **L-1**; **I-1** Rationale: • Evidence provided by the developer included the 2013 ADA guideline recommendation to provide foot care education to all patients with diabetes and a systematic review of 12 RCTs related to patient education for preventing diabetic foot ulceration. However, the review concluded that there is insufficient evidence showing that patient education alone is effective in reducing diabetic foot ulcers. The studies included in the review were conducted in an ambulatory setting rather than in the home health setting. The developer did not provide evidence that foot care leads to improved outcomes, although the Committee noted that there is evidence that an assessment and referral for comprehensive care—which would include foot care and patient education—has been shown to improve outcomes. The Committee recommended invoking the evidence exception due to a desire to maintain accountability in home health agencies for performing this intervention, particularly given the overall declines in amputation rates. • The average performance on the measure was 93.4%, with a 7.7% performance gap between the 75th and 25th percentiles. Some Committee members interpreted these results as demonstration of a performance gap, while others viewed them as an indication that there is not an opportunity for improvement. Members noted that this measure is derived from an item from the mandatory CMS OASIS

0519 Diabetic Foot Care and Patient Education Implemented
assessment form and that high performance on the measure would be expected • Developers noted that the prevalence of diabetes among older people is 6-10, that more than 5% of diabetic patients have foot ulcers, the lifetime prevalence of foot ulcer development is estimated to be 15-25%, and more than 80% of non-traumatic amputations for persons with diabetes are due to foot ulcers.
2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u> (2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H-17**; **M-1**; **L-1**; **I-0** 2b. Validity: **H-15**; **M-4**; **L-0**; **I-0** <u>Rationale</u>: • The developers verified that the measure includes all patients with diabetes (except those with bilateral amputation), includes all home health episodes, regardless of length, and allows for education to be provided to either the patient or the caregiver. They also explained that the measure specifications do not require performance of a particular type of educational or foot care intervention; instead, the measure incents the home health agency to collaborate with the physician include specific interventions in the patient plan of care and requires documentation in the patient chart that the intervention(s) has occurred. • Signal-to-noise testing using the beta binomial method resulted in an average reliability statistic of 0.92. Developers also examined variation within and between agencies; the resulting Interclass correlation (ICC) coefficient value 0.89 for agencies with at least 40 valid episodes, indicating that most of the total variation is due to between-agency variation. • To demonstrate validity of the measure, developers correlated the scores from this measure with several other publicly-reported home health measures; results indicated slight to moderate positive correlations with most of the other measures and a slight negative correlation with ED visits. Developers also described a face validity assessment of the measure score by a technical expert panel, where 8 of the 9 panel members agreed that the measure partially or completely reflects the quality of care...
3. Feasibility: H-19; M-0; L-0; I-0 *(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)* <u>Rationale</u>: • The data elements are included in the OASIS assessment and are thus s routinely collected in the course of care.
4. Use and Usability: H-12; M-7; L-0; I-0 *(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)* <u>Rationale</u>: • The Committee noted that the measure is publicly reported and also used for internal quality improvement. • The Committee concluded that performance on the measure has improved performance in the three years since it was implemented (from 87% to 92%. • The Committee noted that a potential unintended consequence with this measure might be that the time and attention spent on patient education on foot care might be better spent on something else.
5. Related and Competing Measures

0519 Diabetic Foot Care and Patient Education Implemented

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-17; N-2

6. Public and Member Comment

Comments included:

- Comments were received in support of this measure and the Committee's recommendation for endorsement.
- One commenter expressed concern that the evidence that foot care leads to improved outcome exception was not provided and that the evidence exception was invoked.

Developer response:

- The developer responded that there is sufficient evidence that the care processes being measured are valid and important ones and the literature supports the use of these care processes in other settings. The evidence exception for Diabetic Foot Care and Education was related to the lack of evidence in the literature specific to the home health setting, where there is frequently a shortage of evidence available.

7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X

8. Board of Directors Vote: Y-X; N-X

9. Appeals

0055 Comprehensive Diabetes Care: Eye Exam (retinal) performed

Submission | Specifications

Description: The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who had an eye exam (retinal) performed.

Numerator Statement: Patients who received an eye screening for diabetic retinal disease. This includes people with diabetes who had the following: -a retinal or dilated eye exam by an eye care professional (optometrists or ophthalmologist) in the measurement year OR –a negative retinal exam or dilated eye exam (negative for retinopathy) by an eye care professional in the year prior to the measurement year. For exams performed in the year prior to the measurement year, a result must be available.

Denominator Statement: Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.

Exclusions: Exclusions (optional):

-Exclude patients who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year.

AND

-Exclude patients who meet either of the following criteria:

-A diagnosis of polycystic ovaries, in any setting, any time in the patient's history through December 31 of the measurement year.

-A diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year

Adjustment/Stratification: None

Level of Analysis: Clinician : Group/Practice, Health Plan, Clinician : Individual, Integrated Delivery System

Setting of Care: Ambulatory Care : Clinician Office/Clinic

Type of Measure: Process

Data Source: Administrative claims, Electronic Clinical Data, Paper Medical Records, Electronic Clinical Data : Pharmacy

Measure Steward: National Committee for Quality Assurance

0055 Comprehensive Diabetes Care: Eye Exam (retinal) performed

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-4**; **M-12**; **L-4**; **I-0; IE-0;** 1b. Performance Gap: **H-18**; **M-2**; **L-0**; **I-0** 1c. High Priority: **H-15**; **M-3**; **L-0**; **I-1**

<u>Rationale</u>:

- The Committee agreed that the evidence presented from clinical practice guidelines from the American Diabetes Association (2013) and the American Academy of Ophthalmology (2008) supported the measure intervention, as the performance of retinal exams leads to maintenance of diabetic retinopathy and improvement in quality of life.
- Data submitted by the developer suggests that a majority of adults with diabetes do not receive annual eye exams and performance levels for this measure are low with performance for the years 2011-2013 as follows: commercial HMO mean rate - 57.74 – 56.82%; commercial PPO mean rate- 45 – 48%; Medicaid HMO rate – 53%; Medicare HMO rate -64-66%; Medicare PPO – 62-64%.
- Diabetes is the 7th leading cause of death in the US and is the leading cause of blindness in adults aged 20-74 years. The impact of a loss in vision - either partial or full - is substantial. Not only does it impact quality of life, but it greatly impacts functionality, the ability to work, and the quality of care for one's diabetes. Slowing the progression of retinal disease through annual screening would be a huge benefit for patients and forestall increases in cost per patient.

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H-7**; **M-13**; **L-0**; **I-0** 2b. Validity: **H-6**; **M-13**; **L-1**; **I-0**

<u>Rationale</u>:

- The Committee determined that the measure specifications were precise, noting that all codes necessary to calculate the measure were present and the specifications were consistent with the evidence presented.
- The measure was tested for reliability at the level of the measure score using the beta binomial method. The Committee concluded the measure was reliable due to a majority of reliability ratings for the different health plans and physicians being greater than .8.
- The Committee expressed concern the measure specifications require the exam to be performed too frequently, as the evidence indicated that eye exams are only necessary every 3 years; however, the Committee concluded that the benefits from having the exam outweighed the consequences of potential extra screenings.
- Reliability testing results presented by the developer demonstrated strong reliability at the level of the health plan, and weaker reliability at the level of the clinician. The Committee found the weaker reliability at the clinician level acceptable because the data comes from the Diabetes Recognition Program, which captures data from voluntary high performers with little variation. The developer explained that because there is little variation amongst the high performers, and no data from low performers, that a signal to noise analysis does not indicate strong reliability. A more robust data sample would perform better in a signal to noise analysis.

3. Feasibility: H-2; M-13; L-5; I-0

0055 Comprehensive Diabetes Care: Eye Exam (retinal) performed

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)

Rationale:

- The Committee noted it may be difficult to capture this data in electronic sources, as this information is not all currently captured electronically.
- Overall they agreed the measure was feasible to implement at the plan level but may be difficult at the provider level, as the data may not exist due to many patients using a different doctor and often using eye insurance instead of their regular health plan to perform the eye exam.

4. Use and Usability: H-7; M-11; L-2; I-0

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

- The developer describes at least five current accountability uses of the measure including public reporting of health plan data.
- The Committee acknowledged that there has been little improvement in performance of the measure over time; however, mean performance ranging from 45-66% at the health plan level in particular and to some degree at the physician level ranging indicates a significant opportunity for more improvement.
- There is little burden of measurement or unintended consequences and substantial benefits to continuing the measure.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-18; N-2

6. Public and Member Comment

Comments included:

- Comments were received in support of the measure and the Committee's decision to recommend the measure for endorsement.
- Commenters requested clarification as to why women with polycystic ovarian syndrome are excluded from the measure.
- A commenter noted that using the remote imaging CPT codes in the specifications for the measure causes quality concerns and is contrary to the American Diabetes Association and the AOA's clinical guidelines for patients with diabetes. Including the remote retinal imaging codes in the measure specifications could indicate that remote retinal imaging is sufficient eye care for a patient with diabetes.
- One commenter suggested that this measure be aligned with the new age specifications agreed to by the developer for measure #0056 (i.e., NCQA removed the upper age restriction so that the measure now applies to diabetes patients ages 18 and older).

Developer response:

- NCQA responded that polycystic ovarian syndrome is a long-standing exclusion which was recommended by their first joint NCQA-AMA-PCPI expert panel when the diabetes measures were first developed. NCQA will take this comment into consideration during the next re-evaluation of the diabetes care measures.
- NCQA responded they will review the use of the CPT codes with expert panels and if appropriate, update the Diabetic Retinal Screening value set.
- NCQA responded that they will evaluate appropriate age thresholds during the next re-evaluation of the diabetes care measures.

0055 Comprehensive Diabetes Care: Eye Exam (retinal) performed
Committee response: • Committee members noted that the ADA guidelines, as well as other evidence, indicate that retinal photographs are acceptable and therefore did not recommend a change to the specifications of the measure. • The Committee also agreed that because complications of diabetes disproportionately affects older patients, the measure developer should consider changing the specifications to include those aged 18 and older rather than including only those aged 18-75.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0062 Comprehensive Diabetes Care: Medical Attention for Nephropathy
Submission | Specifications
Description: The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received a nephropathy screening test or had evidence of nephropathy during the measurement year. **Numerator Statement**: Patients who received a nephropathy screening test or had evidence of nephropathy during the measurement year. **Denominator Statement**: Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year. **Exclusions**: **Adjustment/Stratification**: None **Level of Analysis:** Clinician : Group/Practice, Health Plan, Clinician : Individual, Integrated Delivery System **Setting of Care:** Ambulatory Care : Clinician Office/Clinic **Type of Measure**: Process **Data Source**: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Laboratory, Paper Medical Records, Electronic Clinical Data : Pharmacy **Measure Steward**: National Committee for Quality Assurance

0062 Comprehensive Diabetes Care: Medical Attention for Nephropathy

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-13**; **M-7**; **L-0**; **I-0; IE-0;** 1b. Performance Gap: **H-11**; **M-7**; **L-2**; **I-0** 1c. High Priority: **H-16**; **M-4**; **L-0**; **I-0**

Rationale:

- The Committee agreed that the evidence presented from clinical practice guidelines from the American Diabetes Association (2013), American Geriatrics Society (2003), and American Association of Clinical Endocrinologists (AACE) (2011) supported the link between nephropathy screening and improvement in diabetes complications and quality of life.
- Some Committee members mentioned a glomerular filtration rate (GFR) count may be able to capture nephropathy sooner than a microalbumin test. The developer stated the test was meant to detect a urinary protein burden and the GFR would not fulfill that. The Committee accepted this explanation.
- The Committee concluded the data presented by the developer, which included HEDIS health plan data from 2011-2013 with mean rates as follows: Commercial HMO – 83-84%; Commercial PPO – 74-78%; Medicaid HMO – 77-78%; Medicare HOM – 89%; Medicare PPO – 87-88%, showcased the substantial number of physicians and practices that still fail to meet minimum nephropathy screening recommendations.
- Kidney disease is a major concern for diabetes patients, causing high levels of mostly preventable morbidity, mortality and costs. This issue has been and continues to be documented by many clinical studies and retrospective analyses. Early diagnosis through screening can help slow the progression of CKD and possibly prevent ESRD.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H-10**; **M-8**; **L-2**; **I-0** 2b. Validity: **H-10**; **M-9**; **L-1**; **I-0**

Rationale:

- The Committee agreed the measure was reliable with most reliability results from the signal-to-noise testing using the beta binomial method being above the generally acceptable threshold of 0.7.
- Pearson Correlation Test results indicated a positive association between nephropathy screening and HbA1c testing and an inverse association between nephropathy screening and poor diabetes. The Committee stated that these associations would be expected, as high performers on a measure of nephropathy screening would likely also perform well for HbA1c testing; likewise, high performers on nephropathy screening would likely not have many patients with poorly controlled diabetes.

3. Feasibility: H-13; M-7; L-0; I-0

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)

Rationale:

- The Committee expressed concern that data can be collected from different databases, such as billing, pharmacy, and lab, which might create burden on those reporting the measure. However, the Committee acknowledged that the measure is currently in use and the data is routinely generated through care delivery and captured in electronic sources so this may not create a major issue.

0062 Comprehensive Diabetes Care: Medical Attention for Nephropathy

4. Use and Usability: H-13; M-6; L-0; I-0

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

- The developer described at least five current accountability uses of the measure including public reporting of health plan data.
- The Committee acknowledged that there has been little improvement in performance of the measure over time, as the measure has been relatively stable over the past 3 years; however, mean performance at the health plan level, and to some degree at the physician level indicates an opportunity for more improvement exists.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: **Y-19**; **N-0**

6. Public and Member Comment:

Comments received:

- Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.

7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X

8. Board of Directors Vote: Y-X; N-X

9. Appeals

0057 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing

Submission | Specifications

Description: The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received an HbA1c test during the measurement year.

Numerator Statement: Patients who had an HbA1c test performed during the measurement year.

Denominator Statement: Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.

Exclusions: Exclusions (optional):

-Exclude patients who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year.

AND

-Exclude patients who meet either of the following criteria:

-A diagnosis of polycystic ovaries, in any setting, any time in the patient's history through December 31 of the measurement year.

-A diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.

Adjustment/Stratification: None

Level of Analysis: Health Plan, Integrated Delivery System

Setting of Care: Ambulatory Care : Clinician Office/Clinic

Type of Measure: Process

Data Source: Administrative claims, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Paper Medical Records

0057 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing

Measure Steward: National Committee for Quality Assurance

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-10**; **M-6**; **L-1**; **I-0; IE-3;** 1b. Performance Gap: **H-3**; **M-13**; **L-4**; **I-0** 1c. High Priority: **H-8**; **M-7**; **L-5**; **I-0**

<u>Rationale</u>:

- The Committee stated that the evidence, which included clinical guideline recommendations from the American Diabetes Association (2013) and the VA (2010), supporting HbA1c testing for diabetes patients was strong, as HbA1c is the only laboratory test measure validated in randomized controlled trials as a predictor of risk for microvascular complications.
- While testing for HbA1c is relatively high, with the mean performance ranging from 82-91%, the data presented suggest a startlingly low level of testing within some facilities and settings. Further, the variation seen within certain ethnic patient populations suggests that emphasizing HbA1c as a critical outcome measure is an important action for this committee.
- Information presented by the developer indicates that diabetes is the 7th leading cause of death in the US, costing approximately $245 billion in 2012.

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H-16**; **M-4**; **L-0**; **I-0** 2b. Validity: **H-11**; **M-9**; **L-0**; **I-0**

<u>Rationale</u>:

- The Committee agreed the measure was reliable, with most signal-to-noise reliability testing results using the beta binomial method being above the generally acceptable threshold of 0.7.
- Pearson correlation test indicated a positive association between HbA1c testing and measures of eye exams and good control of HbA1C; it also demonstrated an inverse association between HbA1c testing and poor diabetes control (HbA1c >9). The Committee stated that these associations would be expected, as high performers on a measure of HbA1c testing would likely also perform well for eye exams and good control of diabetes; likewise, high performers on HbA1c testing would likely not have many patients with poorly controlled diabetes.
- Additionally, the developer indicated that face validity was assessed by three groups within NCQA for the health plan level. The Committee found this assessment to be acceptable.
- Concern was raised that the evidence indicated HbA1c testing should be performed more frequently than the measure specifies; however, the Committee acknowledged that though one HbA1c test per year may be low bar, the importance of performing this exam necessitated recommending the measure for endorsement.

3. Feasibility: H-18; M-2; L-0; I-0

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)

<u>Rationale</u>:

- The Committee agreed that the data is routinely generated through care delivery and captured in electronic sources.

4. Use and Usability: H-14; M-4; L-2; I-0

0057 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

- The developer describes at least five current accountability uses of the measure including public reporting of health plan data.
- While performance for HbA1c testing is relatively high and has shown little improvement in the past three years, the variation seen within certain ethnic patient populations suggests further improvements are needed.
- The Committee found the benefit of performing HbA1c testing to outweigh any potential unintended consequences or burden of measurement of requiring HbA1c testing be performed more frequently than the evidence provided suggested.

5. Related and Competing Measures

- This measure directly competes with:
    - 0059 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)
        - The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level during the measurement year was greater than 9.0% (poor control) or was missing a result, or if an HbA1c test was not done during the measurement year]
    - 0575 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
        - The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level is <8.0% during the measurement year.
- Not having an HbA1c test is captured in the numerators of #0059 and #0575, in that that if the test is not performed for a particular patient, the provider "fails" the measure for that patient. Some members thought that the testing measure (#0057) isn't needed since that information is captured in #0059 and #0575. However, other members use #0057 as a way to identify those patients who have not been tested, noting that this information would be hard for certain practices (e.g., small private practices that may not use EHRS) to obtain if the testing measure is not endorsed. Members also agreed that the data collection burden for the testing measure is not high and that performance rates still indicate opportunity for improvement. The Committee concluded that there is justification to continue endorsement of the testing measure at this time.

Standing Committee Recommendation for Endorsement: Y-18; N-2

6. Public and Member Comment:

Comments received:

- Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.

7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X

8. Board of Directors Vote: Y-X; N-X

9. Appeals

0059 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)

Submission | Specifications

Description: The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level during the measurement year was greater than 9.0% (poor control) or was missing a result, or if an HbA1c test was not done during the measurement year.

Numerator Statement: Patients whose most recent HbA1c level is greater than 9.0% or is missing a result, or for whom an HbA1c test was not done during the measurement year. The outcome is an out of range result of an HbA1c test, indicating poor control of diabetes. Poor control puts the individual at risk for complications including

renal failure, blindness, and neurologic damage. There is no need for risk adjustment for this intermediate outcome measure.

Denominator Statement: Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.

Exclusions: Exclusions (optional):

-Exclude patients who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year.

AND

-Exclude patients who meet either of the following criteria:

-A diagnosis of polycystic ovaries, in any setting, any time in the patient's history through December 31 of the measurement year.

-A diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.

Adjustment/Stratification: None

Level of Analysis: Clinician : Group/Practice, Health Plan, Clinician : Individual, Integrated Delivery System, Population : National, Population : Regional, Population : State

Setting of Care: Ambulatory Care : Clinician Office/Clinic

Type of Measure: Outcome

Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Laboratory, Paper Medical Records, Electronic Clinical Data : Pharmacy

Measure Steward: National Committee for Quality Assurance

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-3**; **M-16**; **L-1**; **I-0; IE-0;** 1b. Performance Gap: **H-17**; **M-3**; **L-0**; **I-0** 1c. High Priority: **H-20**; **M-0**; **L-0**; **I-0**

<u>Rationale</u>:

- Evidence presented by the developer included information from systematic reviews associated with clinical practice guideline recommendations from four entities, each of which indicate that HbA1c targets should be 9.0% or less, depending on individual patient characteristics.
- Data presented by the developer showed a gap in care from HEDIS for years 2011-2013 for health plans and the Diabetes Recognition Program and 2012 PQRS program for individual physicians with performance as follows: commercial HMO mean rate – 71.5- 72.7%; commercial PPO mean rate- 53.4 – 64.8%; Medicaid HMO rate – 55.6-57%; Medicare HMO rate -73.6-74.1%; Medicare PPO – 65.3-71.3%; Diabetes Recognition Program- 12%. There was also evidence of disparities in certain high-risk groups, such as African Americans, Asians, and Latinos.
- Data presented by the developer demonstrates that the measure affects large numbers, as it is estimated that 1 in 3 US adults could have diabetes by 2050. The measure targets a condition that is a leading cause of morbidity/mortality, as diabetes is the seventh leading cause of death in the US. The measure targets a high cost condition, as diabetes costs the US an estimated $245 billion in 2012.

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H-5**; **M-13**; **L-2**; **I-0** 2b. Validity: **H-7**; **M-13**; **L-0**; **I-0**

0059 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)

Rationale:

- The Committee noted that the evidence did not specifically support 9.0% as the cutoff value for poor glucose control but found that threshold to be acceptable given that evidence is clear that patients with poor diabetes control have poorer outcomes.
- The Committee agreed that the measure was reliable at the health plan level, given that the majority of the reliability statistics from the signal-to-noise analysis of the measure were >0.9. However, the Committee expressed concern over the low reliability values at the physician level, many of which were below the generally accepted threshold of 0.7. The developer explained that the clinician-level reliability results were obtained using data from the NCQA Diabetes Recognition Program. They noted that providers who participate in this program are a self-selected group of high performers with little variation in performance on this measure, and that the lack of variation was the reason for the low reliability statistics. The Committee accepted this explanation.
- A Pearson correlation test for health plans and physicians, and face validity of the performance measure score were presented by the developer. For health plans, Pearson correlation test indicated a strong inverse relationship between the HbA1c poor control measure (>9.0%) and the HbA1c good control measure (<8.0%) and for physicians, the Pearson correlation results indicated a moderate inverse relationship between the HbA1c poor control measure (>9.0%) and the HbA1c good control measure (<8.0%) as assessed by three NCQA expert panels.
- The Committee expressed some concern about whether this clinical outcome measure truly represents quality of care, given that HbA1c results can be influenced by patient factors that cannot be completely controlled by the clinician. Members also noted that the measure is not risk-adjusted and queried the developers about whether they had considered risk adjustment, particularly for socioeconomic status. The developer explained their policy of not risk-adjusting for socioeconomic status, noting that excellent care can be provided to challenging populations. Committee members noted that stratifying results for various subgroups or comparing results to "like" peers can be used to illuminate quality problems.
- Committee members also expressed concern about the validity of the measure and its ability to reflect quality of clinician care, particularly in a fee-for-service environment where the clinician may not know definitively if a particular patient is really a part of the practice (or if, for example, he/she has moved away). The developer acknowledged this difficulty and reminded the committee about how the denominator is specified (i.e., multiple office visits, at least one hospital/ED encounter, and/or anti-diabetic prescriptions dispensed).

3. Feasibility: H-14; M-5; L-1; I-0

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)

Rationale:

- The Committee agreed that the data used in the measure are routinely generated during care delivery and captured in electronic sources; they also noted that the measure is currently in use, thus demonstrating its feasibility

4. Use and Usability: H-9; M-11; L-0; I-0

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

0059 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)
• The Committee noted the measure is currently in use in at least eight public reporting and accountability programs, including the Physician Quality Reporting System, the Healthcare Effectiveness Data and Information Set (HEDIS), and the Diabetes Recognition Program. • The Committee agreed that while there has been improvement nationally in lowering HbA1c rates over time, in the past three years the improvement trend has remained fairly stable; nonetheless, members agreed that the potential for improvement has not been exhausted • The Committee questioned whether this measure might result in the unintended negative consequence of disincentivizing providers from caring for more complex or difficult-to-treat patients (i.e., "cherry-picking"); however, they agreed that there is no concrete evidence that this is happening (and some evidence from the UK that it is actually not happening).

5. Related and Competing Measures
• This measure directly competes with:
  ○ 0057: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing
  ▪ The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received an HbA1c test during the measurement year.
  ○ 0575: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
  ▪ The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level is <8.0% during the measurement year.
• Not having an HbA1c test is captured in the numerators of #0059 and #0575, in that that if the test is not performed for a particular patient, the provider "fails" the measure for that patient. Some members thought that the testing measure (#0057) isn't needed since that information is captured in #0059 and #0575. However, other members use #0057 as a way to identify those patients who have not been tested, noting that this information would be hard for certain practices (e.g., small private practices that may not use EHRS) to obtain if the testing measure is not endorsed. Members also agreed that the data collection burden for the testing measure is not high and that performance rates still indicate opportunity for improvement.
• Taking into consideration the above discussion points, the Committee voted 15-2 that there was justification for recommending measure 0059 for endorsement.

Standing Committee Recommendation for Endorsement: Y-20; N-0
6. Public and Member Comment: Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

0575 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)

Submission | Specifications

Description: The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level is <8.0% during the measurement year.

Numerator Statement: Patients whose most recent HbA1c level is less than 8.0% during the measurement year. The outcome is a result of an HbA1c test, indicating desirable control of diabetes. Poor control puts the individual at risk for complications including renal failure, blindness, and neurologic damage. There is no need for risk adjustment for this intermediate outcome.

Denominator Statement: Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.

Exclusions: Exclusions (optional):

-Exclude patients who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year.

AND

-Exclude patients who meet either of the following criteria:

-A diagnosis of polycystic ovaries, in any setting, any time in the patient's history through December 31 of the measurement year.

-A diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.

Adjustment/Stratification: None

Level of Analysis: Clinician : Group/Practice, Health Plan, Clinician : Individual, Integrated Delivery System

Setting of Care: Ambulatory Care : Clinician Office/Clinic

Type of Measure: Outcome

Data Source: Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Laboratory, Paper Medical Records, Electronic Clinical Data : Pharmacy

Measure Steward: National Committee for Quality Assurance

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-9**; **M-8**; **L-3**; **I-0; IE-0;** 1b. Performance Gap: **H-16**; **M-4**; **L-0**; **I-0** 1c. High Priority: **H-16**; **M-3**; **L-1**; **I-0**

Rationale:

- The Committee found the evidence underpinning the clinical practice guideline recommendations from American Diabetes Association (2013), American Geriatric Society (2003), VA/DOD (2010), and American Association of Clinical Endocrinologists (AACE) (2011) to be sufficient to support this measure. The evidence showed significant reductions in risk of microvascular complications, retinopathy, and MI for patients with HbA1c levels less than 8.0%.
- The Committee agreed that there is a large gap in performance based on Health plan level data for years 2011-2013 (commercial HMO mean rate – 62-61%; commercial PPO mean rate- 50-54%; Medicaid HMO rate – 47-46%; Medicare HMO rate -65-64%; Medicare PPO – 57-62%), and self-reported physician level results from PQRS 2010 -2012 (mean -75.2 – 76.7%; 10th percentile – 63-64%).
- Data presented by the developer notes that diabetes is the 7th leading cause of death in the U.S., costing an estimated $245 billion annually, and that reducing HbA1c level results by one percentage point (e.g., from 8.0 percent to 7.0 percent) helps reduce the risk of microvascular complications (eye, kidney and

nerve diseases) by as much as 40 percent..

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)
2a. Reliability: **H-3**; **M-14**; **L-3**; **I-0** 2b. Validity: **H-4**; **M-12**; **L-4**; **I-0**
<u>Rationale</u>:

- The Committee members agreed that 8.0% is a realistic, evidence-based threshold for good control of diabetes. The Committee stated concerns that prior attempts to target HbA1c levels lower than 7.0% were shown to produce a high level of a risk relative to the benefit, when compared to target levels below 8.0%.
- The Committee determined that the measure specifications were precise, noting that all codes necessary to calculate the measure were present and the specifications were consistent with the evidence presented.
- There was some confusion about whether the denominator is calculated differently for clinicians versus for health plans. The developer clarified that the denominator is consistent across the levels of analysis (i.e., diabetic patients are identified in the same way), although when implemented in the NCQA Diabetes Recognition Program, only a sampling of patients is used to compute the clinician-level rate.
- The Committee agreed that the measure was reliable at the health plan level, given that the majority of the reliability statistics from the signal-to-noise analysis of the measure were >0.9. However, the Committee expressed concern over the low reliability values at the physician level, many of which were below the generally accepted threshold of 0.7. The developer explained that the clinician-level reliability results were obtained using data from the NCQA Diabetes Recognition Program. They noted that providers who participate in this program are a self-selected group of high performers with little variation in performance on this measure, and that the lack of variation was the reason for the low reliability statistics. The Committee accepted this explanation.
- Empiric validity testing results indicate a strong inverse correlation of this measure with poor glucose control (HbA1c >9) and good correlation with HbA1c testing and provision of eye exams for health plans; for physicians, testing results indicate an inverse correlation with poor glucose control but no correlation with HbA1c testing or provision of eye exams. Face validity also was assessed by three groups within NCQA for both the plan and physician–level measure.
- Committee members noted the role of the patient in glucose control and the need for individualized care; however, they agreed that these factors do not impact the validity of the measure.

3. Feasibility: H-17; M-3; L-0; I-0
(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)
<u>Rationale</u>:

- The Committee agreed that the data used in the measure are routinely generated during care delivery and captured in electronic sources.

4. Use and Usability: H-7; M-8; L-4; I-0
(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits

outweigh evidence of unintended negative consequences)

Rationale:

- The Committee noted that the developer listed five current uses of the measure, including public reporting.
- The Committee agreed there has been improvement in HbA1c rates over time(e.g., from 67.4% between 1999-2010 to 79.1% between 2007-2010 between, as noted in a 2013 CDC report
- As in their discussion of measure #0059, the Committee questioned whether this measure might result in the unintended negative consequence of disincentivizing providers from caring for more complex or difficult-to-treat patients. They also suggested that some providers may inappropriately consider this measure to encourage tight control, even though evidence suggests that very tight control may be harmful. Finally, members noted that for some patients (e.g., the frail elderly patients, those limited life expectancy) HbAc1 values slightly above 8% might be reasonable and that target HbA1c values for such patients should be individualized.

5. Related and Competing Measures

- This measure directly competes with:
  - 0057 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing
    - The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received an HbA1c test during the measurement year.
  - 0059 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)
    - The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level during the measurement year was greater than 9.0% (poor control) or was missing a result, or if an HbA1c test was not done during the measurement year]
- Not having an HbA1c test is captured in the numerators of #0059 and #0575, in that that if the test is not performed for a particular patient, the provider "fails" the measure for that patient. Some members thought that the testing measure (#0057) isn't needed since that information is captured in #0059 and #0575. However, other members use #0057 as a way to identify those patients who have not been tested, noting that this information would be hard for certain practices (e.g., small private practices that may not use EHRS) to obtain if the testing measure is not endorsed. Members also agreed that the data collection burden for the testing measure is not high and that performance rates still indicate opportunity for improvement.
- Taking into consideration the above discussion points, the Committee voted 15-2 that there was justification for recommending measure #0059 for endorsement.

Standing Committee Recommendation for Endorsement: Y-17; N-2

6. Public and Member Comment:

Comments received:

- Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.

7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X

8. Board of Directors Vote: Y-X; N-X

9. Appeals

2362 Glycemic Control – Hyperglycemia

Submission | Specifications

Description: Average percentage of hyperglycemic hospital days for individuals with a diagnosis of diabetes mellitus, anti-diabetic drugs (except metformin) administered, or at least one elevated glucose level during the hospital stay

Numerator Statement: Sum of the percentage of hospital days in hyperglycemia for each admission in the denominator

Denominator Statement: Total number of admissions with a diagnosis of diabetes mellitus, at least one administration of insulin or any anti-diabetic medication except metformin, or at least one elevated blood glucose value (>200 mg/dL [11.1 mmol/L]) at any time during the entir

Exclusions: The following admissions are excluded from the denominator:

• Admissions with diagnosis of diabetic ketoacidosis (DKA) or hyperglycemic hyperosmolar syndrome (HHS)

• Admissions without any hospital days included in analysis

• Admissions with lengths of stay greater than 120 days

Adjustment/Stratification: None

Level of Analysis: Facility

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Outcome

Data Source: Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy

Measure Steward: Centers for Medicare & Medicaid Services

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-5**; **M-8**; **L-1**; **IE-5; I-0;** 1b. Performance Gap: **H-16**; **M-3**; **L-0**; **I-0** 1c. High Priority: **H-16**; **M-2**; **L-0**; **I-1**

Rationale:

- Evidence presented by the developer included nine studies that considered the relationship between hyperglycemia and mortality, infection rates, and length of stay among hospitalized adults; these studies found that patients with hyperglycemia (defined differently across each study) had a higher risk of mortality, higher rates of urinary tract infection, postoperative infection, and pneumonia, and longer lengths of inpatient stays. Members noted that interventional studies showing benefit have been in ICU settings, although some data have shown an association between interventions and benefit in non-ICU settings. Although Committee members acknowledged that there isn't evidence that better control of hyperglycemia in the inpatient setting leads to better outcomes, members did agree that there is strong evidence supporting the relationship of hyperglycemia with poor outcomes and that keeping HbA1c levels below 200mg/dL is beneficial.
- Data presented by the developer indicate that average performance scores range from 22-33% and that half of the tested facilities had measure results higher 28.24
- The Committee agreed that the measure addressed a significant health problem, as hyperglycemia is associated with higher mortality, higher infection rates, increased hospital length of stay, and higher costs.

2362 Glycemic Control – Hyperglycemia

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)
2a. Reliability: **H-1**; **M-17**; **L-1**; **I-0**; 2b. Validity: **H-4**; **M-14**; **L-1**; **I-0**
<u>Rationale</u>:

- The Committee had several questions about how the measure was specified, particularly about the timing of the glucose measurement, why only one day with one measurement > 200mg/dL would be considered a hyperglycemic day, why measurement is truncated after the 10th day of admission, whether very high values are treated the same as values just over 200mg/dL, and why non-diabetics are included in the measure. The developer explained the following:
    - The measure requires at least two hyperglycemic events that occur at least 6 hours apart
    - The 1st admission day not is included
    - ER values are not included,
    - Only one day of testing >200mg/dL is included to incent additional testing
    - A maximum of 10 days is used to ensure that one patient doesn't dominate the results
    - The measure focuses on sustained hyperglycemia rather than peak values, and
    - The measure also incents blood glucose monitoring because many non-diabetic patients have sustained hyperglycemia while in the hospital.
- Committee members asked about how the patients are attributed to the various stratification groupings; the developer explained that the stratification was suggested for reporting purposes (not as part of the measure calculation) but that if done, assignment to the various reporting strata could be based on where a patient spent the majority of time in a particular day.
- One Committee member questioned whether meter variation would decrease the reliability of this measure; another member noted that such variation would likely be random (i.e., as many readings just above the 200mg/dL level as below) and that this variation also likely be would uniform across hospitals. .
- The developer presented reliability testing results at the level of the performance measure score All hospitals tested except one (which had only 225 patients and 74 qualifying admissions) had signal-to-noise reliability statistics >= .92.
- Committee members agreed that while the definition of hyperglycemia was different across the various studies included in the evidence, there is evidence that keeping HbA1c levels below 200mg/dL is beneficial; they therefore agreed that the specifications are consistent with the evidence.
- Developers presented empirical validity testing results with high percent agreement (>90%) for all critical data elements except for the ICU date/time. They also described a systematic assessment of face validity by an 18-member expert panel.
- Committee members asked whether the measure might make unfairly penalize tertiary care hospitals who often have higher-acuity patients. The developer noted that, in testing, tertiary hospitals actually had better performance on this measure than did others, possibly due to better insulin infusion protocols.
- There was some concern that there is currently no benchmark value for inpatient hyperglycemic rate; however, NQF staff clarified that lack of a benchmark value should not be considered a threat to validity.

2362 Glycemic Control – Hyperglycemia

3. Feasibility: H-9; M-8; L-1; I-0

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)

Rationale:

- Because this is an eMeasure, one Committee member raised concern about the programming burden required to implement the measure. The developer noted that the difficulty for the testing facilities was the up-front work to identify which lab tests/values should be included in the measure (e.g., metabolic panel, normal daily draws, etc.) and that the subsequent retrieval of the data was not burdensome..
- The Committee agreed that data element scores from the feasibility scorecard that was submitted by the developer (had average scores of 2.5 or higher on a 3-point scale) supported the feasibility of the measure.

4. Use and Usability: H-11; M-7; L-1; I-0

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

- This de novo eMeasure is not currently in use but has been submitted for consideration in the CMS Hospital Inpatient Quality Reporting Program (IQR) and for Meaningful Use (MU) Stage 3.
- The Committee noted that a possible unintended negative consequence of the measure might be a tendency for tight glucose control, which could lead to hypoglycemia. However, members noted that this measure is paired with a hypoglycemia measure (#2363).

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-18; N-1

6. Public and Member Comment

Comments received:

- One commenter noted low reliability scores for one of the hospitals included in the testing of the measure and questioning the reliability of the measure for smaller facilities. The commenter also expressed the desire that the measure be made consistent with NQF # 2363.
- Comments were also received questioning the need for this measure, as well as in support of this the Committee's recommendation for endorsement

Developer response:

- The developer noted that it is correct the smallest facility tested had inadequate reliability; however, the other facility had a score of 0.67, which would indicate the measure is closely approaching the reliability threshold of 0.7. The developer will monitor reliability carefully for small facilities if implemented.
- Regarding measure consistency, the measures are designed to measure two very different events clinically. Hyperglycemia is usually sustained and can occur in patients that do not have a current diagnosis of diabetes; whereas, severe hypoglycemia is a relatively rare event that typically occurs after the administration of an anti-diabetic agent.

Committee response:

- The Committee supported the construction of the measure and accepted the explanation of the developer regarding reliability.

7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X

8. Board of Directors Vote: Y-X; N-X

2362 Glycemic Control – Hyperglycemia

9. Appeals

2363 Glycemic Control - Hypoglycemia

Submission | Specifications

Description: The rate of hypoglycemic events following the administration of an anti-diabetic agent

Numerator Statement: Total number of hypoglycemic events (<40 mg/dL) that were preceded by administration of rapid/short-acting insulin within 12 hours or an anti-diabetic agent other than short-acting insulin within 24 hours, were not followed by another glucose value greater than 80 mg/dL within five minutes, and were at least 20 hours apart

Optional numerator: Total number of hypoglycemic events (<70 mg/dL) that were preceded by administration of rapid/short-acting insulin within 12 hours or an anti-diabetic agent other than short-acting insulin within 24 hours, were not followed by another glucose value greater than 80 mg/dL within five minutes, and were at least 20 hours apart

Denominator Statement: Total number of hospital days with at least one anti-diabetic agent administered

Exclusions: Admissions with lengths of stay greater than 120 days are excluded.

Adjustment/Stratification: None

Level of Analysis: Facility

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Outcome

Data Source: Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy

Measure Steward: Centers for Medicare & Medicaid Services

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-13**; **M-6**; **L-0**; **IE-0; I-0;** 1b. Performance Gap: **H-12**; **M-6**; **L-1**; **I-0** 1c. High Priority: **H-17**; **M-2**; **L-0**; **I-0**

Rationale:

- The developer identified, reviewed, and reported on 5 studies regarding the relationship between hypoglycemia and outcomes of mortality and length of stay. The Committee agreed that the evidence that poor outcomes and mortality are associated with hypoglycemia is very strong
- Data presented by the developer indicate that average performance scores range from 36-89%. Although a low incidence outcome, the best performance score was less than half of the poorest performance score.
- The Committee agreed that the measure addressed a significant health problem, as hypoglycemia has been associated with higher mortality, increased length of stay, and discharge to a nursing home.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H-11**; **M-7**; **L-1**; **I-0;** 2b. Validity: **H-10**; **M-8**; **L-0**; **I-0**

Rationale:

- The Committee discussed whether blood glucose <40mg/dL was an appropriate cutoff for hypoglycemia, noting that some patients can experience poor outcomes with blood glucose of <70mg/dL. However, the Committee agreed that blood glucose <40mg/dL should be preventable, but blood glucose <70 may not

be preventable in some patients. The Committee agreed that for public reporting and accountability purposes, <40mg/dL was an appropriate cutoff for identifying hypoglycemia.

- The developer clarified that the optional <70mg/dL threshold measurement was intended for internal quality improvement uses only However, because NQF endorsement implies suitability for use in both accountability applications and internal quality improvement efforts, the Committee requested that the developer remove the optional numerator of <70mg/dL. The developer agreed to this change.
-
- A signal-to-noise analysis was used to test the reliability testing of the performance measure scores . Although there were only 8 testing sites, 6 of the 8 had reliability of 0.7 or greater (which is typically considered the minimum acceptable value). The one test site with a very low reliability statistic (0.08) was a small provider with only 340 patient days in denominator and 3 hypoglycemic events.
- The developer tested data element validity by comparing electronic data used in the measure to data abstracted from the full electron medical record; the percent agreement was high (>95%) for all critical data elements.

3. Feasibility: H-15; M-4; L-0; I-0

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)

Rationale:

- The Committee agreed that data element scores from the feasibility scorecard submitted by the developer supported the feasibility of the measure (all critical data elements had average scores of 2.5 or higher on a 3-point scale).

4. Use and Usability: H-16; M-2; L-1; I-0

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

- This de novo eMeasure is not currently in use but has been submitted for consideration in the CMS Hospital Inpatient Quality Reporting Program (IQR) and for Meaningful Use (MU) Stage 3.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-19; **N-0**

Rationale

- The Committee noted that this measure will serve as a companion measure to balance the Glycemic Control – Hyperglycemia (2362) measure.
- The Committee also recommended that the developer change the name of the measure to "Glycemic Control – Severe Hypoglycemia".
- The Committee also noted that use of this measure to assess severe hypoglycemia should not be construed to mean that hospitals can ignore blood glucose levels that are between 40-70mg/dL.

6. Public and Member Comment

2363 Glycemic Control - Hypoglycemia

Comments received:

- One commenter noted low reliability scores for one of the hospitals included in the testing of the measure and questioning the reliability of the measure for smaller facilities. The commenter also expressed the desire that the measure be made consistent with NQF # 2362.
- One commenter questioned the need for these measures while another expressed support for the measures.

Developer response:

- The developer noted that it is correct the smallest facility tested had inadequate reliability; however, the other facility had a score of 0.67, which would indicate the measure is closely approaching the reliability threshold of 0.7. The developer will monitor reliability carefully for small facilities if implemented.
- Regarding measure consistency, the measures are designed to measure two very different events clinically. Hyperglycemia is usually sustained and can occur in patients that do not have a current diagnosis of diabetes; whereas, severe hypoglycemia is a relatively rare event that typically occurs after the administration of an anti-diabetic agent.

Committee response:

- The Committee supported the construction of the measure and accepted the explanation of the developer regarding reliability.

7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X

8. Board of Directors Vote: Y-X; N-X

9. Appeals

0545 Adherence to Statins for Individuals with Diabetes Mellitus

Submission | Specifications

Description: The measure addresses adherence to statins. The measure is reported as the percentage of eligible individuals with diabetes mellitus who had at least two prescriptions for statins and who have a Proportion of Days Covered (PDC) of at least 0.8 during the measurement period (12 consecutive months).

Numerator Statement: Individuals in the denominator with at least two prescriptions for statins with a PDC of at least 0.8 for statins.

Denominator Statement: Individuals at least 18 years of age as of the beginning of the measurement period with diabetes mellitus and at least two prescriptions for statins during the measurement period (12 consecutive months).

Exclusions: We excluded the following individuals from the denominator:

Individuals with polycystic ovaries, gestational diabetes, or steroid-induced diabetes who do not have a face-to-face visit with a diagnosis of diabetes in any setting during the measurement period.

Exclusion 1

Individuals with a diagnosis of polycystic ovaries who do not have a visit with a diagnosis of diabetes in any setting during the measurement period*; and,

Exclusion 2

Individuals with a diagnosis of gestational diabetes or steroid-induced diabetes who do not have a visit with a diagnosis of diabetes mellitus in any setting during the measurement period.

*Adapted from NCQA HEDIS 2013 (2013). Note: HEDIS uses a look-back period of one year prior to the measurement period for both the prescription data and diagnosis.

Adjustment/Stratification: None

Level of Analysis: Clinician : Group/Practice, Health Plan, Integrated Delivery System, Population : State

Setting of Care: Ambulatory Care : Clinician Office/Clinic

0545 Adherence to Statins for Individuals with Diabetes Mellitus

Type of Measure: Process

Data Source: Administrative claims, Other, Electronic Clinical Data : Pharmacy

Measure Steward: Centers for Medicare & Medicaid

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-10**; **M-8**; **L-1**; **I-0; IE-0;** 1b. Performance Gap: **H-15**; **M-4**; **L-0**; **I-0** 1c. High Priority: **H-14**; **M-4**; **L-1**; **I-0**

Rationale:

- Evidence submitted by the developer included clinical practice guideline recommendations from three organizations and a 2010 systematic review of the efficacy of statin use. The Committee agreed that there is strong evidence supporting the use of statins to reduce cardiovascular risk in diabetic patients. Members acknowledged that adherence to statins is not directly addressed in the guidelines, but noted that studies referenced by the developer and an observational study identified by a Committee member showed there was a difference in outcomes between patients who were high-adherent versus. patients who were low-adherent.
- Results from measure testing using 2012 Medicare data indicate average performance rates of 71.8% for states (n=10), 72.2% for drug plans (n=72), and 70.8% for physicians (n= 7,393).
- The Committee noted the high burden of both diabetes and of cardiovascular disease in diabetic patients, and agreed that these conditions affects high numbers, are a leading cause of morbidity and mortality, and require high resource use.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H-14**; **M-4**; **L-0**; **I-0** 2b. Validity: **H-3**; **M-13**; **L-1**; **I-2**

Rationale:

- The Committee questioned why the measure is specified for those aged 18 or older, given that the American Diabetes Association guideline recommendations are for diabetics aged 40 and older and that the measure is computed using Part D Medicare claims. The developer reminded the Committee that the measure focus is adherence among those patients whose physicians have prescribed statin medications at least twice in the measurement year and that it is not meant to address whether the prescriptions were or were not appropriate. The developer agreed to change the title to Adherence to Statins for Medicare Eligible Individuals with Diabetes Mellitus as a way to emphasize that the measure was specified for those enrolled in Medicare Part D.
- The Committee also asked for clarification about what would happen if a physician stops statin therapy (e.g., because of adverse reactions); the developer again noted the denominator requirement for at least two prescriptions but acknowledged that if therapy were discontinued for a particular patient during the measurement year, that patient could be considered non-adherent. However, the developer clarified that change from one brand of statins to another would not result in a finding of non-adherence.
- There was some discussion among the Committee about whether there should be an exclusion for women who become pregnant (because statins are not indicated for women who are pregnant). The

developer noted that an analysis of Medicare data from 10 states for the population covered by this measure, the occurrence of pregnancy was "exceedingly rare".

- The developer conducted a signal to noise analysis to test the reliability of the measure; all values of the reliability statistics were > 0.98 for states and >0.82 for ACOs; the average value of the reliability statistics was 0.72 for drug plans and 0.70 for physician groups. The Committee agreed that these results demonstrated high reliability for states and ACOs and moderate reliability for physician groups and drug plans.
- The Committee accepted the systematic assessment of face validity conducted by the developers; in this assessment, a technical expert panel rated the measure on whether the measure results are a valid representation of quality; 77.8% of the panelists responded that they either agreed or strongly agreed with that statement.
- The Committee discussed the effect of missing data for those patients who do not use their Part D benefit to pay for their medications (e.g., by paying cash getting it for free). The developers noted that they had performed some sensitivity analysis to try to understand the effect of cash purchases on the performance rates and did not see an appreciable difference; they did acknowledge, however, that this analysis was limited because of data limitations. The developer also suggested that cash prescriptions might not be problematic if patients generally fill the statin prescriptions in a consistent place and manner (e.g., those who always pay with cash would not be included in the denominator anyway).

3. Feasibility: H-14; M-4; L-1; I-0

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)

Rationale:

- The Committee agreed that the data used in this measure is routinely generated during care delivery and is electronically available.

4. Use and Usability: H-5; M-10; L-4; I-0

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

- The measure is not currently in use but has been submitted through the Measures under Consideration process for the CMS ACO Shared Savings program.
- Some Committee members expressed concern that because the measure includes young women and there is no exclusion for pregnancy, it might unintentionally lead to inappropriate adherence to statins among pregnant women if the measure is applied to a non-Medicare population.
- Some Committee members were concerned with the potential use of this measure in accountability applications because of the possibility of the unintended negative consequence of adverse patient selection (since adherence is not solely under the control of the physician). However, other members noted anecdotal and published accounts indicating that adherence can be influenced substantially by the physician/health system.

5. Related and Competing Measures

- No related or competing measures noted.

0545 Adherence to Statins for Individuals with Diabetes Mellitus
Standing Committee Recommendation for Endorsement: Y-15; **N-4** Rationale • The developer has requested that the three adherence measures that were initially endorsed as one measure (#0545, #2467, and #2468) be paired. • At the Committee's request, the developer agreed to change the title to Adherence to Statins for Medicare-Eligible Individuals with Diabetes Mellitus.
6. Public and Member Comment: Comments received: • Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.
7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X
8. Board of Directors Vote: Y-X; N-X
9. Appeals

2467 Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus
Submission | Specifications
Description: The measure addresses adherence to angiotensin converting enzyme inhibitors (ACEIs)/angiotensin receptor blockers (ARBs). The measure is reported as the percentage of eligible individuals with diabetes mellitus who had at least two prescriptions for ACEIs/ARBs and who have a Proportion of Days Covered (PDC) of at least 0.8 during the measurement period (12 consecutive months). **Numerator Statement**: Individuals in the denominator with at least two prescriptions for ACEIs/ARBs with a PDC of at least 0.8 for ACEIs/ARBs. **Denominator Statement**: Individuals at least 18 years of age as of the beginning of the measurement period with diabetes mellitus and at least two prescriptions for ACEIs/ARBs during the measurement period (12 consecutive months). **Exclusions**: We excluded the following individuals from the denominator: Individuals with polycystic ovaries, gestational diabetes, or steroid-induced diabetes who do not have a face-to-face visit with a diagnosis of diabetes in any setting during the measurement period. Exclusion 1 Individuals with a diagnosis of polycystic ovaries who do not have a visit with a diagnosis of diabetes in any setting during the measurement period*; and, Exclusion 2 Individuals with a diagnosis of gestational diabetes or steroid-induced diabetes who do not have a visit with a diagnosis of diabetes mellitus in any setting during the measurement period. *Adapted from NCQA HEDIS 2013 (2013). Note: HEDIS uses a look-back period of one year prior to the measurement period for both the prescription data and diagnosis. **Adjustment/Stratification**: None **Level of Analysis:** Clinician : Group/Practice, Health Plan, Integrated Delivery System, Population : State **Setting of Care:** Ambulatory Care : Clinician Office/Clinic **Type of Measure**: Process **Data Source**: Administrative claims, Other, Electronic Clinical Data : Pharmacy **Measure Steward**: Centers for Medicare & Medicaid

2467 Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: <u>The measure meets the Importance criteria</u>

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-6**; **M-12**; **L-1**; **IE-0; I-0;** 1b. Performance Gap: **H-15**; **M-3**; **L-1**; **I-0** 1c. High Priority: **H-14**; **M-3**; **L-0**; **I-0**

<u>Rationale</u>:

- The developer presented clinical practice guideline recommendations from three organizations and a review that addresses the effects of blood pressure-lowering medications on cardiovascular events in patients with and without diabetes. In addition, one Committee member noted additional studies that linked adherence to ARBs in diabetics to desired outcomes. The Committee as agreed that the benefits of ACEIs/ARBs use assume medication adherence.
- Results from measure testing using 2012 Medicare data indicate average performance rates of 75.7% for states (n=10), 76.1% for drug plans (n=72), and 74.1% for physicians (n= 7,393).
- The Committee noted the high prevalence, severity, and cost of diabetes and of cardiovascular disease in diabetic patients

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H-10**; **M-9**; **L-0**; **I-0;** 2b. Validity: **H-5**; **M-13**; **L-1**; **I-0**

<u>Rationale</u>:

- As with measure #0545, this measure is computed using Part D Medicare claims; the developer agreed to change the title to Adherence to ACEIs/ARBs for Medicare-Eligible Individuals with Diabetes Mellitus as a way to emphasize that the measure was specified for those enrolled in Medicare Part D.
- The developer conducted a signal to noise analysis to test the reliability of the measure; all values of the reliability statistics were > 0.82 for states and >0.81 for ACOs; the average value of the reliability statistics was 0.76 for drug plans and 0.74 for physician groups. The Committee agreed that these results demonstrated high reliability for states and ACOs and moderate reliability for physician groups and drug plans.
- The Committee accepted the systematic assessment of face validity conducted by the developers; in this assessment, a technical expert panel rated the measure on whether the measure results are a valid representation of quality; 77.8% of the panelists responded that they either agreed or strongly agreed with that statement.
- The Committee's discussion of missing data for measure #0575 also applies to this measure, although members did not revisit the concern in their discussion of this measure.

3. Feasibility: H-16; M-3; L-0; I-0

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)

<u>Rationale</u>:

- The Committee agreed that the data used in this measure is routinely generated during care delivery and is electronically available.

2467 Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus

4. Use and Usability: H-10; M-8; L-1; I-0

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

- The measure is not currently in use but has been submitted through the Measures under Consideration process for the CMS ACO Shared Savings program.
- The Committee's discussion (for measure #0575) of possible adverse patient selection also applies to this measure, although members did not revisit the concern in their discussion of this measure.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-18; N-1

Rationale

- At the Committee's request, the developer agreed to change the title to Adherence to ACEI/ARBs for Medicare-Eligible Individuals with Diabetes Mellitus.
- The developer has requested that the three adherence measures that were initially endorsed as one measure (#0545, #2467, and #2468) be paired.

6. Public and Member Comment:

Comments received:

- Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.

7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X

8. Board of Directors Vote: Y-X; N-X

9. Appeals

2468 Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus

Submission | Specifications

Description: The measure addresses adherence to oral diabetes agents (ODA). The measure is reported as the percentage of eligible individuals with diabetes mellitus who had at least two prescriptions for a single oral diabetes agent or at least two prescriptions for multiple agents within a diabetes drug class and who have a Proportion of Days Covered (PDC) of at least 0.8 for at least one diabetes drug class during the measurement period (12 consecutive months)

Numerator Statement: Individuals in the denominator with at least two prescriptions for oral diabetes agents, in any diabetes drug class, with a PDC of at least 0.8 for at least one diabetes drug class.

Denominator Statement: Individuals at least 18 years of age as of the beginning of the measurement period with diabetes mellitus and at least two prescriptions for a single oral diabetes agent or at least two prescriptions for multiple agents within a diabetes drug class during the measurement period (12 consecutive months).

Exclusions: We excluded the following individuals from the denominator:

Individuals with polycystic ovaries, gestational diabetes, or steroid-induced diabetes who do not have a face-to-face visit with a diagnosis of diabetes in any setting during the measurement period.

Exclusion 1

Individuals with a diagnosis of polycystic ovaries who do not have a visit with a diagnosis of diabetes in any setting during the measurement period*; and,

2468 Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus

Exclusion 2

Individuals with a diagnosis of gestational diabetes or steroid-induced diabetes who do not have a visit with a diagnosis of diabetes mellitus in any setting during the measurement period.

*Adapted from NCQA HEDIS 2013 (2013). Note: HEDIS uses a look-back period of one year prior to the measurement period for both the prescription data and diagnosis.

Adjustment/Stratification: None

Level of Analysis: Clinician : Group/Practice, Health Plan, Integrated Delivery System, Population : State

Setting of Care: Ambulatory Care : Clinician Office/Clinic

Type of Measure: Process

Data Source: Administrative claims, Other, Electronic Clinical Data : Pharmacy

Measure Steward:Centers for Medicare & Medicaid

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-4**; **M-15**; **L-0**; **IE-0; I-0;** 1b. Performance Gap: **H-14**; **M-5**; **L-0**; **I-0** 1c. High Priority: **H-13**; **M-6**; **L-0**; **I-0**

Rationale:

- Evidence presented by the developer included a summary of the quality, quantity, and consistency of six studies that relate good adherence to medications in patients with diabetes with a variety of desired health outcomes; the developer also presented 2013 clinical practice guideline from the American Diabetes Association recommending use of oral hypoglycemic agents, but these recommendations did not specially address adherence to medication. The Committee agreed that there is evidence for use of oral hypoglycemic agents and that the benefits described in the evidence presented assume adherence to the medications.
- Results from measure testing using Medicare data indicate average performance rates of 73.9% for states (n=10), 74.2% for drug plans (n=72), and 72.6% for physicians (n= 7,393).
- The Committee agreed that diabetes affects high numbers, is a leading cause of morbidity and mortality, and consumes high resources.

2. Scientific Acceptability of Measure Properties: The measure ~~did not meet~~meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H-8**; **M-11**; **L-0**; **I-0**; 2b. Validity: **H-1**; **M-4**; **L-9**; **I-5;** 2b. Validity (post-comment): **H-1**; **M-13**; **L-I**; **I-0**

Rationale:

- The Committee verified that patients who switch from one form of oral hypoglycemic agent to another would not be counted as non-adherent, assuming they were adherent to at least one of the medications.
- Average reliability statistics obtained from signal-to-noise analyses varied based on level of analysis, but were at or above the generally considered the minimum threshold of 0.7.
- The Committee questioned the validity of the measure because it does not exclude patients who switch from oral agents to insulin during the measurement period. The Committee noted that in older adults, transition to insulin (and associated discontinuation of oral medications) is common and that the measure as currently specified would incorrectly categorize such patients as non-adherent. They also expressed

concern that the measure as specified might incentivize physicians to leave patients on oral diabetes agents rather than switch them to insulin when appropriate. The Committee encouraged the developer to quantify the number of patients who transitioned to insulin and, if possible, revise the measure to exclude those patients.

- Although not the deciding factor in their initial recommendation not to endorse the measure, Committee members also noted that some Medicaid programs limit the number of prescriptions that beneficiaries can fill per month. These members cautioned that the validity of the measure might be affected if dually-eligible beneficiaries are unable to maintain medication adherence due to this policy.
- As requested by the Committee, the measure developer conducted additional analysis and found that 13.1% of patients in their 10-state sample switched from oral diabetes agents to an insulin-only therapy. Based on these results, the developer re-specified the measure to 1) limit the number of days in the denominator for those with a switch from oral diabetes agents to insulin-only therapy and 2) compute an overall percentage of days covered value for those who switched between oral drug classes; they also re-tested the newly specified measure for reliability and validity. After discussion, the committee agreed to re-vote on the measure. Upon re-vote, the Committee agreed that the analysis and re-specification of the measure addressed their initial concerns with the validity of the measure.

3. Feasibility (post-comment): H-8; M-8; L-0; I-0

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)

Rationale:

- The Committee agreed that the data used in this measure is routinely generated during care delivery and is electronically available.

4. Use and Usability (post-comment): H-2; M-13; L-1; I-0

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

- The measure is not currently in use but has been submitted through the Measures under Consideration process for the CMS ACO Shared Savings program.
- The Committee's discussion (for measure #0575) of possible adverse patient selection also applies to this measure, although members did not revisit the concern in their discussion of this measure.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement (post-comment): Y-15; N-1

6. Public and Member Comment

Comments received:

- Comments were received supporting the Committee's decision not to recommend the measure for endorsement because of concern over excluding patients who switch from oral agents to insulin during the measurement period.

Developer response:

- FMQAI, on behalf of CMS, conducted additional analysis to ascertain how many patients switched from oral diabetes agents to an insulin-only therapy. Results from analyses of a 10-state sample indicated that 13.1% of patients made this switch. Based on these results, the developer re-specified the measure to 1)

2468 Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus

limit the number of days in the denominator for those with a switch from oral diabetes agents to insulin-only therapy and 2) compute an overall percentage of days covered value for those who switched between oral drug classes; they also re-tested the newly specified measure for reliability and validity.

Committee response:

- The Committee agreed that the analysis and re-specification of the measure addressed their initial concerns with the validity of the measure. After additional discussion, the Committee also voted on the Feasibility and Usability and Use criteria, and ultimately recommended the re-specified measure for endorsement.

2416 Laboratory Investigation for Secondary Causes of Fracture

Submission | Specifications

Description: Percentage of patients age 50 and over with fragility fracture who have had appropriate laboratory investigation for secondary causes of fracture ordered or performed prior to discharge from inpatient status.

Numerator Statement: Patients who have all the specified laboratory tests ordered or performed prior to discharge:

1. Complete blood cell count (CBC)
2. Kidney function test
3. Liver function test
4. Serum calcium
5. 25(OH) Vitamin D level OR Oral Administration of Vitamin D

Denominator Statement: Patients age 50 and over discharged from inpatient status with an ICD-9-CM Principal or Other Diagnosis Code of selected fractures as defined in Table 3.1 Vertebral Fracture, Table 4.1 Hip Fracture, or Table 5.1 Other Fracture

Exclusions: Exclusions are those patients with:

- Age less than 50 years
- "Comfort Measures Only" documented
- Enrollment in a clinical trial pertaining to osteoporosis
- Laboratory testing performed in the prior 12 months
- Expired

Adjustment/Stratification: None

Level of Analysis: Facility

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Process

Data Source: Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Paper Medical Records

Measure Steward: The Joint Commission

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-1**; **M-12**; **L-6**; **IE-0; I-0**; 1b. Performance Gap: **H-11**; **M-7**; **L-0**; **I-0;** 1c. High Priority: **H-6**; **M-11**; **L-2**; **I-0**

Rationale:

- The evidence presented for this measure included the 2010 clinical practice guideline recommendations from American Association of Clinical Endocrinologists as well as additional articles discussing a variety of laboratory tests for secondary causes of osteoporosis. The Committee agreed that the evidence , was

supportive of evaluating patients with fractures for secondary causes, as this allows for treatment of the underlying causes and potentially prevention of future fractures, readmissions, mortality, and unnecessary associated costs.

- The developer submitted data from pilot studies conducted in in testing hospitals that reflected an average performance rate of only16.6%..
- The measure developer presented data indicating that about half of women and one-fourth of men over the age of 50 will sustain a fracture due to osteoporosis. Among these patients, osteoporosis that is secondary to other diseases or conditions occurs in almost two-thirds of men, more than half of premenopausal and perimenopausal women, and in about one-fifth of postmenopausal women.

2. Scientific Acceptability of Measure Properties: <u>The measure meets the Scientific Acceptability criteria</u>
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)
2a. Reliability: **H-6**; **M-10**; **L-3**; **I-0;** 2b. Validity: **H-3**; **M-13**; **L-3**; **I-0**
<u>Rationale</u>:

- The Committee expressed concern that the evidence provided, while supportive of investigating for secondary causes of fracture, did not support the need for the specific tests required by the numerator. The developer clarified that the five tests specified would allow the provider to determine whether there was an underlying cause for the fracture, such as osteoporosis, osteopenia, low bone mass, Vitamin D deficiency, glucocorticoid administration, etc. The Committee found this explanation to be sufficient.
- The developer presented results from reliability testing that was conducted on 133 patient charts from 6 hospitals that are diverse by geography, type and size. Inter-rater reliability testing was performed comparing the results of two different abstractors; five data elements of the numerator were tested. The results demonstrate a high degree of agreement (>94%) for the all data elements except “laboratory tests ordered or performed prior to discharge” where the percent agreement was 78%. The
- Face validity was assessed by hospital test sites for all data elements, and the only data element scoring below 75% was “laboratory test performed in 12 months prior to fracture”. However, face validity of the computed measure score was not assessed by the developer.

3. Feasibility: H-1; M-16; L-2; I-0
(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)
<u>Rationale</u>:

- Committee members expressed concern that Vitamin D levels may not be available when the measure is calculated; however, the developers noted that administration of Vitamin D meets the measure requirements and also that medical charts are abstracted at least 30 days post-discharge, which would allow sufficient time for the test results to be recorded prior to measure score calculation.
- The Committee acknowledged that the measure is specified for chart abstraction and is coded by someone other than the person obtaining the original information.

2416 Laboratory Investigation for Secondary Causes of Fracture

4. Use and Usability: H-4; M-14; L-1; I-0

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

- Although the measure is not currently in use, the Joint Commission plans to use the measure for accreditation purposes and public reporting on its web site by 2017.
- There was some discussion by the Committee that Vitamin D therapy might be started prior to definitive documentation of deficiency (given that it usually takes several days to get the results of the Vitamin D test). The Committee also noted that this measure might encourage hospitals to perform unnecessary or duplicative testing.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-16; N-6

6. Public and Member Comment:

Comments received:

- Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.

7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X

8. Board of Directors Vote: Y-X; N-X

9. Appeals

2417 Risk Assessment/Treatment After Fracture

Submission | Specifications

Description: Patients age 50 or over with a fragility fracture who have either a dual-energy X-Ray absorptiometry (DXA) scan ordered or performed, or a prescription for FDA-approved pharmacotherapy for osteoporosis, or who are seen by or linked to a fracture liaison service prior to discharge from inpatient status,. If DXA is not available and documented as such, then any other specified fracture risk assessment method may be ordered or performed.

Numerator Statement: Patients who had either a DXA scan ordered or performed, OR a prescription for FDA-approved pharmacotherapy for osteoporosis treatment, OR those who were seen by, contacted by, or linked to a fracture liaison service prior to discharge OR had other fracture risk assessment method ordered or performed if DXA is not available.

Denominator Statement: Patients age 50 and over discharged from inpatient status with an ICD-9-CM Principal or Other Diagnosis Code of selected fractures as defined in Table 3.1 Vertebral Fracture, Table 4.1 Hip Fracture, or Table 5.1 Other Fracture,

Exclusions: • Age less than 50 years

- "Comfort Measures Only" documented
- Enrollment in a clinical trial pertaining to osteoporosis
- On FDA-Approved pharmacotherapy for osteoporosis treatment as defined in Table 1.1 prior to the fracture date
- Bone Mineral density test documented in the 12 months prior to the fracture
- Expired

See attached Excel file for definitions

Adjustment/Stratification: None

2417 Risk Assessment/Treatment After Fracture

Level of Analysis: Facility
Setting of Care: Hospital/Acute Care Facility
Type of Measure: Process
Data Source: Electronic Clinical Data : Electronic Health Record, Paper Medical Records
Measure Steward: The Joint Commission

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: The measure meets the Importance criteria

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-9**; **M-10**; **L-0**; **IE-0; I-0**; 1b. Performance Gap: **H-17**; **M-2**; **L-0**; **I-0;** 1c. High Priority: **H-18**; **M-1**; **L-**; **I-0**

Rationale:

- The developer presented evidence based on a Cochrane review, clinical practice guidelines, and meta-analysis supporting measuring bone density by DXA and use of a fracture liaison service to diagnose osteoporosis for fragility fracture patients. Committee members agreed that there is strong evidence that detecting and treating osteoporosis prevents additional fracture. However, some Committee members noted that the evidence submitted did not fully support linkage between other risk assessment methods and fracture prevention; members also questioned the efficacy of ordering a DXA in preventing future fractures.
- According to the developer, the rate of osteoporosis testing or treatment after fracture is approximately 20%
- The developer presented information indicating that about half of women and one-fourth of men over the age of 50 will sustain a fracture due to osteoporosis. Of those who sustain a fragility fracture, the risk of additional fractures in the future increases by 1.5-2.0 times.

2. Scientific Acceptability of Measure Properties: The measure meets the Scientific Acceptability criteria

(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity)

2a. Reliability: **H-8**; **M-11**; **L-0**; **I-0;** 2b. Validity: **H-9**; **M-11**; **L-0**; **I-0**

Rationale:

- The Committee asked what other risk assessments might be performed (other than DXA of the hip/spine). The developers named several, including, the QCT of the spine, the QUS of the heel, DXA of the forearm, SXA/DXA of the heel, and the FRAX assessment; however, they noted that DXA of the hip/spine is the most commonly used method.
- The developer presented results from reliability testing that was conducted on 133 patient charts from 6 hospitals that are diverse by geography, type and size. Inter-rater reliability testing was performed comparing the results of two different abstractors; five data elements of the numerator were tested. The results demonstrate a high degree of agreement (>97%) for the all data elements tested; however,
- One numerator data element, "Fracture liaison service," and two exclusion data elements ("Bone Mineral Density Test Performed in the 12 Months Prior to the Fracture" and "On FDA-approved Pharmacotherapy for Treatment of Osteoporosis Prior to Fracture.") were not tested. The Committee found these results to be acceptable.
- The developer assessed the face validity for all data elements on their clarity, collectability, and correctness of data sources, finding that the only data element scoring below 75% was "BMD test performed in 12 months prior to fracture"; however, face validity of the computed measure score was

not assessed by the developer. Informally, however, the Committee agreed that provision of the care processes specified in the measure after a fragility fracture would be a valid assessment of quality.

- The Committee noted that DXA scans generally are not performed in hospitals and that documentation of previous DXA testing is not easily available to hospitals. The Committee agreed that the various other methods specified in the measure should allow any hospital to meet the measure.
- The Committee also questioned what "other fracture risk assessments" could be used if DXA was not available; the developer clarified that these were provided in the appendix of the measure submission.
- The Committee expressed concerns about exclusions; the developer clarified that the measure excludes patients that had a recent bone mineral density scan or were on prescription medication for osteoporosis at the time of the fracture. Data from testing indicate that the occurrence of exclusions is low (1.6% on prescription medication and 0.3% with prior bone mineral density test). The Committee also verified that non-fragility fractures are excluded from the measure.

3. Feasibility: H-2; M-11; L-6; I-0

(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)

Rationale:

- Committee members had concerns that documentation of previous DXA scans may not be easily available for hospitals; however the majority of the Committee rated feasibility as moderate.
- The Committee acknowledged that the measure is specified for chart abstraction and is coded by someone other than the person obtaining the original information.

4. Use and Usability: H-7; M-10; L-2; I-0

(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)

Rationale:

- Although the measure is not currently in use, the Joint Commission plans to use the measure for accreditation purposes and public reporting on its web site by 2017.
- The Committee noted that a possible unintended negative consequence is duplication of tests; however, members suggested that the risk of duplication likely would be low.

5. Related and Competing Measures

- No related or competing measures noted.

Standing Committee Recommendation for Endorsement: Y-19; N-0

6. Public and Member Comment:

Comments received:

- Commenters generally expressed support for the measure and the Committee's recommendation for endorsement.

7. Consensus Standards Approval Committee (CSAC) Vote: Y-X; N-X; A-X

8. Board of Directors Vote: Y-X; N-X

9. Appeals

Measures Not Recommended

2418 Discharge Instructions – Emergency Department

Submission | Specifications

Description: Proportion of patients age 50 or over with a fracture of the vertebra, pelvis, wrist, ankle, or humerus discharged from the Emergency Department to home, or their caregivers, who have received written discharge instructions regarding the need to follow up with a primary care physician, hospital outpatient department or specialist for possible osteoporosis to reduce the risk of future fracture, or who were contacted by a fracture liaison service.

Numerator Statement: Patients or their caregivers who have received written discharge instructions regarding the need to follow up with a primary care physician, other specialist physician, or hospital outpatient department for possible osteoporosis to reduce the risk of future fracture, or who were seen by, contacted by, or linked to a fracture liaison service.

Denominator Statement: Patients age 50 or over discharged to home from the Emergency Department with an ICD-9-CM Principal or Other Diagnosis Code of Fracture of the vertebra, pelvis, wrist, humerus or ankle as defined in Table 3.1 Vertebral Fracture, or Table 5.1 Other Fracture.

See attached Excel Sheet for ICD-9-CM code descriptors

Exclusions: • Age less than 50 years

- "Comfort Measures Only" documented
- Participation in a clinical trial pertaining to osteoporosis

Adjustment/Stratification: None

Level of Analysis: Facility

Setting of Care: Hospital/Acute Care Facility

Type of Measure: Process

Data Source: Electronic Clinical Data : Electronic Health Record, Paper Medical Records

Measure Steward: The Joint Commission

STANDING COMMITTEE MEETING [02/26/2014-02/27/2014]

1. Importance to Measure and Report: <u>The measure did not meet the Importance criteria</u>

(1a. Evidence: 1b. Performance Gap, 1c. High Priority)

1a. Evidence: **H-0**; **M-7**; **L-10**; **IE-0; I-2;** 1b. Performance Gap: **H-X**; **M-X**; **L-X**; **I-X** 1c. High Priority: **H-X**; **M-X**; **L-X**; **I-X**

<u>Rationale</u>:

- While the Committee agreed that there is strong evidence to support the use of a fracture liaison service (FLS), members noted that there is minimal evidence that provision of written discharge instructions improves care for osteoporosis patients or has any impact on outcomes such as prevention of future fractures. Committee members expressed concern that because either provision of discharge instructions or coordination with a FLS would meet the measure, facilities might focus on discharge instructions instead of FLS use, even though the supporting evidence is weak.
- The Committee encouraged the developer to strengthen the measure by replacing the discharge instruction component with some sort of coordination activity (e.g., making a follow-up appointment) and expanding the target population beyond those who are discharged to home (e.g., those discharged to other short- or long-term care institutions).

2. Scientific Acceptability of Measure Properties:

2418 Discharge Instructions – Emergency Department
(2a. Reliability - precise specifications, testing; 2b. Validity - testing, threats to validity) 2a. Reliability: **H-X**; **M-X**; **L-X**; **I-X** 2b. Validity: **H-X**; **M-X**; **L-X**; **I-X** Rationale:
3. Feasibility: H-X; M-X; L-X; I-X *(3a. Data generated during care; 3b. Electronic sources; and 3c. Data collection can be implemented (eMeasure feasibility assessment of data elements and logic)* Rationale:
4. Use and Usability: H-X; M-X; L-X; I-X *(4a. Accountability/transparency; and 4b. Improvement – progress demonstrated; and 4c. Benefits outweigh evidence of unintended negative consequences)* Rationale:
5. Related and Competing Measures • This measure directly competes with [NQF # and Title] [Description]. [Summarize the related/competing measure issue here, and the disposition of it] OR • No related or competing measures noted.
Standing Committee Recommendation for Endorsement: **Y-X**; **N-X** Rationale
6. Public and Member Comment Comments received: • Comments were received reflecting disagreement with the Committee's decision not to recommend the measure for endorsement. However, none of the comments referenced any additional evidence to show that provision of discharge instructions would help to prevent future fractures. Committee response: • Members agreed that no additional information was presented to change their evaluation of the measure and therefore declined to revote on the measure.

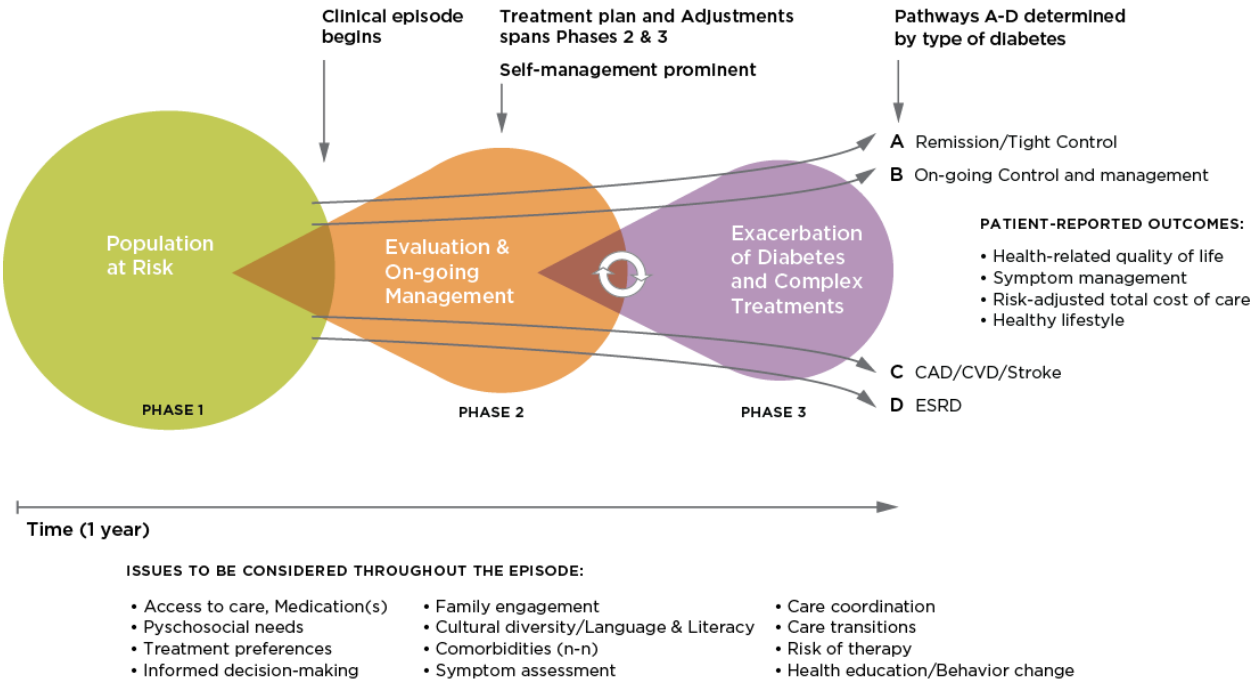
Measures Withdrawn from Consideration

Two previously endorsed measures were withdrawn after initial submission.

Measure	Reason for withdrawal
0416: Diabetic Foot and Ankle Care, Ulcer Prevention – Evaluation of Footwear (APMA)	Developer to update measure specifications and resubmit to NQF in Cycle #2 of the Endocrine pilot project.
0417: Diabetic Foot and Ankle Care, Peripheral Neuropathy – Neurological Evaluation (APMA)	Developer to update measure specifications and resubmit to NQF in Cycle #2 of the Endocrine pilot project.

Appendix B: NQF Endocrine Portfolio and related measures

Patient-Focused Episode of Care for Diabetes



NQF –Endorsed Diabetes Measures

**Denotes measures that are applicable to persons with diabetes but will not be evaluated in the Endocrine project*

Phase 1: Population at Risk

Assessment and screening

- 0024*: Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents
- 0421*: Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up
- 0003*: Bipolar Disorder: Assessment for Diabetes
- 1932*: Diabetes screening for people with schizophrenia or bipolar disorder who are prescribed antipsychotic medications (SSD)

Phase 2: Evaluation and On-going Management

Eye care

- 0055: Comprehensive Diabetes Care: Eye exam
- 0088*: Diabetic Retinopathy: Documentation of Presence or Absence of Macular Edema and Level of Severity of Retinopathy

- 0089*: Diabetic Retinopathy: Communication with the Physician Managing Ongoing Diabetes Care

Foot care

- 0056: Diabetes: Foot exam
- 0416: Diabetic Foot & Ankle Care, Ulcer Prevention – Evaluation of Footwear
- 0417: Diabetic Foot & Ankle Care, Peripheral Neuropathy – Neurological Evaluation
- 0519: Diabetic Foot Care and Patient Education Implemented [home health]

Blood glucose control

- 0057: Comprehensive Diabetes Care: Hemoglobin A1c testing
- 1934*: Diabetes monitoring [A1c and LDL-C] for people with diabetes and schizophrenia (SMD)
- 0059: Comprehensive Diabetes Care: Hemoglobin A1c poor control (>9%)
- 0575: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) control (<8%)
- *2362: Glycemic Control - Hyperglycemia (under review in Cycle 1)*
- *2363: Glycemic Control – Hypoglycemia (under review in Cycle 1)*

Cardiovascular

- 0063: Comprehensive Diabetes Care: LDL-C screening
- 0546: Diabetes: Appropriate Treatment of Hypertension
- 0066*: Chronic Stable Coronary Artery Disease: ACE Inhibitor or ARB Therapy – Diabetes or Left Ventricular Systolic Dysfunction (LVEF <40%)
- 0061: Comprehensive Diabetes Care: Blood Pressure Control (<140/90)
- 0064: Comprehensive Diabetes Care: LDL-C control <100

Kidney disease

- 0062: Comprehensive Diabetes Care: Medical Attention for Nephropathy

Medication Adherence

- 0541*: Proportion of Days Covered (PDC): 3 Rates by Therapeutic Category
- 0545: Adherence to Statins for Individuals with Diabetes Mellitus
- 2467: Adherence to ACEI/ARBs for Individuals with Diabetes Mellitus
- 2468: Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus

Composite

- 0729: Optimal Diabetes Care

Phase 3: Exacerbation and Complex Treatments

Outcomes

- 0272*: Diabetes Short-Term Complications Admission Rate (PQI 1)
- 0274*: Diabetes Long-Term Complications Admission Rate (PQI 3)
- 0285*: Rate of Lower-Extremity Amputation Among Patients With Diabetes (PQI 16)
- 0638*: Uncontrolled Diabetes Admission Rate (PQI 14)

Resource use

- 1557*: Relative Resource Use for People with Diabetes (RDI)

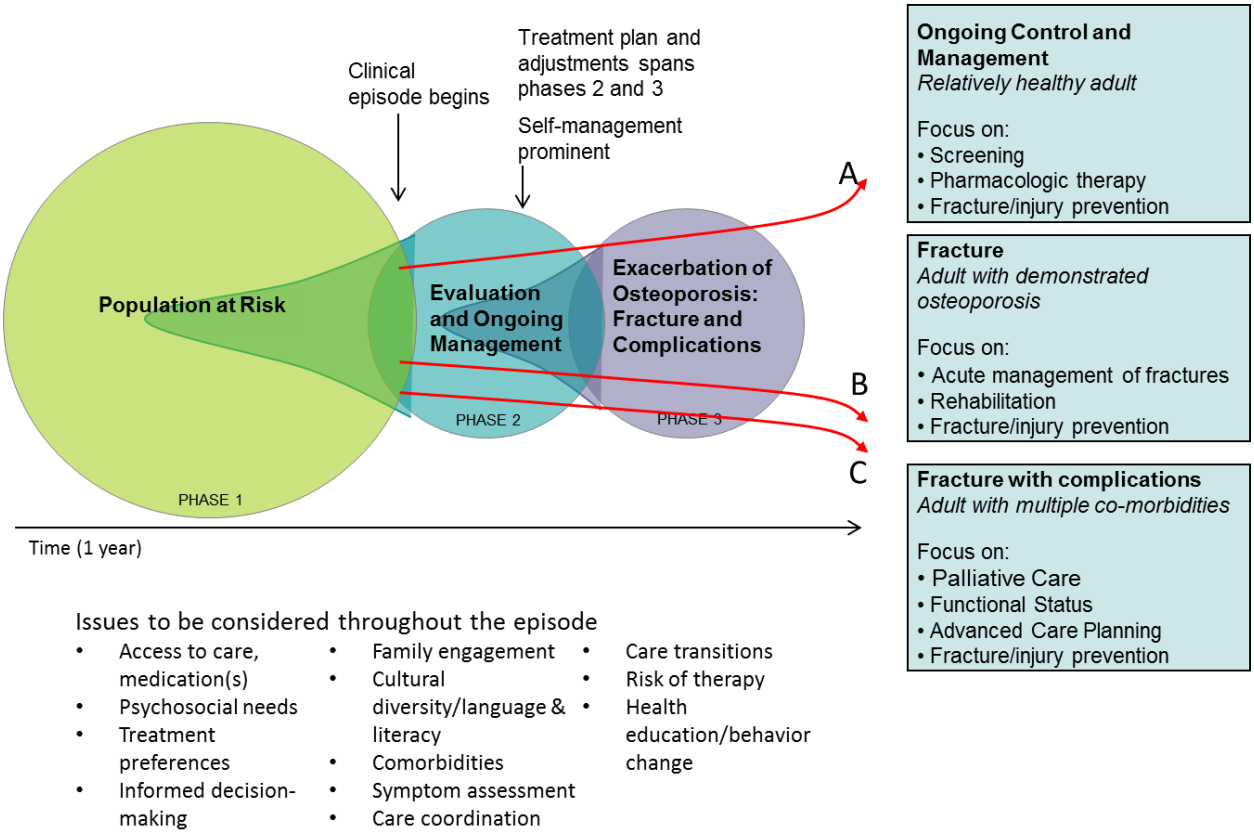
Previously-endorsed diabetes measures

Portfolio	Measure Title	Measure Steward	Reason (potential options: retire, lost endorsement)	Date
Endocrine	**0060**: HbA1c testing for pediatric patients	NCQA	Retired due to removal from CHIP Child Core set and NCQA DRP program	Jan 2014
	0603: Adult(s) taking insulin with evidence of self-monitoring blood glucose testing	Ingenix	Retired	Nov 2013 CSAC
	0604: Adult(s) with diabetes mellitus that had a serum creatinine in last 12 reported months	Ingenix	Retired	Nov 2013 CSAC
	0614: Steriod Use-Osteoporosis screening	Active Health Management	Retired	Nov 2013 CSAC
	0618: Diabetes with LDL greater than 100 – Use of a Lipid Lowering Agent	Active Health Management	Retired	Nov 2013 CSAC
	0619: Diabetes with Hypertension or Proteinuria - Use of an ACE Inhibitor or ARB	Active Health Management	Retired	Nov 2013 CSAC
	0630: Diabetes and Elevated HbA1C – Use of Diabetes Medications	Active Health Management	Retired	Nov 2013 CSAC
	0731: Comprehensive Diabetes Care	NCQA	Retired due to the measure no longer being in use	Dec 2013

Portfolio	Measure Title	Measure Steward	Reason (potential options: retire, lost endorsement)	Date
Cardiovascular	**0632**: Primary Prevention of Cardiovascular Events in Diabetics – Use of Aspirin or Antiplatelet Therapy		Retired	Nov 2013 CSAC

NQF –Endorsed Osteoporosis Measures

Patient-Focused Episode of Care for Osteoporosis



Issues to be considered throughout the episode

- Access to care, medication(s)
- Psychosocial needs
- Treatment preferences
- Informed decision-making
- Family engagement
- Cultural diversity/language & literacy
- Comorbidities
- Symptom assessment
- Care coordination
- Care transitions
- Risk of therapy
- Health education/behavior change

NQF-endorsed measures for patients with osteoporosis

**Denotes measures that are applicable to persons with osteoporosis but will not be evaluated in the Endocrine project*

Phase 1: Population at Risk:

- 0037: Osteoporosis testing in older women
- 2062*: IBD preventive care: corticosteroid related iatrogenic injury – bone loss assessment [concept only]

Phase 2: Evaluation and On-Going Management

- 0046: Osteoporosis: Screening or Therapy for Women Aged 65 Years and Older
- 0049: Osteoporosis: Pharmacologic Therapy for Men and Women Aged 50 Years and Older

Phase 3: Exacerbation of Osteoporosis: Fracture and Complications

- 0045: Osteoporosis: Communication with the Physician Managing On-going Care Post Fracture of Hip, Spine or Distal Radius for Men and Women Aged 50 Years and Older

- 0048: Osteoporosis: Management Following Fracture of Hip, Spine or Distal Radius for Men and Women Aged 50 Years and Older
- 0053: Osteoporosis Management in Women Who Had a Fracture
- 0354*: Hip Fracture Mortality Rate (IQI 19)
- *2416: Laboratory Investigation for Secondary Causes of Fracture (under review in Cycle 1)*
- *2417: Risk Assessment/Treatment After Fracture (under review in Cycle 1)*
- *2418: Discharge Instructions – Emergency Department (under review in Cycle 1)*

Previously-endorsed osteoporosis measures

Portfolio	Measure Title	Measure Steward	Reason (potential options: withdraw, retire, lost endorsement)	Date
Endocrine	0633: Osteopenia and Chronic Steroid Use - Treatment to Prevent Osteoporosis	Active Health Management		Nov 2013 CSAC
	0634: Osteoporosis - Use of Pharmacological Treatment	Active Health Management		Nov 2013 CSAC

Appendix C: Endocrine Portfolio—Use In Federal Programs

NQF #	Title	Federal Programs: Finalized as of April 3, 2014
0055	Comprehensive Diabetes Care: Eye Exam	Meaningful Use (EHR Incentive Program) - Eligible Professionals; Medicare Part C Plan Rating; Physician Feedback; Physician Quality Reporting System (PQRS)
0056	Diabetes: Foot exam	Meaningful Use (EHR Incentive Program) - Eligible Professionals; Physician Feedback; Physician Quality Reporting System (PQRS)
0057	Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing	Initial Core Set of Health Care Quality Measures for Medicaid-Eligible Adults; Physician Feedback
0059	Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	Meaningful Use (EHR Incentive Program) - Eligible Professionals; Medicare Part C Plan Rating; Medicare Shared Savings Program; Physician Feedback; Physician Quality Reporting System (PQRS); HRSA
0062	Comprehensive Diabetes Care: Medical Attention for Nephropathy	Meaningful Use (EHR Incentive Program) - Eligible Professionals; Medicare Part C Plan Rating; Physician Feedback; Physician Quality Reporting System (PQRS)
0416	Diabetic Foot & Ankle Care, Ulcer Prevention – Evaluation of Footwear	Physician Feedback; Physician Quality Reporting System (PQRS)
0417	Diabetic Foot & Ankle Care, Peripheral Neuropathy – Neurological Evaluation	Physician Feedback; Physician Quality Reporting System (PQRS)
0519	Diabetic Foot Care and Patient Education Implemented	Home Health Quality Reporting
0545	Adherence to Statins for Individuals with Diabetes Mellitus	

NQF #	Title	Federal Programs: Finalized as of April 3, 2014
0575	Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)	
2362	Adverse Drug Events - Hyperglycemia	
2363	Adverse Drug Events - Hypoglycemia	
2467	Adherence to ACEI/ARBs for Individuals with Diabetes Mellitus	
2468	Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus	
2416	2416: Laboratory Investigation for Secondary Causes of Fracture	
2417	Risk Assessment/Treatment After Fracture	
2418	Discharge Instructions – Emergency Department	

Appendix D: Project Standing Committee and NQF Staff

STANDING COMMITTEE

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Poonam Bal, MHSA
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Performance Measures

Appendix E: Implementation Comments

Comments received as of February 10, 2014

Topic	Commenter	Comment
0416: Diabetic Foot & Ankle Care, Ulcer Prevention – Evaluation of Footwear	Submitted by Ms. Vipra Ghimire, MPH	This measure suggests that all patients with diabetes should have vascular, neurologic, dermatologic exam annually. In addition, assessment for proper footwear and sizing are recommended. This recommendation, put forth by the American Podiatric Medical Association, differs from the ADA Standards of Medical Care 2014, which makes no mention of "sizing of the foot" as a component of the annual comprehensive foot exam. Usability: This practice of measuring the foot seems unrealistic at the primary care provider (PCP) level due to time constraints, the need for additional equipment to measure feet, and training gaps. Numerator/Denominator: It may be more appropriate to require sizing of the foot in the numerator assuming the denominator is limited to patients with risk factors for diabetic foot ulcers, such as diabetic neuropathy or PVD; and in this case, this specific component of the foot exam might be better performed by a podiatrist who would have sufficient training to evaluate for structural foot deformities and have the equipment to properly size the foot. It is not clear in the current measure whether the exam must be performed by the primary physician or whether referral to a podiatrist would fulfill the requirement. Possible unintended consequences of the measure: Primary care physicians may not have sufficient training to recognize structural foot deformities or assess proper footwear Primary care physicians would need to purchase equipment to "size" the foot. Increased time would be required to measure foot size in PCP visit and could lead to reduced productivity

0417: Diabetic Foot & Ankle Care, Peripheral Neuropathy – Neurological Evaluation	Submitted by Ms. Vipra Ghimire, MPH	Numerator: Patients who had a lower extremity neurological exam with risk catorization performed and a treat plan established at least once within 12 months. A lower extremity neurological exam consists of a documented evaluation of motor and sensory abilities including reflexes, vibratory, proprioception, sharp/dull and 5.07 filament detection. There is a spelling error in this statement. Catorization = categorization? What are the definitions of risk categorization? The components of the neurological exam do not directly align with those of the ADA. The ADA recommends monofilament plus one of the following: Vibration with tuning fork, pinprick, ankle reflex, vibration perception threshold. Given the time constraints in clinical practice, are all 5 components of the neurological exam required to establish the diagnosis of neuropathy? The definition does not make it explicitly clear how many components of the exam are required. For example, if only monofilament and vibration testing were performed, would this fulfill the requirement? Possible unintended consequences of the measure: If all 5 components of the foot exam are required, this will increase clinic visit times and may lead to loss of productivity. Without clear understanding of risk categories, providers may not understand what to do with the information they obtain from the foot exam
0519: Diabetic Foot Care and Patient Education Implemented	Submitted by Ms. Vipra Ghimire, MPH	This measure requires foot care education to be part of home health visits. Diabetic foot care education is standard of care for patients with diabetes. The only question I have about this measure is how can one know whether the patient already received foot care education by another provider shortly prior to the home visit? The ADA does not specify the frequency of diabetic foot education. Is there evidence that in this clinical situation, in particular, additional diabetic foot care education is beneficial? Moreover, is the frequency of diabetic foot care education that has been associated with improved outcomes known?

2362: Glycemic Control - Hyperglycemia	Submitted by Ms. Vipra Ghimire, MPH	Numerator Statement: Sum of the percentage of hospital days in hyperglycemia for each admission in the denominator Denominator Statement: Total number of admissions with a diagnosis of diabetes mellitus, at least one administration of insulin or any anti-diabetic medication except metformin, or at least one elevated blood glucose value (>200 mg/dL [11.1 mmol/L]) at any time during the entire hospital stay The definition of hyperglycemia is not defined up front in this metric as it was for hypoglycemia. This information was not apparent until much further down in the document. The definition is defined as: "two or more blood glucoses >200 mg/dL at least 6 hours apart or a single blood glucose >200 mg/dL if the only blood glucose measured on a given day or no blood glucose measured on that day if not preceded by two normoglycemic days." This should be defined upfront in the metric for the denominator. Another metric to consider is the percent of days with patient-day weighted mean blood glucose >200 mg/dL. This metric would capture patients with persistent hyperglycemia and avoid identifying patients with 1-2 isolated episodes of hyperglycemia in the setting of otherwise euglycemic values. It is unclear why patients on metformin are excluded from the denominator. Metformin is used to treat diabetes and pre-diabetes—the latter group may be more prone to experience hospital-related hyperglycemia and would still be a group we would want to capture. Feasibility: The algorithm for generation of the denominator is very complex as there are several conditions under which certain days are excluded. This will require a significant amount of programming in some systems to generate an automated report. In addition, like the hypoglycemia measures, it requires the point-of-care testing glucose data to be linked to the pharmacy data to identify the appropriate population. Usability: This will be a very usable measure for tracking glucose management quality as long as the above hurdle can be surmounted in some systems. Unintended consequences: Hyperglycemia frequency may be overestimated by using the percentage of patient-days with two blood glucoses >200 mg/dL as opposed to the percentage of patient-days with patient-day weighted mean blood glucose >200 mg/dL.

2363: Glycemic Control - Hypoglycemia	Submitted by Ms. Vipra Ghimire, MPH	Numerator Statement: Total number of hypoglycemic events (<40 mg/dL) that were preceded by administration of rapid/short acting insulin within 12 hours or an anti-diabetic agent other than short-acting insulin within 24 hours, were not followed by another glucose value greater than 80 mg/dL within five minutes, and were at least 20 hours apart. Optional numerator:Total number of hypoglycemic events (<70 mg/dL) that were preceded by administration of rapid/short-acting insulin within 12 hours or an anti-diabetic agent other than short-acting insulin within 24 hours, were not followed by another glucose value greater than 80 mg/dL within five minutes, and were at least 20 hours apart. Denominator Statement: Total number of hospital days with at least one anti-diabetic agent administered The two hypoglycemia thresholds are appropriate to distinguish severe and moderate hypoglycemia and linking the glucose value to anti-diabetic therapy administration is an important component of this measure to avoid non-diabetes mediated hypoglycemia due to severe illness. However, we are wondering how the 20 hour interval between two BG readings <40 mg/dl was determined to indicate separate hypoglycemic events? This implies if you have multiple hypoglycemia readings in a 24 hour period that these would all count as one event and not separate events. In clinical practice, given the duration of action of a rapid-acting insulin analogues, it is conceivable that two low BG readings in a 20 hour time period could result from more than one rapid-acting insulin administration and thus be two separate events. Feasibility of collection: In order to generate this measure appropriately in an automated manner, the point-of-care testing glucose data need to be linked to the pharmacy data in order to identify patients who are receiving anti-diabetic agents. Not all electronic systems currently house both sets of data in a common location where data can be linked easily without generating complex programming algorithms. Usability: This will be a very usable measure for tracking glucose management quality as long as the above hurdle can be surmounted in some systems. Unintended consequences: Hypoglycemia frequency in a given patient-day may be underestimated by requiring a 20 hour time period between episodes.

2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Andrew David Bunta, MD	Andrew D. Bunta ,MD As an orthopaedic surgeon with a long-standing interest in the bone health of our population and associated osteoporosis, I strongly support this as a required measure for patients with fragility fractures admitted to a hospital in an inpatient status. A laboratory evaluation of additional/secondary causes of osteoporosis is most essential in order to provide patients with the most appropriate treatment. This requirement, in regard to the total orthopaedic care of older adults and others with fragility fractures, is long overdue and will significantly increase awareness, among many medical specialists, as to the bone health issues of our population.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by John T. Schousboe, MD, PhD	From the International Society for Clinical Densitometry IISCD): Secondary causes of osteoporosis have been shown to be highly prevalent among individuals presenting with fragility fractures, which necessitates routine investigation. Identification of secondary causes of low bone mass can alter management, ultimately improving bone strength and reducing the risk of additional fractures In 2013, the International Osteoporosis Foundation published a set of internationally-endorsed professional standards of best practice in the care of fragility fracture patients by Fracture Liaison Services. Standard number 6 on secondary causes of osteoporosis among fragility fracture patients recognized the importance of identifying (and addressing) secondary causes. [See Standard 6 of Capture the Fracture: a Best Practice Framework and global campaign to break the fragility fracture cycle. Åkesson K et al. Osteoporos Int. 2013 Aug; 24(8): 2135-52. PubMed ID 23589162].
2416: Laboratory Investigation for Secondary Causes of Fracture	Kimberly Templeton, US Bone and Joint Initiative; Submitted by Kimberly Templeton, MD	Re: National Quality Forum Proposed Measures #2416, #2417, #2418 To Whom It May Concern: On behalf of the Executive Committee of the US Bone and Joint Initiative (USBJI), I would like to encourage the National Quality Forum to adopt proposed measures #2416, #2417, and #2418. The USBJI is an organization of more than 100 professional and patient organizations, committed to improving bone and joint health in the United States. There are few organizations within the Initiative whose members are not affected by the significant issues resulting from osteoporosis and low impact fractures. These fractures can lead to significant morbidity and mortality; in addition, people who sustain a low impact fracture are at significant risk for additional fractures. Osteoporosis and resulting fractures represent a significant burden on the United States. However, these are conditions for which early diagnosis and intervention are effective. The

		most efficacious time in which to intervene is when patients seek medical care for their fractures. Although relatively inexpensive, testing for poor bone health, including bone density testing (DXA) and a variety of laboratory tests, are readily available in most communities, these are not consistently utilized after patients sustain their first fracture. Assessment of bone health is even less likely among male and racial/ethnic minority patients. In addition, treatment modalities for osteoporosis, along with fall prevention measures, have been found to decrease the risk of additional fractures, yet are infrequently implemented. Assessment for osteoporosis and/or initiation of treatment, as outlined in Measures #2416 and #2417, while patients are hospitalized for fracture management, would significantly decrease the risk of future fractures. Measure #2418 addresses the more challenging issue of evaluating patient for osteoporosis when they present to an emergency department. These patients may seek follow-up care at health care facilities other than that which initially treated their fracture. In addition, their primary care provider may be unaware that the patient sustained a low impact fracture. Measure #2418 will increase the likelihood that the patient's primary care provider is made aware of the fracture, and that the patient will consequently be appropriately evaluated and treated to prevent additional fractures. The proposed measures listed above would seem to align with several of the National Quality Strategies priorities, especially those related to reducing preventable hospital admissions and readmissions, as well as improving quality of life. The US Bone and Joint Initiative strongly recommends that the National Quality Forum adopt the proposed measures. If you would be interested in additional comments or need more information, please do not hesitate to contact us. Sincerely, Kim Templeton, MD Immediate Past-President, US Bone and Joint Initiative
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Carol Ann Sedlak, PhD	As a nurse researcher, I support this measure as integral for interventions and quality care.

2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Carol Ann Sedlak, PhD	As a nurse researcher, I support this measure as integral for interventions and quality care.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Paula Stern, Ph.D.	Published studies (Dumitrescu et al 2008, Bours et al 2011, Bogoch et al 2012) reveal that 1/3 - 1/2 of patients presenting with clinical vertebral or non-vertebral fractures had secondary causes or contributors to osteoporosis, including medications, hypogonadism, renal or gastrointestinal conditions, hyperthyroidism, hyperparathyroidism, smoking, excessive alcohol use, and insufficient vitamin D and or calcium intake. Most of these conditions are correctable or treatable. The laboratory investigation of secondary causes is therefore an important component of patient care.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Amy Porter	These comments are on behalf of the National Osteoporosis Foundation (NOF), the leading health organization dedicated to preventing osteoporosis and broken bones, promoting strong bones for life and reducing human suffering through programs of public and clinician awareness, education, advocacy and research. Osteoporosis is a major public health threat for an estimated 52 million Americans. Studies show that one in two women and up to one in four men over age 50 will break a bone due to osteoporosis in their lifetime. Secondary causes of osteoporosis have been shown to be highly prevalent among individuals presenting with fragility fractures, which necessitates approrpriate laboratory investigation. he following studies support this statement: · Secondary Causes of Osteoporosis in Fracture Patients. Bogoch ER et al. J Orthop Trauma. 2012 Sep; 26(9): e145-52.PubMed ID 22377504. · Contributors to secondary osteoporosis and metabolic bone diseases in patients presenting with a clinical fracture. Bours SPG et al. J Clin Endocrinol Metab. 2011 May; 96(5): 1360-7.PubMed ID 21411547. · Evaluation of patients with a recent clinical fracture and osteoporosis, a multidisciplinary approach. Dumitrescu B et al. BMC Musculoskelet Disord. 2008 Aug 5; 9: 109.PubMed ID 18680609. Further, in 2013, the International Osteoporosis Foundation published a set of internationally-endorsed professional standards of best practice in the care of fragility fracture patients by Fracture Liaison Services. Standard number 6 on secondary causes of osteoporosis among fragility fracture patients recognized the importance of identifying (and

		addressing) secondary causes. [See Standard 6 of Capture the Fracture: a Best Practice Framework and global campaign to break the fragility fracture cycle. Åkesson K et al. Osteoporos Int. 2013 Aug; 24(8): 2135-52.PubMed ID 23589162]. This is an important measure to ensure post-fracture patients receive appropriate tests to identify potential secondary causes of osteoporosis.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Brandi Bliss, RN, ONC	I support this measure. This would be a step in the right direction to diagnosing and treating osteoporosis.
2416: Laboratory Investigation for Secondary Causes of Fracture	David Lee, National Bone Health Alliance; Submitted by Mr. David Lee, MPA	These comments are provided on behalf of the National Bone Health Alliance (NBHA, www.nbha.org), a public-private partnership on bone health that includes 51 organizational members from the non-profit and private sectors as well as 4 government liaisons all working together to improve the overall health and quality of life of all Americans by enhancing their bone health. Secondary causes of osteoporosis have been shown to be highly prevalent among individuals presenting with fragility fractures, which necessitates laboratory investigation. The following studies support this statement: • Secondary Causes of Osteoporosis in Fracture Patients. Bogoch ER et al. J Orthop Trauma. 2012 Sep; 26(9): e145-52. PubMed ID 22377504. • Contributors to secondary osteoporosis and metabolic bone diseases in patients presenting with a clinical fracture. Bours SPG et al. J Clin Endocrinol Metab. 2011 May; 96(5): 1360-7. PubMed ID 21411547. • Evaluation of patients with a recent clinical fracture and osteoporosis, a multidisciplinary approach. Dumitrescu B et al. BMC Musculoskelet Disord. 2008 Aug 5; 9: 109. PubMed ID 18680609. Further, in 2013, the International Osteoporosis Foundation published a set of internationally-endorsed professional standards of best practice in the care of fragility fracture patients by Fracture Liaison Services. Standard number 6 on secondary causes of osteoporosis among fragility fracture patients recognized the importance of identifying (and addressing) secondary causes. [See Standard 6 of Capture the Fracture: a Best Practice Framework and global campaign to break the fragility fracture cycle. Åkesson K et al. Osteoporos Int. 2013 Aug; 24(8): 2135-52. PubMed ID 23589162].

2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Patrick Liedtka	Merck fully supports this measure. We suggest considering a PTH lab test to help identify patients with secondary hyperparathyroidism due to conditions such as calcium malabsorption or renal calcium leak. When postmenopausal osteoporosis goes untreated, women with this disease are at a significantly increased risk for fractures in the spine or hip. Hip fractures, in particular, are associated with substantial morbidity, disability, and mortality. Consequently, osteoporosis is a serious disease that needs to be monitored and treated.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Catherine A. Rolih, MD	It is well recognized that there is a secondary cause of bone loss present in up to 50% of patients suffering fragiity fractures. In order to appropriately manage these patients and prevent subsequent fractures, these secondary causes must be identified and treated. In our clinic, examples of secondary causes which may be identified by laboratory testing have included: severe vitamin D deficiency, primary hyperparathyroidism, subclinical hyperthyroidism, male hypogonadism, and chronic renal insufficiency.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Monica Mowry, RN,MSN,NE-BC	As Director of Clinical Program Development for Carolinas Healthcare System, I am responsible for the system-wide implementation of a Fragility Fracture Program across the full continuum of care. I am a very strong advocate of implementing these measures. There could be a tremendous impact on LOS, Mortality, Morbid Complications and Readmission Rate for inpatient admissions and ED visits. In this era of cost containment and outcome driven solutions this growing patient population needs to be addressed. It is unlikely that it will unless these measures are formalized and officially implemented as the standard of care/quality.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by E. Michael Lewiecki, MD	I fully support this measure since the evaluation for secondary casues of osteoporosis is an important prelude to treatment to reduce fracture risk.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Laura Boineau	As a Nurse Practitioner for the past 17 years, with the past 4 years focusing on osteoporosis, I fully support this measure. Secondary causes of osteoporosis are more common than most people, including primary care providers, realize. Being able to identify these causes, while the patient is in the hospital, is critical in order to begin a treatment plan to reduce their risk of yet another fracture. This would reduce hospital admissions and readmissions and improve the quality of life for our patients and their families.

2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Denise Greene	As a nurse practitioner, I fully understand the importance of this measure and support it.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Linda Hightower, RN, ONC	As an organization who formerly had Disease Specific Care Certification in Osteoporosis, we had a measure that was very familiar to this one in our Fracture Order Set. This measure is long overdue and I fully support it.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Tahnee Maples	I support this measure because it will improve patient care and treatment evaluation.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Cynthia Emory, MD	Evaluation for secondary causes of fracture is essential in the prevention of subsequent low-energy fractures. If the underlying cause is not identified, then a treatment plan cannot be developed to help the patient, and the patient will end up with another broken bone that potentially could have been prevented. I fully support this measure.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Anna N. Miller, MD	As an orthopaedic trauma surgeon, I treat many patients with fractures of all types, including fragility fractures. We should be working to decrease fragility fractures, and especially repeat fragility fractures in patients throughout the country. In 2013, the International Osteoporosis Foundation published a set of internationally-endorsed professional standards of best practice in the care of fragility fracture patients by Fracture Liaison Services. Standard number 6 on secondary causes of osteoporosis among fragility fracture patients recognized the importance of identifying (and addressing) secondary causes. Without investigating these causes, the numbers of fragility fractures, and by extension, the patients suffering from these fractures, will continue to rise with the increase in the aging population.
2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Richard Dell, MD	I fully support this measure and strongly believe it is very important in improving the care of our patients with osteoporosis that have had a fragility fracture.

2416: Laboratory Investigation for Secondary Causes of Fracture	Submitted by Gary Kiebzak, PhD	Great job on developing this new measure. We need to get this approved and in the field to help improve care after fractures.
2417: Risk Assessment/Treatment After Fracture	Submitted by Andrew David Bunta, MD	As an orthopaedic surgeon with a long-standing interest in the bone health of our population, and as an individual closely aligned with the American Orthoapedic Association's bone health program, Own the Bone, I lend my strong and ardent support to this measure. It is clear to those of us interested in this area of deficient medical care of patients with fragility fractures, that those patients do need close attention and follow-up. This certainly can include a bone density test/DXA scan or FDA approved pharmacotherapy depending on the patient's age and the nature of the fracture--or entry into a Fracture Liaison Service. Nevertheless, enforcement of this measure by the NQF and Joint Commission will serve to improve the bone health of our population and decrease future fractures in those who have already sustained a fragility fracture.

2417: Risk Assessment/Treatment After Fracture	Submitted by Dr. Jason Spangler, MD, MPH	Amgen recommends that Draft NQF measure 2417 be endorsed. Amgen supports performance measures that encourage post-fracture diagnosis, treatment, and coordination of care because these are critical for ensuring that individuals who suffer a fracture have the best opportunity to avoid a subsequent fracture and its complications, which may lead to a diminished quality of life as well as increased healthcare costs. Improving the quality of care for osteoporosis patients pre- and post-fracture must be a priority due to known gaps in care, and the enormous impact on patient outcomes and costs. Approximately 300,000 individuals suffer a hip fracture in the United States every year, at an estimated cost of more than $12 billion in 2005 (representing 72% of the total cost of the 2 million fragility fractures estimated to have occurred in 2005) [Incidence and economic burden of osteoporosis-related fractures in the United States, 2005-2025. Burge R et al. J Bone Miner Res. 2007 Mar; 22(3): 465-75]. Draft NQF measure 2417 would greatly enhance coordination of care, and benefit fracture patients by ensuring that fracture patients are tested for osteoporosis and prescribed pharmacologic therapy, if appropriate. Amgen also supports performance measures that encourage comprehensive clinician evaluation and monitoring of patient risk factors for osteoporosis and fracture. Furthermore, Amgen believes that clinician attention toward post-fracture identification, diagnosis and treatment is particularly well-placed, as these patients continue to be among the most chronically at-risk for on-going problems related to their osteoporotic condition, as well as the associated, additional healthcare costs that these patients represent to the healthcare system
2417: Risk Assessment/Treatment After Fracture	Submitted by John T. Schousboe, MD, PhD	From the International Society of Clinical Densitometry (ISCD): More than 300,000 individuals suffer a hip fracture in the United States every year, at an estimated cost of more than $12 billion in 2005 (representing 72% of the cost of the 2 million fragility fractures estimated to have occurred in 2005 [Incidence and economic burden of osteoporosis-related fractures in the United States, 2005-2025. Burge R et al. J Bone Miner Res. 2007 Mar; 22(3): 465-75. PubMed ID 17144789)]. Approximately half of these 300,000 hip fracture patients will have suffered a prior fragility fracture. Had reliable post-fracture osteoporosis care occurred for the 150,000 of these hip fracture sufferers who previously presented to urgent care services with the fragility fracture that preceded their hip fracture, osteoporosis treatment with the potential to reduce by 30 to 40 percent future hip fracture rates could have prevented 45,000 to 60,000 of these hip fractures.

2417: Risk Assessment/Treatment After Fracture	Kimberly Templeton, US Bone and Joint Initiative; Submitted by Kimberly Templeton, MD	Re: National Quality Forum Proposed Measures #2416, #2417, #2418 To Whom It May Concern: On behalf of the Executive Committee of the US Bone and Joint Initiative (USBJI), I would like to encourage the National Quality Forum to adopt proposed measures #2416, #2417, and #2418. The USBJI is an organization of more than 100 professional and patient organizations, committed to improving bone and joint health in the United States. There are few organizations within the Initiative whose members are not affected by the significant issues resulting from osteoporosis and low impact fractures. These fractures can lead to significant morbidity and mortality; in addition, people who sustain a low impact fracture are at significant risk for additional fractures. Osteoporosis and resulting fractures represent a significant burden on the United States. However, these are conditions for which early diagnosis and intervention are effective. The most efficacious time in which to intervene is when patients seek medical care for their fractures. Although relatively inexpensive, testing for poor bone health, including bone density testing (DXA) and a variety of laboratory tests, are readily available in most communities, these are not consistently utilized after patients sustain their first fracture. Assessment of bone health is even less likely among male and racial/ethnic minority patients. In addition, treatment modalities for osteoporosis, along with fall prevention measures, have been found to decrease the risk of additional fractures, yet are infrequently implemented. Assessment for osteoporosis and/or initiation of treatment, as outlined in Measures #2416 and #2417, while patients are hospitalized for fracture management, would significantly decrease the risk of future fractures. Measure #2418 addresses the more challenging issue of evaluating patient for osteoporosis when they present to an emergency department. These patients may seek follow-up care at health care facilities other than that which initially treated their fracture. In addition, their primary care provider may be unaware that the patient sustained a low impact fracture. Measure #2418 will increase the likelihood that the patient's primary care provider is made aware of the fracture, and that the patient will consequently be appropriately evaluated and treated to prevent additional fractures. The proposed measures listed above would seem to align with several of the National Quality Strategies priorities, especially those related to reducing preventable hospital admissions and readmissions, as well as improving quality of life. The US Bone and Joint Initiative strongly recommends that the National Quality Forum adopt the proposed measures. If you would be interested in additional comments or need more information,

		please do not hesitate to contact us. Sincerely, Kim Templeton, MD Immediate Past-President, US Bone and Joint Initiative
2417: Risk Assessment/Treatment After Fracture	Submitted by Carol Ann Sedlak, PhD	As a nurse researcher, I support this as integral for assessment and treatment of individuals with fragility fractures.
2417: Risk Assessment/Treatment After Fracture	Submitted by Paula Stern, Ph.D.	Fracture risk assessment by DXA or other specified method in patients who have had a fragility fracture is critical for the benefit of the patient and also in view of the high incidence and economic cost of treatment. Risk assessment, followed by treatment of the underlying disease constitute best medical practice.
2417: Risk Assessment/Treatment After Fracture	Submitted by Amy Porter	These comments are provided on behalf of the National Osteoporosis Foundation (NOF), the leading health organization dedicated to preventing osteoporosis and broken bones, promoting strong bones for life and reducing human suffering through programs of public and clinician awareness, education, advocacy and research. The majority of patients who suffer fragility fractures do not receive standards of secondary preventive care to reduce their risk of future fragility fractures. This near universal absence of best practice is costing older Americans, Medicare and, therefore, U.S. tax payers, dearly. All fragility fracture patients should undergo assessment of future fracture risk and, where clinically appropriate, be considered for treatment for their underlying disease. More than 300,000 individuals suffer a hip fracture in the United States every year, at an estimated cost of more than $12 billion in 2005 (representing 72% of the cost of the 2 million fragility fractures estimated to have occurred in 2005 [Incidence and economic burden of osteoporosis-related fractures in the United States, 2005-2025. Burge R et al. J Bone Miner Res. 2007 Mar; 22(3): 465-75.PubMed ID 17144789)]. Approximately half of these 300,000 hip fracture patients will have suffered a prior fragility fracture. NOF supports this measure, which will help to strongly encourage practitioners and hospitals to ensure that patients suffering from a fragility fracture receive appropriate diagnosis, follow-up and care.
2417: Risk Assessment/Treatment After	Submitted by Brandi Bliss, RN, ONC	I support this measure. As an Orthopedic Nurse Navigator supporting patients post fracture there are many challenges to getting these patient the proper diagnostic orders. There is a lack of ownership by internal medicine and orthopedics for bone health maintenance.

Fracture		
2417: Risk Assessment/Treatment After Fracture	David Lee, National Bone Health Alliance; Submitted by Mr. David Lee, MPA	These comments are being provided on behalf of the National Bone Health Alliance (NBHA, www.nbha.org), a public-private partnership on bone health that includes 51 organizational members from the non-profit and private sectors as well as 4 government liaisons all working together to improve the overall health and quality of life of all Americans by enhancing their bone health. Currently, the majority of patients who suffer fragility fractures do not receive secondary preventive care to reduce their risk of future fragility fractures (given that currently only 25 percent of older women who suffer from fragility fractures receive either a bone density test and/or treatment for their underlying disease within 6 months of the fracture, which represents a 75 percent care gap). This near universal absence of best practice is costing older Americans, Medicare and, therefore, U.S. tax payers, dearly. All fragility fracture patients should undergo assessment of future fracture risk and, where clinically appropriate, be considered for treatment for their underlying disease. More than 300,000 individuals suffer a hip fracture in the United States every year, at an estimated cost of more than $12 billion in 2005 (representing 72% of the cost of the 2 million fragility fractures estimated to have occurred in 2005 [Incidence and economic burden of osteoporosis-related fractures in the United States, 2005-2025. Burge R et al. J Bone Miner Res. 2007 Mar; 22(3): 465-75, PubMed ID 17144789)]. Approximately half of these 300,000 hip fracture patients will have suffered a prior fragility fracture. The 2012 NCQA State of Health Care Quality Report showed no significant change in the rates of post-fracture osteoporosis care from 2007 to 2011 regarding the HEDIS® measure for osteoporosis management in women who had a fracture [www.ncqa.org/reportcards/healthplans/stateofhealthcarequality.aspx, p. 16-17]. Therefore, this is a very important measure which could help drive practitioner and hospital improvement in this significant care gap around post-fracture care.

2417: Risk Assessment/Treatment After Fracture	Submitted by Patrick Liedtka	Merck fully supports this measure. We also suggest considering breaking the measure out into two measures: (1) one for diagnosis and treatment and (2) the other for the Fracture Liaison Service since both these components are very important to improving outcomes for patients with osteoporotic fractures. When postmenopausal osteoporosis goes untreated, women with this disease are at a significantly increased risk for fractures in the spine or hip. Hip fractures, in particular, are associated with substantial morbidity, disability, and mortality. Consequently, osteoporosis is a serious disease that needs to be monitored and treated.
2417: Risk Assessment/Treatment After Fracture	Submitted by Patrick Liedtka	Merck fully supports this measure. We also suggest considering breaking the measure out into two measures: (1) one for diagnosis and treatment and (2) the other for the Fracture Liaison Service since both these components are very important to improving outcomes for patients with osteoporotic fractures. When postmenopausal osteoporosis goes untreated, women with this disease are at a significantly increased risk for fractures in the spine or hip. Hip fractures, in particular, are associated with substantial morbidity, disability, and mortality. Consequently, osteoporosis is a serious disease that needs to be monitored and treated.
2417: Risk Assessment/Treatment After Fracture	Submitted by Mr. Douglas Fesler	These three post-fracture measures are sorely needed and extremely important for the safe management of patients. Secondary causes of osteoporosis have been shown to be highly prevalent among individuals presenting with fragility fractures, which necessitates routine investigation. The following studies support this statement: · Secondary Causes of Osteoporosis in Fracture Patients. Bogoch ER et al. J Orthop Trauma. 2012 Sep; 26(9): e145-52.PubMed ID 22377504. · Contributors to secondary osteoporosis and metabolic bone diseases in patients presenting with a clinical fracture. Bours SPG et al. J Clin Endocrinol Metab. 2011 May; 96(5): 1360-7.PubMed ID 21411547. · Evaluation of patients with a recent clinical fracture and osteoporosis, a multidisciplinary approach. Dumitrescu B et al. BMC Musculoskelet Disord. 2008 Aug 5; 9: 109.PubMed ID 18680609. Furthermore, the majority of patients who suffer fragility fractures in the United States do not receive nationally and internationally recognized standards of secondary preventive care to reduce their risk of future fragility fractures. This near universal absence of best practice is costing older Americans, Medicare and, therefore, U.S. tax payers dearly. Health care providers should always respond to the first fracture with the aim of preventing second and subsequent fractures. Clear written discharge instructions recommending the need for

		post-fracture osteoporosis care are an essential step in ensuring that long-term management plans are implemented to reduce future fracture risk.
2417: Risk Assessment/Treatment After Fracture	Pam Cupec, NAON National Association of Orthopaedic Nurses; Submitted by Pamela Ann Cupec, RN	On behalf of the National Association of Orhopaedic Nurses, we support this measure to related to risk assessment post fracture. it is imperative to have such measures in place in the pursuit to better identify and address variables to decreases occurance of additional fracture.Measures such as this will enhance our practice with specific quidelines for in assessmnet, education, and care of patients and family members. Such research builds on the baseline of knowledge in osteoporosis and shapes evidence based practice.

2417: Risk Assessment/Treatment After Fracture	Submitted by Catherine A. Rolih, MD	Over 300,000 hip fractures occur annually in the US, which in turn are responsible for 65,000 deaths and billions of dollars in direct health care costs. Unfortunately, fewer than 1 in 4 hip fracture patients receive any evaluation or treatment for osteoporosis, and 20% will have a second fracture within 2 yrs. Fracture liasion service (FLS) programs have been demonstrated again and again to effectively improve osteoporosis evaluation and treatment, decrease rates of subsequent fractures, save lives, and dramatically lower health care costs by closing the gaps in health care transitions and improving access to state-of -the art care. We strongly support a measure which would encourage the implementation of FLS programs on a wider scale.
2417: Risk Assessment/Treatment After Fracture	Submitted by Monica Mowry, RN,MSN,NE-BC	As Director of Clinical Program Development for Carolinas Healthcare System, I am responsible for the system-wide implementation of a Fragility Fracture Program across the full continuum of care. I am a very strong advocate of implementing these measures. There could be a tremendous impact on LOS, Mortality, Morbid Complications and Readmission Rate for inpatient admissions and ED visits. In this era of cost containment and outcome driven solutions this growing patient population needs to be addressed. It is unlikely that it will unless these measures are formalized and officially implemented as the standard of care/quality.
2417: Risk Assessment/Treatment After Fracture	Submitted by E. Michael Lewiecki, MD	I support this measure. It is essential that patients with fragility fractures be evaluated for osteoporosis and treated to reduce fracture risk when appropriate.
2417: Risk Assessment/Treatment After Fracture	Submitted by Laura Boineau	I am a Nurse Practitioner that has been employed by the Department of Orthopaedics, at the Greenville Health System in South Carolina, for the past 4 years to coordinate a post, fragility fracture liaison service. I fully support this measure. I have seen how difficult it is to get patients, their families and even some PCP's to understand how important it is to get a DXA scan and to be started on treatment as soon as possible to reduce their risk for another fracture. This measure would help improve the quality of care transitions and communications across care settings.
2417: Risk Assessment/Treatment After Fracture	Submitted by Denise Greene	This measure is extremely important for the safe management of patients.

2417: Risk Assessment/Treatment After Fracture	Submitted by Linda Hightower, RN, ONC	As an organization who formerly had Disease Specific Care Certification in Osteoporosis, we had a measure that was very familiar to this one in our Fracture Order Set. This measure is long overdue and I fully support it.
2417: Risk Assessment/Treatment After Fracture	Submitted by Tahnee Maples	This measure is critical to the appropriate evaluation of the fragility fracture patient and comprehensive fracture care.
2417: Risk Assessment/Treatment After Fracture	Submitted by Dan Solomon, MD, MPH	There are substantial data demonstrating the current sub-optimal state of post fracture care. We have data from a large US national provider the shows the post hip fracture treatment rates have declined from 40% in 2002 to 25% in 2011. As someone who has worked to improve osteoporosis care for the last 15 years, I speak with some knowledge that we need system changes that will accelerate quality improvement amongst providers. A post-fracture system of care has been developed in several health systems around the globe; many refer to it as a Fracture Liaison Service. This collaborative system organizes inpatient orthopedic providers with outpatient osteoporosis care teams. Creating Quality Measures that stimulate systems change is an important goal that is sorely needed in this area of medical care.
2417: Risk Assessment/Treatment After Fracture	Submitted by Cynthia Emory, MD	Post-fracture risk assessment is critical to minimize our patients' risk of subsequent fracture. It would be ideal if the patient can avoid the pain and disability of a fracture in the first place instead of just fixing the fracture once it occurs. I fully support this measure
2417: Risk Assessment/Treatment After Fracture	Submitted by Anna N. Miller, MD	As an orthopaedic trauma surgeon, I treat many patients with fractures of all types, including fragility fractures. We should be working to decrease fragility fractures, and especially repeat fragility fractures in patients throughout the country. The majority of patients in the United States who suffer these fractures do not receive secondary fracture preventative care. More than 300,000 individuals suffer a hip fracture in the United States every year, at an estimated cost of more than $12 billion in 2005 (representing 72% of the cost of the 2 million fragility fractures estimated to have occurred in 2005 [Incidence and economic burden of osteoporosis-related fractures in the United States, 2005-2025. Burge R et al. J Bone Miner Res. 2007 Mar; 22(3): 465-75.PubMed ID 17144789)]. Approximately

		half of these 300,000 hip fracture patients will have suffered a prior fragility fracture. With early intervention to prevent secondary fractures, $2-3 billion per year could have been saved by preventing these hip fractures.
2417: Risk Assessment/Treatment After Fracture	Submitted by Richard Dell, MD	The evidence is very strong that the post fracture assessment of patients is lacking in the USA and many other countries. This measure is an important step in seeing that patients get the correct assessment and treatment post fracture.
2417: Risk Assessment/Treatment After Fracture	Submitted by Gary Kiebzak, PhD	Great job on developing this new measure. We need to get this approved and in the field to help improve care after fractures.
2418: Discharge Instructions – Emergency Department	Submitted by Andrew David Bunta, MD	As a representative of orthoapedic surgery and the American Orthopaedic Association' s bone health program-Own the Bone, I strongly support this measure assesses the data in bone health information be given to patients seen an emergency room with a fragility fracture. Only through this measure supported by theNQF and the Joint Commission, can we begin to stem the tide of fragility fractures and our aging population. Patients must be made aware of the bone health issues which played a role in their fracture.

2418: Discharge Instructions – Emergency Department	Submitted by Dr. Jason Spangler, MD, MPH	Amgen recommends that Draft NQF measure 2418 be endorsed. Amgen supports performance measures that encourage post-fracture diagnosis, treatment, and coordination of care because these are critical for ensuring that individuals who suffer a fracture have the best opportunity to avoid a subsequent fracture and its complications, which may lead to a diminished quality of life as well as increased healthcare costs. Improving the quality of care for osteoporosis patients pre- and post-fracture must be a priority due to known gaps in care, and the enormous impact on patient outcomes and costs. A systematic review of models of care for the secondary prevention of osteoporotic fractures by Ganda and colleagues provides a useful framework for classification of various approaches to delivery of written discharge instructions to primary care providers in post-fracture care [Models of care for the secondary prevention of osteoporotic fractures: a systematic review and meta-analysis. Ganda K et al. Osteoporos Int. 2013 Feb; 24(2):393-406]. Models are classified as Type A to D, with Type A being the most intensive and Type D the least intensive. The main objectives of a Fracture Liaison Service (FLS) are to identify fragility fracture patients when they present to emergency departments, conduct investigations to diagnose osteoporosis and assess future fracture risk and, where appropriate, initiate osteoporosis treatment. Some FLS initiate the first prescription and subsequently rely upon written discharge instructions to the primary care provider to trigger long-term management (Type A), while less intensive FLS (Type B or Type C) undertake identification and/or investigations for fragility fracture patients, but rely on written discharge instructions to the primary care provider to trigger the initial and subsequent prescriptions for osteoporosis medicines. Ganda and colleagues concluded that Type A Fracture Liaison Service (FLS) models result in 79% of patients undergoing bone density testing and 46% receiving osteoporosis treatment, and Type B models result in 60% of patients undergoing bone density testing and 41% receiving osteoporosis treatment. While the analytic methods used by Ganda et al cannot be directly compared to national performance data, the osteoporosis treatment rates associated with both types of FLS models are promising: According to the 2013 State of Health Care Quality report, among female Medicare beneficiaries who were age > 67 and had a fracture, only 25% reported receiving either a prescription for an osteoporosis drug or a bone mineral density test in the six months following the fracture [National Committee for Quality Assurance. The State of Health Care Quality 2013, Osteoporosis Testing in Older Women, p. 111].

		Draft NQF measure 2418 would greatly enhance coordination of care, and benefit fracture patients by ensuring that they are referred for the appropriate post-discharge care.

2418: Discharge Instructions – Emergency Department	Submitted by John T. Schousboe, MD, PhD	From the International Society for Clinical Densitometry (ISCD): A systematic review of models of care for the secondary prevention of osteoporotic fractures by Ganda and colleagues provides a useful framework for classification of various approaches to delivery of written discharge instructions to primary care providers in post-fracture care (Models of care for the secondary prevention of osteoporotic fractures: a systematic review and meta-analysis. Ganda K et al. Osteoporos Int. 2013 Feb; 24(2):393-406. PubMed ID 22829395). Models are classified as Type A to D, with Type A being the most intensive and Type D the least intensive. The main objectives of a Fracture Liaison Service (FLS) are to identify fragility fracture patients when they present to emergency departments or urgent care centers, conduct investigations to diagnose osteoporosis and assess future fracture risk and, where appropriate, initiate osteoporosis treatment. Some FLS initiate the first prescription and subsequently rely upon written discharge instructions to the patient to encourage follow-up with other providers who will then carry on fracture prevention management with that patient. Either way, communication to patients and other providers to ensure continuity of care and consistent, sustained application of appropriate fracture prevention therapies is essential. .
2418: Discharge Instructions – Emergency Department	Submitted by Carol Ann Sedlak, PhD	As a nurse researcher, I support this measure as integral to promoting quality care for individuals with fragility fractures.
2418: Discharge Instructions – Emergency Department	Submitted by Paula Stern, Ph.D.	Procedures should be in place to prevent recurrent fractures. In addition to education of patients, physicians and the public, well-coordinated systems for follow up to prevent secondary fractures are essential.

2418: Discharge Instructions – Emergency Department	Submitted by Amy Porter	These comments are provided on behalf of the National Osteoporosis Foundation (NOF), the leading health organization dedicated to preventing osteoporosis and broken bones, promoting strong bones for life and reducing human suffering through programs of public and clinician awareness, education, advocacy and research. The majority of patients who suffer fragility fractures in the United States do not receive secondary preventive care to reduce their risk of future fragility fractures. This near universal absence of best practice is costing older Americans, Medicare and, therefore, U.S. tax payers dearly. Health care providers should always respond to the first fracture with the aim of preventing second and subsequent fractures.Clear written discharge instructions recommending the need for post-fracture osteoporosis care are an essential step in ensuring that long-term management plans are implemented to reduce future fracture risk. NOF strongly supports this measure to better ensure patients have clear discharge instructions and to ensure they are supported post-hospitalization through fracture prevention programs like a fracture liaison service.
2418: Discharge Instructions – Emergency Department	Submitted by Brandi Bliss, RN, ONC	I support this measure. Patient receiving education about osteoporosis care after discharge will help prevent future fractures. Again there are so many challeneges to getting these patients the appropriate osteoporosis care. The measure would bring awareness and put in place resources for osteoporosis care.

2418: Discharge Instructions – Emergency Department	David Lee, National Bone Health Alliance; Submitted by Mr. David Lee, MPA	These comments are being provided on behalf of the National Bone Health Alliance (NBHA, www.nbha.org), a public-private partnership on bone health that includes 51 organizational members from the non-profit and private sectors as well as 4 government liaisons all working together to improve the overall health and quality of life of all Americans by enhancing their bone health. The majority of patients who suffer fragility fractures in the United States do not receive standards of secondary preventive care to reduce their risk of future fragility fractures. This near universal absence of best practice is costing older Americans, Medicare and, therefore, U.S. tax payers dearly. Health care providers should always respond to the first fracture with the aim of preventing second and subsequent fractures.Clear written discharge instructions recommending the need for post-fracture osteoporosis care are an essential step in ensuring that long-term management plans are implemented to reduce future fracture risk. A systematic review of models of care for the secondary prevention of osteoporotic fractures by Ganda and colleagues provides a useful framework for classification of various approaches to delivery of written discharge instructions to primary care providers in post-fracture care (Models of care for the secondary prevention of osteoporotic fractures: a systematic review and meta-analysis. Ganda K et al. Osteoporos Int. 2013 Feb; 24(2):393-406. PubMed ID 22829395). Models are classified as Type A to D, with Type A being the most intensive and Type D the least intensive. The main objectives of a Fracture Liaison Service (FLS) are to identify fragility fracture patients when they present to emergency departments, conduct investigations to diagnose osteoporosis and assess future fracture risk and, where appropriate, initiate osteoporosis treatment. Some FLS initiate the first prescription and subsequently rely upon written discharge instructions to the primary care provider to trigger long-term management (Type A), while less intensive FLS (Type B or Type C) undertake identification and/or investigations for fragility fracture patients, but rely on written discharge instructions to the primary care provider to trigger the initial and subsequent prescriptions for osteoporosis medicines. Ganda and colleagues' concluded that Type A Fracture Liaison Service (FLS) models result in 79% of patients undergoing bone density testing and 46% receiving osteoporosis treatment, and Type B models result in 60% of patients undergoing bone density testing and 41% receiving osteoporosis treatment, which is a significant improvement from the current nearly 75 percent care gap (more information available at the NBHA Fracture Prevention CENTRAL website, www.FracturePreventionCENTRAL.org).

2418: Discharge Instructions – Emergency Department	Submitted by Patrick Liedtka	Merck fully supports this measure. When postmenopausal osteoporosis goes untreated, women with this disease are at a significantly increased risk for fractures in the spine or hip. Hip fractures, in particular, are associated with substantial morbidity, disability, and mortality. Consequently, osteoporosis is a serious disease that needs to be monitored and treated.
2418: Discharge Instructions – Emergency Department	Pam Cupec, NAON National Association of Orthopaedic Nurses; Submitted by Pamela Ann Cupec, RN	On behalf of the National Association of Orthopaedic Nurses, we support this measure. As nurses, education of patients and family members is essential for preventaion and health maintenence. The majority of fractures are seen initially in the emergency department, and incorporating osteoporosis meaures into the discharge instructions not only increases awareness but reinforces prevention and care. Such research builds on the baseline of knowledge in osteoporosis and shapes evidence based practice.
2418: Discharge Instructions – Emergency Department	Submitted by Catherine A. Rolih, MD	It is well recognized that one of the greatest predictors of a hip fracture is the occurrence of a prior fragility fracture. In fact, as many as half of hip fracture patients have a history of prior fracture. By identifying and treating patients with non-hip fraglity fracture early, subsequent hip fractures can be prevented. Unfortunately, most ED physicians are focused on acute care, and and fewer than 1 in 5 fragility fracture patients receive follow up care for osteoporosis. Fracture liasion service (FLS) programs have been demonstrated again and again to effectively improve osteoporosis evaluation and treatment, decrease rates of subsequent fractures, save lives, and dramatically lower health care costs by closing the gaps in health care transitions and improving access to state-of -the art care. We strongly support a measure which would encourage the implementation of FLS programs on a wider scale.
2418: Discharge Instructions – Emergency Department	Submitted by Mr. Alan Brett, PhD	This is a very important measure related to the promotion of Fracture Liaison Services which have been shown in studies in many different countries to be very cost effective in reducing subsequent fractures for patient presenting with an initial fragility fracture, and I would strongly support it.

2418: Discharge Instructions – Emergency Department	Submitted by Monica Mowry, RN,MSN,NE-BC	As Director of Clinical Program Development for Carolinas Healthcare System, I am responsible for the system-wide implementation of a Fragility Fracture Program across the full continuum of care. I am a very strong advocate of implementing these measures. There could be a tremendous impact on LOS, Mortality, Morbid Complications and Readmission Rate for inpatient admissions and ED visits. In this era of cost containment and outcome driven solutions this growing patient population needs to be addressed. It is unlikely that it will unless these measures are formalized and officially implemented as the standard of care/quality.
2418: Discharge Instructions – Emergency Department	Submitted by E. Michael Lewiecki, MD	I support this measure. Patients who present to emergency facilities with fragility fractures need follow-up to evaluate for fracture risk and treat with medications to reduce fracture risk when appropriate.
2418: Discharge Instructions – Emergency Department	Submitted by Laura Boineau	I fully support this measure. Patient's that are seen through the Emergency Department, and sent home, are frequently not identified as having a fragility fracture. Having a Fracture Liaison Service, to be able to contact them and to help coordinate their follow up care, is critical in reducing future fractures. Approximately 50% of hip fracture patients had a prior fracture. If they could be identified, after a wrist fracture (for example) and appropriately treated, it would save on their future pain, suffering and quality of life as well as the future cost of hospitalization, surgery and rehabilitation after a hip fracture. Thank you.
2418: Discharge Instructions – Emergency Department	Submitted by Denise Greene	Discharge instructions are needed for patients and family to understand what is needed at the time of discharge from the hospital.
2418: Discharge Instructions – Emergency Department	Submitted by Linda Hightower, RN, ONC	As an organization who formerly had Disease Specific Care Certification in Osteoporosis, we were working toward an ED process and are now working on the FLS process through our PCMH for fractures in ED or the hospital. This measure is long overdue and I fully support it.

2418: Discharge Instructions – Emergency Department	Submitted by Cynthia Emory, MD	Implementation of a fracture liaison service plan of care needs to start on the day of the injury. Patients need to be engaged in their overall health and wellness. Instructions should be provided to the patient about the goals of a fracture liaison service so that they can take an active role in their care, understand what is happening, and how to prevent frctures from happening again.
2418: Discharge Instructions – Emergency Department	Submitted by Anna N. Miller, MD	As an orthopaedic trauma surgeon, I treat many patients with fractures of all types, including fragility fractures. We should be working to decrease fragility fractures, and especially repeat fragility fractures in patients throughout the country. Most patients who have a fragility fracture are not appropriately educated or sent for follow up treatment upon discharge from their emergency department visit. The main objectives of a Fracture Liaison Service (FLS) are to identify fragility fracture patients when they present to emergency departments, conduct investigations to diagnose osteoporosis and assess future fracture risk and, where appropriate, initiate osteoporosis treatment. Some FLS initiate the first prescription and subsequently rely upon written discharge instructions to the primary care provider to trigger long-term management (Type A), while less intensive FLS (Type B or Type C) undertake identification and/or investigations for fragility fracture patients, but rely on written discharge instructions to the primary care provider to trigger the initial and subsequent prescriptions for osteoporosis medicines. With these services in place, appropriate management can help prevent future fractures, saving billions of health care dollars per year
2418: Discharge Instructions – Emergency Department	Submitted by Richard Dell, MD	I also support this measure in improving the care of our patients after a fracture. By making sure proper discharge instructions are given to patients after a fracture hopefully the patient will more easily equate the fracture with the root cause of the fracture - the underlying osteoporosis. This is crucial since roughly 50% of patients with a hip fracture had a prior fragility fracture. Hopefully with better awareness and management we will see a decraese in the subsequent hip fractures after the index fragility fracture. There is strong evidence that shows that patienst that are properly identified in having osteoporosis both before and even after the index fracture will have a significantly lower rate of hip and other fractures.

2418: Discharge Instructions – Emergency Department	Submitted by Gary Kiebzak, PhD	Great job on developing this new measure. We need to get this approved and in the field to help improve care after fractures.
General Draft	Debra Sietsema, Orthopaedic Associates of Michigan; Submitted by Dr. Debra L. Sietsema, PhD, RN	National Quality Forum Attn: Endocrine Standing Committee 1030 15th Street NW Washington, DC 20005 Re: Comment on NQF Performance Measures 2416, 2417, and 2418 In 2008, Orthopaedic Associates of Michigan (OAM) implemented a Bone Health Program. OAM is recognized to have one of the largest Bone Health Programs in the United States. Our mission is to provide comprehensive orthopaedic bone health care; including osteoporosis screening, diagnosis, treatment, therapy, education, and research. Additionally, the program seeks to promote bone health, reduce fracture risk, accelerate healing, and prevent subsequent fractures. This program includes a Fracture Liaison Service, coordinated by two nurse practitioners. OAM's Bone Health Program is engaged in the Own the Bone program and patient registry as a means to ensure that patients who have suffered a fragility fracture receive appropriate screening, evaluation, counseling, and treatment for their underlying osteoporosis. Our program has been successful in meeting the needs of well over 4,000 western Michigan fragility fracture patients thus far to close the gap between fragility fractures and follow up treatment. Therefore, the OAM Bone Health Program Team strongly supports and endorses the adoption of the three post-fracture measures under consideration by the NQF Endocrine Standing Committee: • NQF# 2416: Laboratory Investigation for Secondary Causes of Fracture • NQF# 2417: Risk Assessment/Treatment After Fracture • NQF# 2418: Discharge Instructions – Emergency Department The OAM Bone Health Program Team believes the performance measures outlined are necessary to encourage and support clinicians in their quality reporting when evaluating, treating, and following up with osteoporosis patients.

General Draft	Tammy Beckett, Orthopaedic Associates of Michigan; Submitted by Dr. Debra L. Sietsema, PhD, RN	National Quality Forum Attn: Endocrine Standing Committee 1030 15th Street NW Washington, DC 20005 Re: Comment on NQF Performance Measures 2416, 2417, and 2418 In 2008, Orthopaedic Associates of Michigan (OAM) implemented a Bone Health Program. OAM is recognized to have one of the largest Bone Health Programs in the United States. Our mission is to provide comprehensive orthopaedic bone health care; including osteoporosis screening, diagnosis, treatment, therapy, education, and research. Additionally, the program seeks to promote bone health, reduce fracture risk, accelerate healing, and prevent subsequent fractures. This program includes a Fracture Liaison Service, coordinated by two nurse practitioners. OAM's Bone Health Program is engaged in the Own the Bone program and patient registry as a means to ensure that patients who have suffered a fragility fracture receive appropriate screening, evaluation, counseling, and treatment for their underlying osteoporosis. Our program has been successful in meeting the needs of well over 4,000 western Michigan fragility fracture patients thus far to close the gap between fragility fractures and follow up treatment. Therefore, the OAM Bone Health Program Team strongly supports and endorses the adoption of the three post-fracture measures under consideration by the NQF Endocrine Standing Committee: • NQF# 2416: Laboratory Investigation for Secondary Causes of Fracture • NQF# 2417: Risk Assessment/Treatment After Fracture • NQF# 2418: Discharge Instructions – Emergency Department The OAM Bone Health Program Team believes the performance measures outlined are necessary to encourage and support clinicians in their quality reporting when evaluating, treating, and following up with osteoporosis patients.

General Draft	Carole Donazzolo, Orthopaedic Associates of Michigan; Submitted by Dr. Debra L. Sietsema, PhD, RN	National Quality Forum Attn: Endocrine Standing Committee 1030 15th Street NW Washington, DC 20005 Re: Comment on NQF Performance Measures 2416, 2417, and 2418 In 2008, Orthopaedic Associates of Michigan (OAM) implemented a Bone Health Program. OAM is recognized to have one of the largest Bone Health Programs in the United States. Our mission is to provide comprehensive orthopaedic bone health care; including osteoporosis screening, diagnosis, treatment, therapy, education, and research. Additionally, the program seeks to promote bone health, reduce fracture risk, accelerate healing, and prevent subsequent fractures. This program includes a Fracture Liaison Service, coordinated by two nurse practitioners. OAM's Bone Health Program is engaged in the Own the Bone program and patient registry as a means to ensure that patients who have suffered a fragility fracture receive appropriate screening, evaluation, counseling, and treatment for their underlying osteoporosis. Our program has been successful in meeting the needs of well over 4,000 western Michigan fragility fracture patients thus far to close the gap between fragility fractures and follow up treatment. Therefore, the OAM Bone Health Program Team strongly supports and endorses the adoption of the three post-fracture measures under consideration by the NQF Endocrine Standing Committee: • NQF# 2416: Laboratory Investigation for Secondary Causes of Fracture • NQF# 2417: Risk Assessment/Treatment After Fracture • NQF# 2418: Discharge Instructions – Emergency Department The OAM Bone Health Program Team believes the performance measures outlined are necessary to encourage and support clinicians in their quality reporting when evaluating, treating, and following up with osteoporosis patients.

General Draft	Jane Walker, Orthopaedic Associates of Michigan; Submitted by Dr. Debra L. Sietsema, PhD, RN	National Quality Forum Attn: Endocrine Standing Committee 1030 15th Street NW Washington, DC 20005 Re: Comment on NQF Performance Measures 2416, 2417, and 2418 In 2008, Orthopaedic Associates of Michigan (OAM) implemented a Bone Health Program. OAM is recognized to have one of the largest Bone Health Programs in the United States. Our mission is to provide comprehensive orthopaedic bone health care; including osteoporosis screening, diagnosis, treatment, therapy, education, and research. Additionally, the program seeks to promote bone health, reduce fracture risk, accelerate healing, and prevent subsequent fractures. This program includes a Fracture Liaison Service, coordinated by two nurse practitioners. OAM's Bone Health Program is engaged in the Own the Bone program and patient registry as a means to ensure that patients who have suffered a fragility fracture receive appropriate screening, evaluation, counseling, and treatment for their underlying osteoporosis. Our program has been successful in meeting the needs of well over 4,000 western Michigan fragility fracture patients thus far to close the gap between fragility fractures and follow up treatment. Therefore, the OAM Bone Health Program Team strongly supports and endorses the adoption of the three post-fracture measures under consideration by the NQF Endocrine Standing Committee: • NQF# 2416: Laboratory Investigation for Secondary Causes of Fracture • NQF# 2417: Risk Assessment/Treatment After Fracture • NQF# 2418: Discharge Instructions – Emergency Department The OAM Bone Health Program Team believes the performance measures outlined are necessary to encourage and support clinicians in their quality reporting when evaluating, treating, and following up with osteoporosis patients

General Draft	Clifford Jones, Orthopaedic Associates of Michigan; Submitted by Dr. Debra L. Sietsema, PhD, RN	National Quality Forum Attn: Endocrine Standing Committee 1030 15th Street NW Washington, DC 20005 Re: Comment on NQF Performance Measures 2416, 2417, and 2418 In 2008, Orthopaedic Associates of Michigan (OAM) implemented a Bone Health Program. OAM is recognized to have one of the largest Bone Health Programs in the United States. Our mission is to provide comprehensive orthopaedic bone health care; including osteoporosis screening, diagnosis, treatment, therapy, education, and research. Additionally, the program seeks to promote bone health, reduce fracture risk, accelerate healing, and prevent subsequent fractures. This program includes a Fracture Liaison Service, coordinated by two nurse practitioners. OAM's Bone Health Program is engaged in the Own the Bone program and patient registry as a means to ensure that patients who have suffered a fragility fracture receive appropriate screening, evaluation, counseling, and treatment for their underlying osteoporosis. Our program has been successful in meeting the needs of well over 4,000 western Michigan fragility fracture patients thus far to close the gap between fragility fractures and follow up treatment. Therefore, the OAM Bone Health Program Team strongly supports and endorses the adoption of the three post-fracture measures under consideration by the NQF Endocrine Standing Committee: • NQF# 2416: Laboratory Investigation for Secondary Causes of Fracture • NQF# 2417: Risk Assessment/Treatment After Fracture • NQF# 2418: Discharge Instructions – Emergency Department The OAM Bone Health Program Team believes the performance measures outlined are necessary to encourage and support clinicians in their quality reporting when evaluating, treating, and following up with osteoporosis patients.

General Draft	James Stubbart, Orthopaedic Associates of Michigan; Submitted by Dr. Debra L. Sietsema, PhD, RN	National Quality Forum Attn: Endocrine Standing Committee 1030 15th Street NW Washington, DC 20005 Re: Comment on NQF Performance Measures 2416, 2417, and 2418 In 2008, Orthopaedic Associates of Michigan (OAM) implemented a Bone Health Program. OAM is recognized to have one of the largest Bone Health Programs in the United States. Our mission is to provide comprehensive orthopaedic bone health care; including osteoporosis screening, diagnosis, treatment, therapy, education, and research. Additionally, the program seeks to promote bone health, reduce fracture risk, accelerate healing, and prevent subsequent fractures. This program includes a Fracture Liaison Service, coordinated by two nurse practitioners. OAM's Bone Health Program is engaged in the Own the Bone program and patient registry as a means to ensure that patients who have suffered a fragility fracture receive appropriate screening, evaluation, counseling, and treatment for their underlying osteoporosis. Our program has been successful in meeting the needs of well over 4,000 western Michigan fragility fracture patients thus far to close the gap between fragility fractures and follow up treatment. Therefore, the OAM Bone Health Program Team strongly supports and endorses the adoption of the three post-fracture measures under consideration by the NQF Endocrine Standing Committee • NQF# 2416: Laboratory Investigation for Secondary Causes of Fracture • NQF# 2417: Risk Assessment/Treatment After Fracture • NQF# 2418: Discharge Instructions – Emergency Department The OAM Bone Health Program Team believes the performance measures outlined are necessary to encourage and support clinicians in their quality reporting when evaluating, treating, and following up with osteoporosis patients.

Appendix F: Measure Specifications

	0055 Comprehensive Diabetes Care: Eye Exam (retinal) performed
Steward	National Committee for Quality Assurance
Description	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who had an eye exam (retinal) performed.
Type	Process
Data Source	Administrative claims, Electronic Clinical Data, Paper Medical Records, Electronic Clinical Data : Pharmacy This measure uses a combination of administrative claims data and medical records. Eye screening for diabetic retinal disease can be identified by the following administrative data: Retinal or dilated eye exam by an eye care professional (optometrist or ophthalmologist) in the measurement year. A negative retinal or dilated eye exam (negative for retinopathy) by an eye care professional in the year prior to the measurement year. Codes in the following value sets will meet these criteria: Any code in the Diabetic Retinal Screening Value Set billed by an eye care professional during the measurement year. Any code in the Diabetic Retinal Screening Value Set billed by an eye care professional during the year prior to the measurement year, with a negative result (negative for retinopathy). Any code in the Diabetic Retinal Screening with Eye Care Professional Value Set billed by any provider type during the measurement year. Any code in the Diabetic Retinal Screening with Eye Care Professional Value Set billed by any provider type during the year prior to the measurement year, with a negative result (negative for retinopathy). Any code in the Diabetic Retinal Screening Negative Value Set billed by any provider type during the measurement year. The minimum medical record documentation includes one of the following: A note or letter prepared by an ophthalmologist, optometrist, PCP or other health care professional indicating that an opthalmoscopic exam was completed by an eye care professional, the date when the procedure was performed and the results. A chart of photograph of retinal abnormalities indicating the date when the fundus photography was performed and evidence than an eye care professional reviewed the results. Alternatively, results may be read by a qualified reading center that operates under the direction of a medical director who is a retinal specialist. Documentation of a negative retinal or dilated exam by an eye care professional in the year prior to the measurement year, where results indicate retinopathy was not present (e. g. documentation of normal findings for a dilated or retinal eye exam performed by an eye care professional meets criteria). No data collection instrument provided Attachment 0055_CDC_Eye_Exam_Value_Sets-635219460290552131.xlsx
Level	Clinician : Group/Practice, Health Plan, Clinician : Individual, Integrated Delivery System
Setting	Ambulatory Care : Clinician Office/Clinic
Time Window	The measurement year (12 month period).

	0055 Comprehensive Diabetes Care: Eye Exam (retinal) performed
Numerator Statement	Patients who received an eye screening for diabetic retinal disease. This includes people with diabetes who had the following: -a retinal or dilated eye exam by an eye care professional (optometrists or ophthalmologist) in the measurement year OR –a negative retinal exam or dilated eye exam (negative for retinopathy) by an eye care professional in the year prior to the measurement year. For exams performed in the year prior to the measurement year, a result must be available.
Numerator Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying numerator events for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: At a minimum, documentation in the medical record must include a note indicating the date when an eye exam was performed or negative eye exam result documented. The patient is numerator compliant if the eye exam was performed or a negative eye exam was documented in the year prior to the measurement year. The patient is not numerator compliant if the eye exam or negative result are missing. Ranges and thresholds do not meet criteria for this measure. A distinct numeric result is required for numerator compliance.
Denominator Statement	Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.

	0055 Comprehensive Diabetes Care: Eye Exam (retinal) performed
Denominator Details	Patients with diabetes can be identified two ways: -CLAIM/ENCOUNTER DATA: Patients who had two face-to-face encounters, in an inpatient setting or nonacute inpatient setting, on different dates of service, with a diagnosis of diabetes, or one face-to-face encounter in an acute inpatient or ED setting, with a diagnosis of diabetes, during the measurement year or the year prior to the measurement year. Organizations may count services that occur over both years. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B -PHARMACY DATA: Patients who were dispensed insulin or oral hypoglycemics/antihyperglycemics during the measurement year or the year prior to the measurement year on an ambulatory basis. PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES (TABLE CDC-A): Alpha-glucosidase inhibitors: Acarbose, Miglitol Amylin analogs: Pramlinitide Antidiabetic combinations: Glimepiride-pioglitazone, Glimepiride-rosiglitazone, Glipizide-metformin, Glyburide-metformin, Linagliptin-metaformin, Metformin-pioglitazone, Metformin-rosiglitazone, Metaformin-saxagliptin, Metformin-sitagliptin, Saxagliptin, Sitagliptin-simvastatin Insulin: Insulin aspart, Insulin aspart-insulin aspart protamine, Insulin detemir, Insulin glargine, Insulin glulisine, Insulin inhalation, Insulin isophane beef-pork, Insulin isophane human, Insulin isophane-insulin regular, Insulin lispro, Insulin lispro-insulin lispro protamine, Insulin regular human Meglitinides: Nateglinide, Repaglinide Miscellaneous antidiabetic agents: Exenatide, Linagliptin, Liraglutide, Metformin-repaglinide, Sitagliptin Sodium glucose cotransporter 2 (SGLT2) inhibitor: Canagliflozin Sulfonylureas: Acetohexamide, Chlorpropamide, Glimepiride, Glipizide, Glyburide, Tolazamide, Tolbutamide Thiazolidinediones: Pioglitazone, Rosiglitazone
Exclusions	Exclusions (optional): -Exclude patients who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year. AND -Exclude patients who meet either of the following criteria: -A diagnosis of polycystic ovaries, in any setting, any time in the patient's history through December 31 of the measurement year. -A diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year

	0055 Comprehensive Diabetes Care: Eye Exam (retinal) performed
Exclusion Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying the denominator for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and had a diagnosis of polycystic ovaries any time in the patient's history through December 31 of the measurement year. OR -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and a diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	N/A
Type Score	Rate/proportion better quality = higher score
Algorithm	STEP 1. Determine the eligible population. To do so, identify patients who meet all the specified criteria. -AGES: 18-75 years as of December 31 of the measurement year. -EVENT/DIAGNOSIS: Identify patients with diabetes in two ways: by claim/encounter data and by pharmacy data. Claim/Encounter Data: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B Pharmacy Data: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year. *SEE PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES IN QUESTION S.9 STEP 2. Determine the number of patients in the eligible population who had a recent eye exam (retinal) performed during the measurement year through the search of administrative data systems. STEP 3. Identify patients with a most recent eye exam (retinal) performed and the result. STEP 4. Identify the most recent eye exam (retinal) during the measurement year or a negative result prior to the measurement year (numerator compliant). Identify missing eye exam or missing eye exam result (not numerator compliant). STEP 5. Exclude from the eligible population patients from step 2 for whom administrative system data identified an exclusion to the service/procedure being measured. *SEE DENOMINATOR EXCLUSION CRITERIA IN QUESTION S.10 STEP 6. Calculate the rate (number of patients with an eye exam (retinal) performed during the measurement year or negative result prior to the measurement year). No diagram provided

	0055 Comprehensive Diabetes Care: Eye Exam (retinal) performed
Submission items	5.1 Identified measures: 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: N/A 5b.1 If competing, why superior or rationale for additive value: N/A

	0056 Diabetes: Foot Exam
Steward	National Committee for Quality Assurance
Description	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.
Type	Process
Data Source	Administrative claims, Paper Medical Records, Electronic Clinical Data : Pharmacy No data collection instrument provided Attachment 0056_CDC_Foot_Exam_Value_Sets-635219463363519462.xlsx
Level	Clinician : Group/Practice, Clinician : Individual
Setting	Ambulatory Care : Clinician Office/Clinic
Time Window	The measurement year (12 month period).
Numerator Statement	Patients who received a foot exam (visual inspection and sensory exam with monofilament and pulse exam) during the measurement period.
Numerator Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying numerator events for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: At a minimum, documentation in the medical record must include a note indicating the date when the exam was performed and the result. The patient is numerator compliant if a foot exam during the measurement year and result are documented. The patient is not numerator compliant if the result for the foot exam and result during the measurement year are missing. Ranges and thresholds do not meet criteria for this measure. A distinct numeric result is required for numerator compliance.
Denominator Statement	Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.

	0056 Diabetes: Foot Exam
Denominator Details	PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES Alpha-glucosidase inhibitors: Acarbose, Miglitol Amylin analogs: Pramlinitide Antidiabetic combinations: Glimepiride-pioglitazone, Glimepiride-rosiglitazone, Glipizide-metformin, Glyburide-metformin, Metformin-pioglitazone, Metformin-rosilitazone, Metformin-sitagliptin, Saxagliptin, Sitagliptin-simvastatin Insulin: Insulin aspart, Insulin aspart-insulin aspart protamine, Insulin detemir, Insulin glargine, Insulin glulisine, Insulin inhalation, Insulin isophane beef-pork, Insulin isophane human, Insulin isophane-insulin regular, Insulin lispro, Insulin lispro-insulin lispro protamine, Insulin regular human, Insulin zinc human Meglitinides: Nateglinide, Repaglinide Miscellaneous antidiabetic agents: Exenatide, Liraglutide, Metformin-repaglinide, Sitagliptin Sulfonylureas: Acetohexamide, Chlorpropamide, Glimepiride, Glipizide, Glyburide, Tolazamide, Tolbutamide Thiazolidinediones: Pioglitazone, Rosiglitazone --- CODES TO IDENTIFY DIABETES ICD-9-CM Diagnosis: 250, 357.2, 362.0, 366.41, 648.0
Exclusions	-A diagnosis of gestational or steroid-induced diabetes
Exclusion Details	ADMINISTRATIVE CLAIMS CODES TO IDENTIFY EXCLUSIONS Steroid induced: 249, 251.8, 962.0 Gestational diabetes: 648.8 --- MEDICAL RECORD Exclusionary evidence in the medical record must include a note indicating a diagnosis of gestational or steroid-induced diabetes
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	N/A
Type Score	Rate/proportion better quality = higher score

	0056 Diabetes: Foot Exam
Algorithm	STEP 1. Determine the eligible population. To do so, identify patients who meet all the specified criteria. -AGES: 18-75 years as of December 31 of the reporting period. -EVENT/DIAGNOSIS: Identify patients who had a diagnosis of diabetes with a visit during the measurement period. Claim/Encounter Data: Codes to identify diabetes: -ICD-9-CM Diagnosis: 250.00, 250.01, 250.02, 250.03, 250.10, 250.11, 250.12, 250.13, 250.20, 250.21, 250.22, 250.23, 250.30, 250.31, 250.32, 250.33, 250.40, 250.41, 250.42, 250.43, 250.50, 250.51, 250.52, 250.53, 250.60, 250.61, 250.62, 250.63, 250.70, 250.71, 250.72, 250.73, 250.80, 250.81, 250.82, 250.83, 250.90, 250.91, 250.92, 250.93, 357.2, 362.01, 362.02, 362.03, 362.04, 362.05, 362.06, 362.07, 366.41, 648.00, 648.01, 648.02, 648.03, 648.04 -ICD-10-CM Diagnosis: E10.8, E10.9, E10.10, E10.11, E10.21, E10.22, E10.29, E10.311, E10.319, E10.321, E10.329, E10.331, E10.339, E10.341, E10.349, E10.351, E10.359, E10.36, E10.39, E10.40, E10.41, E10.42, E10.43, E10.44, E10.49, E10.51, E10.52, E10.59, E10.610, E10.618, E10.620, E10.621, E10.622, E10.628, E10.630, E10.638, E10.641, E10.649, E10.65, E10.69, E11.00, E11.01, E11.21, E11.22, E11.29, E11.311, E11.319, E11.321, E11.329, E11.331, E11.339, E11.341, E11.349, E11.351, E11.359, E11.36, E11.39, E11.40, E11.41, E11.42, E11.43, E11.44, E11.49, E11.51, E11.52, E11.59, E11.65, E11.69, E11.610, E11.618, E11.620, E11.621, E11.622, E11.628 AND Patient encounter (CPT or HCPCS): 99201, 99202, 99203, 99204, 99205, 99211, 99212, 99213, 99214, 99215, 99217, 99218, 99219, 99220, 99221, 99222, 99223, 99231, 99232, 99233, 99238, 99239, 99281, 99282, 99283, 99284, 99285, 99291, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99315, 99316, 99318, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350, 99455, 99456, G0402, G0438, G0439 - STEP 2. Determine the number of patients in the eligible population who had a recent foot exam (visual inspection with a sensory exam and a pulse exam) exam during the measurement year through the search of administrative data systems. STEP 3. Identify patients with a most recent foot exam performed and the result. STEP 4. Identify the most recent foot exam with a result during the reporting period (numerator compliant). Identify the most recent result foot exam without a result or a missing foot exam (not numerator compliant). STEP 5. Exclude from the eligible population patients from step 2 for whom administrative system data identified an exclusion to the service/procedure being measured. *SEE DENOMINATOR EXCLUSION CRITERIA IN QUESTION S.10 STEP 6. Calculate the rate (number of patients that received a foot exam during the measurement year). No diagram provided

	0056 Diabetes: Foot Exam
Submission items	5.1 Identified measures: 0417 : Diabetic Foot & Ankle Care, Peripheral Neuropathy – Neurological Evaluation 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Measure 0056 identifies adults with diabetes (age 18-75) that had a foot exam (visual inspection with sensory and pulse exam) during the reporting year. Measure 0417 identifies adults with diabetes (age 18 and older) who had a lower extremity neurological exam at least once during the measurement year. HARMONIZED ELEMENTS: Both measures are harmonized on the target population of diabetic adults and the measure focus of lower extremity exam. The denominator for each measure are harmonized to include all adult patients with a diagnosis of diabetes mellitus. The care setting is harmonized for measure 0056 and 0417 in at least one care setting (Ambulatory Care: Clinician Office/ Clinic). In addition, the data source (administrative claims) and level of analysis (clinicians: individual) are harmonized for both measures. UNHARMONIZED MEASURE ELEMENTS: Data Source: Measure 0056 is specified for paper medical records, administrative claims and electronic clinical data while measure 0417 is specified for administrative claims only. Measure 0056 is included in the CMS PQRS program and in NCQA's Diabetes Recognition Program (DRP) for physician reporting. IMPACT ON INTERPRETABILITY AND DATA COLLECTION BURDEN: Measure 0056 provide more options for reporting based on available data sources. Measure 0417 is specified for only administrative claims. 5b.1 If competing, why superior or rationale for additive value: 0056 has a long history of use and is implemented in two national programs (PRQS and DRP).

	0057 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing
Steward	National Committee for Quality Assurance
Description	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received an HbA1c test during the measurement year.
Type	Process
Data Source	Administrative claims, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Paper Medical Records This measure is based on administrative claims and medical record documentation collected in the course of providing care to health plan members. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from Health Management Organizations and Preferred Provider Organizations via NCQA's online data submission system. No data collection instrument provided Attachment 0057_CDC_HbA1c_Testing_Value_Sets-635219472851147197.xlsx
Level	Health Plan, Integrated Delivery System
Setting	Ambulatory Care : Clinician Office/Clinic
Time Window	The measurement year (12 month period).
Numerator Statement	Patients who had an HbA1c test performed during the measurement year.
Numerator Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying numerator events for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: At a minimum, documentation in the medical record must include a note indicating the date when the HbA1c test was performed and the result. The patient is numerator compliant if the HbA1c test completed during the measurement year and result are documented. The patient is not numerator compliant if the HbA1c test and result are missing. Ranges and thresholds do not meet criteria for this measure. A distinct numeric result is required for numerator compliance.
Denominator Statement	Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.

	0057 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing
Denominator Details	Patients with diabetes can be identified two ways: CLAIM/ENCOUNTER DATA: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B PHARMACY DATA: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year (Table CDC-A). --- PRESCRIPTIONS TO IDENTIFY MEMBERS WITH DIABETES (Table CDC-A) Alpha-glucosidase inhibitors: Acarbose, Miglitol Amylin analogs: Pramlinitide Antidiabetic combinations: Glimepiride-pioglitazone, Glimepiride-rosiglitazone, Glipizide-metformin, Glyburide-metformin, Metformin-pioglitazone, Metformin-rosilitazone, Metformin-sitagliptin, Saxagliptin, Sitagliptin-simvastatin Insulin: Insulin aspart, Insulin aspart-insulin aspart protamine, Insulin detemir, Insulin glargine, Insulin glulisine, Insulin inhalation, Insulin isophane beef-pork, Insulin isophane human, Insulin isophane-insulin regular, Insulin lispro, Insulin lispro-insulin lispro protamine, Insulin regular human, Insulin zinc human Meglitinides: Nateglinide, Repaglinide Miscellaneous antidiabetic agents: Exenatide, Liraglutide, Metformin-repaglinide, Sitagliptin Sulfonylureas: Acetohexamide, Chlorpropamide, Glimepiride, Glipizide, Glyburide, Tolazamide, Tolbutamide Thiazolidinediones: Pioglitazone, Rosiglitazone
Exclusions	Exclusions (optional): -Exclude patients who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year. AND -Exclude patients who meet either of the following criteria: -A diagnosis of polycystic ovaries, in any setting, any time in the patient's history through December 31 of the measurement year. -A diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.

	0057 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing
Exclusion Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying the denominator for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. --- MEDICAL RECORD Exclusionary evidence in the medical record must include a note indicating a diagnosis of polycystic ovaries at any time in the member's history, but must have occurred by the end of the measurement year. The member must not have a face-to-face encounter in any setting, with a diagnosis of diabetes, during the measurement year or year prior to the measurement year. Exclusionary evidence in the medical record must include a note indicating a diagnosis of gestational or steroid-induced diabetes during the measurement year or the year prior to the measurement year. The member must not have a face-to-face encounter in any setting, with a diagnosis of diabetes, during the measurement year or the year prior to the measurement year.
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	N/A
Type Score	Rate/proportion better quality = higher score
Algorithm	STEP 1. Determine the eligible population. To do so, identify patients who meet all the specified criteria. -AGES: 18-75 years as of December 31 of the measurement year. -EVENT/DIAGNOSIS: Identify patients with diabetes in two ways: by claim/encounter data and by pharmacy data. Claim/Encounter Data: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B Pharmacy Data: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year. *SEE PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES IN S.9 STEP 2. Determine the number of patients in the eligible population who had a recent HbA1c test during the measurement year through the search of administrative data systems. STEP 3. Identify patients with a most recent HbA1c test performed. STEP 4. Identify the most recent HbA1c test with result (numerator compliant). Identify a missing result or no HbA1c test done during the measurement year (not numerator compliant). STEP 5. Exclude from the eligible population patients from step 2 for whom administrative system data identified an exclusion to the service/procedure being measured. *SEE DENOMINATOR EXCLUSION CRITERIA IN QUESTION S.10 STEP 6. Calculate the rate (number of patients that had an HbA1c test). No diagram provided

	0057 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing
Submission items	5.1 Identified measures: 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: N/A 5b.1 If competing, why superior or rationale for additive value: N/A

	0059 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)
Steward	National Committee for Quality Assurance
Description	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level during the measurement year was greater than 9.0% (poor control) or was missing a result, or if an HbA1c test was not done during the measurement year.
Type	Outcome
Data Source	Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Laboratory, Paper Medical Records, Electronic Clinical Data : Pharmacy This measure is based on administrative claims and medical record documentation collected in the course of providing care to health plan patients. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from Health Management Organizations and Preferred Provider Organizations via NCQA's online data submission system. No data collection instrument provided Attachment 0059_CDC_HbA1c_Poor_Control_Value_Sets-635219472170982837.xlsx
Level	Clinician : Group/Practice, Health Plan, Clinician : Individual, Integrated Delivery System, Population : National, Population : Regional, Population : State
Setting	Ambulatory Care : Clinician Office/Clinic
Time Window	Measurement year (12-month period.
Numerator Statement	Patients whose most recent HbA1c level is greater than 9.0% or is missing a result, or for whom an HbA1c test was not done during the measurement year. The outcome is an out of range result of an HbA1c test, indicating poor control of diabetes. Poor control puts the individual at risk for complications including renal failure, blindness, and neurologic damage. There is no need for risk adjustment for this intermediate outcome measure.
Numerator Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying numerator events for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: At a minimum, documentation in the medical record must include a note indicating the date when the HbA1c test was performed and the result. The patient is numerator compliant if the result for the most recent HbA1c level during the measurement year is >9.0% or is missing, or if an HbA1c test was not done during the measurement year. The patient is not numerator compliant if the result for the most recent HbA1c level during the measurement year is =9.0%. Ranges and thresholds do not meet criteria for this measure. A distinct numeric result is required for numerator compliance. *A lower rate indicates better performance for this indicator (i.e., low rates of poor control indicate better care).
Denominator Statement	Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.

	0059 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)
Denominator Details	Patients with diabetes can be identified two ways: -CLAIM/ENCOUNTER DATA: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B -PHARMACY DATA: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year (Table CDC-A). PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES (TABLE CDC-A): Alpha-glucosidase inhibitors: Acarbose, Miglitol Amylin analogs: Pramlinitide Antidiabetic combinations: Glimepiride-pioglitazone, Glimepiride-rosiglitazone, Glipizide-metformin, Glyburide-metformin, Linagliptin-metaformin, Metformin-pioglitazone, Metformin-rosiglitazone, Metaformin-saxagliptin, Metformin-sitagliptin, Saxagliptin, Sitagliptin-simvastatin Insulin: Insulin aspart, Insulin aspart-insulin aspart protamine, Insulin detemir, Insulin glargine, Insulin glulisine, Insulin inhalation, Insulin isophane beef-pork, Insulin isophane human, Insulin isophane-insulin regular, Insulin lispro, Insulin lispro-insulin lispro protamine, Insulin regular human Meglitinides: Nateglinide, Repaglinide Miscellaneous antidiabetic agents: Exenatide, Linagliptin, Liraglutide, Metformin-repaglinide, Sitagliptin Sodium glucose cotransporter 2 (SGLT2) inhibitor: Canagliflozin Sulfonylureas: Acetohexamide, Chlorpropamide, Glimepiride, Glipizide, Glyburide, Tolazamide, Tolbutamide Thiazolidinediones: Pioglitazone, Rosiglitazone
Exclusions	Exclusions (optional): -Exclude patients who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year. AND -Exclude patients who meet either of the following criteria: -A diagnosis of polycystic ovaries, in any setting, any time in the patient's history through December 31 of the measurement year. -A diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.

	0059 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)
Exclusion Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying the denominator for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and had a diagnosis of polycystic ovaries any time in the patient's history through December 31 of the measurement year. OR -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and a diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	N/A
Type Score	Rate/proportion better quality = lower score
Algorithm	STEP 1. Determine the eligible population. To do so, identify patients who meet all the specified criteria. -AGES: 18-75 years as of December 31 of the measurement year. -EVENT/DIAGNOSIS: Identify patients with diabetes in two ways: by claim/encounter data and by pharmacy data. Claim/Encounter Data: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B Pharmacy Data: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year. *SEE PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES IN QUESTION S.9 STEP 2. Determine the number of patients in the eligible population who had a recent HbA1c test result during the measurement year through the search of administrative data systems. STEP 3. Identify patients with a most recent HbA1c test performed and the result. STEP 4. Identify the most recent result with an HbA1c level >9.0%, a missing result or no HbA1c test done during the measurement year (numerator compliant). Identify the most recent result with an HbA1c level <=9.0% (not numerator compliant). STEP 5. Exclude from the eligible population patients from step 2 for whom administrative system data identified an exclusion to the service/procedure being measured. *SEE DENOMINATOR EXCLUSION CRITERIA IN QUESTION S.10 STEP 6. Calculate the rate (number of patients with poor HbA1c control >9.0%). No diagram provided

	0059 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)
Submission items	5.1 Identified measures: 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: N/A 5b.1 If competing, why superior or rationale for additive value: N/A

	0062 Comprehensive Diabetes Care: Medical Attention for Nephropathy
Steward	National Committee for Quality Assurance
Description	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received a nephropathy screening test or had evidence of nephropathy during the measurement year.
Type	Process
Data Source	Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Laboratory, Paper Medical Records, Electronic Clinical Data : Pharmacy This measure uses a combination of administrative claims data and medical records. Medical attention for nephropathy can be identified by the following administrative data and value sets: A nephropathy screening (Nephropathy screening tests value set) Evidence of treatment for nephropathy or ACE/ARB therapy (Nephropathy Treatment Value Set) Evidence of Stage 4 chronic kidney disease (CKD Stage 4 Value Set) Evidence of ESRD (ESRD Value Set) Evidence of kidney transplant (Kidney transplant value set) A visit with a nephrologist, as identified by the organization's specialty provider codes (no restriction on the diagnosis or procedure code submitted). A positive urine macroalbumin test (Positive Urine Macroalbumin tests value set) A urine microalbumin test (Urine Macroalbumin Tests Value Set) where laboratory data indicates a positive result ("trace" urine microalbumin test results are not considered numerator compliant). At least one ACE inhibitor or ARB dispensing event The medical record documentation includes: Nephropathy Screening Test: minimum documentation must include a note indicating the date for when a urine microalbumin test was performed and the result. The following meet the criteria for a urine microalbumin test: 24hr urine for microalbumin, Timed urine for microalbumin, Spot urine for microalbumin,Urine for microalbumin/creatinine ratio, 24hr urine for total protein, Random urine for protein/creatinine ratio Evidence of nephropathy: Documentation of visit to a nephrologist, Documentation of renal transplant, Documentation of medical attention for any of the following (no provider type restriction): Diabetic nephropathy, ESRD, Chronic renal failure (CRF), Chronic Kidney Disease (CKD), Renal insufficiency, Proteinuria, Albuminuria, Renal dysfunction, Acute renal failure (ARF), Dialysis, hemodialysis or peritoneal dialysis A positive urine microalbumin test. At minimum, documentation in the medical record must include a note indicating the date when the test was performed and a positive result. Any of the following meet the criteria for a positive urine microalbumin test, Positive urinalysis (random, spot or timed) for protein, Positive urine (random, spot or timed) for protein, Positive urine dipstick for protein, Positive tablet reagent for urine protein, Positive result for albuminuria, Positive result for macroalbuminuria, Positive result for proteinuria, Positive result for gross proteinuria Evidence of ACE inhibitor/ARB therapy. Documentation in the medical record must include, at minimum, a note indicating that the member received an ambulatory prescription for ACE inhibitors/ARBs in the measurement year. No data collection instrument provided Attachment 0062_CDC_Nephropathy_Value_Sets-635219474449845445.xlsx
Level	Clinician : Group/Practice, Health Plan, Clinician : Individual, Integrated Delivery System
Setting	Ambulatory Care : Clinician Office/Clinic

	0062 Comprehensive Diabetes Care: Medical Attention for Nephropathy
Time Window	The measurement year (12 month period).
Numerator Statement	Patients who received a nephropathy screening test or had evidence of nephropathy during the measurement year.
Numerator Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying numerator events for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: At a minimum, documentation in the medical record must include a note indicating the date when the nephropathy screening was performed or nephropathy evidence documented. The patient is numerator compliant if the nephropathy screening was performed or nephropathy evidence is documented. The patient is not numerator compliant if nephropathy screening and result are missing or if nephropathy evidence is not documented. Ranges and thresholds do not meet criteria for this measure. A distinct numeric result is required for numerator compliance.
Denominator Statement	Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.
Denominator Details	
Exclusions	
Exclusion Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying the denominator for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and had a diagnosis of polycystic ovaries any time in the patient's history through December 31 of the measurement year. OR -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and a diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	N/A
Type Score	Rate/proportion better quality = higher score

	0062 Comprehensive Diabetes Care: Medical Attention for Nephropathy
Algorithm	STEP 1. Determine the eligible population. To do so, identify patients who meet all the specified criteria. -AGES: 18-75 years as of December 31 of the measurement year. -EVENT/DIAGNOSIS: Identify patients with diabetes in two ways: by claim/encounter data and by pharmacy data. Claim/Encounter Data: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B Pharmacy Data: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year. *SEE PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES IN QUESTION S.9 STEP 2. Determine the number of patients in the eligible population who had a recent nephropathy screening or evidence of nephropathy during the measurement year through the search of administrative data systems. STEP 3. Identify patients with a nephropathy screening test or evidence of nephropathy. STEP 4. Identify the most recent nephropathy screening or evidence of nephropathy during the measurement year (numerator compliant). Identify the missing nephropathy screenings or no evidence of nephropathy (not numerator compliant). STEP 5. Exclude from the eligible population patients from step 2 for whom administrative system data identified an exclusion to the service/procedure being measured. *SEE DENOMINATOR EXCLUSION CRITERIA IN QUESTION S.10 STEP 6. Calculate the rate (number of patients with nephropathy screening or evidence of nephropathy).
Submission items	5.1 Identified measures: 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: 5b.1 If competing, why superior or rationale for additive value:

	0519 Diabetic Foot Care and Patient Education Implemented
Steward	Centers for Medicare & Medicaid
Description	Percentage of home health episodes of care in which diabetic foot care and patient/caregiver education were included in the physician-ordered plan of care and implemented for diabetic patientssince the previous OASIS assessment.
Type	Process
Data Source	Electronic Clinical Data The measure is calculated based on data obtained from the Home Health Outcome and Assessment Information Set (OASIS-C), which is a core standard assessment data set that home health agencies integrate into their own patient-specific, comprehensive assessment to identify each patient's need for home care. The data set is the foundation for valid and reliable information for patient assessment, care planning, and service delivery in the home health setting, as well as for the home health quality assessment and performance improvement program. HH agencies are required to collect OASIS data on all non-maternity Medicare/Medicaid patients, 18 or over, receiving skilled services. Data are collected at specific time points (admission, resumption of care after inpatient stay, recertification every 60 days that the patient remains in care, transfer, and at discharge). HH agencies are required to encode and transmit patient OASIS data to the state OASIS repositories. Each HHA has on-line access to outcome and process measure reports based on their own OASIS data submissions, as well as comparative state and national aggregate reports, case mix reports, and potentially avoidable event reports. CMS regularly collects OASIS data from the states for storage in the national OASIS repository, and makes measures based on these data (including the Diabetic Foot Care and Education measure) available to consumers and to the general public through the Medicare Home Health Compare website. Available at measure-specific web page URL identified in S.1 Attachment OASISQM_data_dictionary-635218488803072954.xls
Level	Facility
Setting	Home Health
Time Window	CMS systems report data on episodes that end within a rolling 12 month period, updated quarterly.
Numerator Statement	Number of home health episodes where at end of episode, diabetic foot care and education specified in the care plan had been implemented.
Numerator Details	Number of patient episodes where at end of episode: - (M0100) Reason for Assessment = 6 or 7 (transfer to inpatient) or 9(discharge) AND: - (M2400a)Diabetic Foot Care Plan implemented = 1 (yes)
Denominator Statement	Number of home health episodes of care ending with a discharge or transfer to inpatient facility during the reporting period, other than those covered by generic or measure-specific exclusions.
Denominator Details	A start/resumption of care assessment ((M0100) Reason for Assessment = 1 (Start of care) or 3 (Resumption of care)) paired with a corresponding discharge/transfer assessment ((M0100) Reason for Assessment = 6 (Transfer to inpatient facility – not discharged), 7 (Transfer to inpatient facility – discharged), 8 (Death at home), or 9 (Discharge from agency)), other than those covered by denominator exclusions.
Exclusions	Episodes in which the patient was not diabetic and/or had bilateral foot/lower leg amputations. Episodes ending in patient death.

	0519 Diabetic Foot Care and Patient Education Implemented
Exclusion Details	Measure Specific Exclusions: All episodes where -the patient is not diabetic OR the patient is a bilateral amputee (M2400a=NA) OR - the episode did not have a discharge or transfer to inpatient facility assessment because the episode of care ended in death at home Generic Exclusions: Medicare-certified home health agencies are currently required to collect and submit OASIS data only for adult (aged 18 and over) non-maternity Medicare and Medicaid patients who are receiving skilled home health care. Therefore, maternity patients, patients less than 18 years of age, non-Medicare/Medicaid patients, and patients who are not receiving skilled home services are all excluded from the measure calculation. However, the OASIS items and related measures could potentially be used for other adult patients receiving services in a community setting, ideally with further testing. The publicly-reported data on CMS' Home Health Compare web site also repress cells with fewer than 20 observations, and reports for home health agencies in operation less than six months.
Risk Adjustment	No risk adjustment or risk stratification NA - process measure
Stratification	NA - no stratification
Type Score	Rate/proportion better quality = higher score
Algorithm	For each Episode of Care, do the following: IF M2400_INTRVTN_SMRY_DBTS_FT[2] = NA OR M0100_ASSMT_REASON[2] = 08 THEN Diabetic_Ft_Care_Implmnt_All = MISSING ELSE IF M2400_INTRVTN_SMRY_DBTS_FT[2] = 01 THEN Diabetic_Ft_Care_Implmnt_All = 1 ELSEIF M2400_INTRVTN_SMRY_DBTS_FT[2] = 00 THEN Diabetic_Ft_Care_Implmnt_All = 0 END IF Note that OASIS data items are referred to using field names specified in OASIS Data Submission Specifications published by CMS. For additional details, please consult the technical specifications available at: http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/Downloads/HHQI-Revision1TechnicalDocumentationofMeasures.zip No diagram provided

	0519 Diabetic Foot Care and Patient Education Implemented
Submission items	5.1 Identified measures: 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: See response 5b1 5b.1 If competing, why superior or rationale for additive value: We found 2 NQF-endorsed measures that deal with diabetic foot care - 0416 - Diabetic Foot & Ankle Care, Ulcer Prevention – Evaluation of Footwear, and 0417 - Diabetic Foot & Ankle Care, Peripheral Neuropathy – Neurological Evaluation but the interventions that are the focus of both of these measures would not be provided as part of the home health plan of care. There are no measures that conceptually address both the same measure focus and the same target population.

	0545 Adherence to Statins for Individuals with Diabetes Mellitus
Steward	Centers for Medicare & Medicaid
Description	The measure addresses adherence to statins. The measure is reported as the percentage of eligible individuals with diabetes mellitus who had at least two prescriptions for statins and who have a Proportion of Days Covered (PDC) of at least 0.8 during the measurement period (12 consecutive months).
Type	Process
Data Source	Administrative claims, Other, Electronic Clinical Data : Pharmacy For measure calculation, the following Medicare files were required: • Denominator tables • Prescription drug benefit (Part D) coverage tables • Beneficiary file • Institutional claims (Part A) • Non-institutional claims (Part B)—physician carrier/non-DME • Prescription drug benefit (Part D) claims For ACO attribution, the following were required: • Denominator tables for Parts A and B enrollment • Prescription drug benefit (Part D) coverage tables • Beneficiary file • Institutional claims (Part A) • Non-institutional claims (Part B)—physician carrier/non-DME • Prescription drug benefit (Part D) claims For physician group attribution, the following were required: • Non-institutional claims (Part B)—physician carrier/non-DME • Denominator tables to determine individual enrollment • Beneficiary file or coverage table to determine hospice benefit and Medicare as secondary payor status • CMS physician and physician specialty tables • National Plan & Provider Enumeration System (NPPES) database No data collection instrument provided Attachment NQF0545_-_Codes_Table_-_statins.xls
Level	Clinician : Group/Practice, Health Plan, Integrated Delivery System, Population : State
Setting	Ambulatory Care : Clinician Office/Clinic
Time Window	The time period for data is defined as any time during the measurement period (12 consecutive months).
Numerator Statement	Individuals in the denominator with at least two prescriptions for statins with a PDC of at least 0.8 for statins.

	0545 Adherence to Statins for Individuals with Diabetes Mellitus
Numerator Details	The numerator is defined as individuals with a PDC of 0.8 or greater. The PDC is calculated as follows: • PDC Numerator: The PDC numerator is the sum of the days covered by the days' supply of all drug claims in each respective drug class. The period covered by the PDC starts on the day the first prescription is filled (index date) and lasts through the end of the measurement period, or death, whichever comes first. For prescriptions with a days' supply that extends beyond the end of the measurement period, count only the days for which the drug was available to the individual during the measurement period. If there are prescriptions for the same drug (generic name) on the same date of service, keep the prescription with the largest days' supply. If prescriptions for the same drug (generic name) overlap, then adjust the prescription start date to be the day after the previous fill has ended. • PDC Denominator: The PDC denominator is the number of days from the first prescription date through the end of the measurement period, or death date, whichever comes first.
Denominator Statement	Individuals at least 18 years of age as of the beginning of the measurement period with diabetes mellitus and at least two prescriptions for statins during the measurement period (12 consecutive months).

	0545 Adherence to Statins for Individuals with Diabetes Mellitus
Denominator Details	Target population meets the following conditions: 1. Continuously enrolled in Part D with no more than a one-month gap in enrollment during the measurement year; 2. Continuously enrolled in Part A and Part B with no more than a one-month gap in Part A enrollment and no more than a one-month gap in Part B enrollment during the measurement year; and, 3. No more than one month of HMO enrollment during the measurement year. IDENTIFICATION OF DIABETES MELLITUS Individuals with diabetes mellitus are identified using diagnosis codes and/or drug proxy to identify diabetes mellitus within the inpatient or outpatient claims data.* Individuals must have: At least two encounters with a principal or secondary diagnosis of diabetes with different dates of service in an outpatient setting or non-acute inpatient setting during the measurement period; OR At least one encounter with a principal or secondary diagnosis of diabetes in an acute inpatient or emergency department setting during the measurement period; OR At least one ambulatory prescription claim for insulin or other oral diabetes medication dispensed during the measurement period. *Adapted from NCQA HEDIS 2012 (2012). Note: HEDIS uses a look-back period of one year for both the prescription data and diagnosis. Table 1. Codes Used to Identify Diabetes Mellitus Diagnosis ICD-9-CM: 250.xx, 357.2, 362.01, 362.02, 362.03, 362.04, 362.05, 362.06, 362.07, 366.41, 648.00, 648.01, 648.02, 648.03, 648.04 ICD-10-CM: E08.311, E08.319, E08.321, E08.329, E08.331, E08.339, E08.341, E08.349, E08.351, E08.359, E08.40, E08.42, E09.311, E09.319, E09.321, E09.329, E09.331, E09.339, E09.341, E09.349, E09.351, E09.359, E09.36, E09.40, E09.42, E10.10, E10.11, E10.21, E10.22, E10.29, E10.311, E10.319, E10.321, E10.329, E10.331, E10.339, E10.341, E10.349, E10.351, E10.359, E10.36, E10.39, E10.40, E10.41, E10.42, E10.43, E10.44, E10.49, E10.51, E10.52, E10.59, E10.610, E10.618, E10.620, E10.621, E10.622, E10.628, E10.630, E10.638, E10.641, E10.649, E10.65, E10.69, E10.8, E10.9, E11.00, E11.01, E11.21, E11.22, E11.29, E11.311, E11.319, E11.321, E11.329, E11.331, E11.339, E11.341, E11.349, E11.351, E11.359, E11.36, E11.39, E11.40, E11.41, E11.42, E11.43, E11.44, E11.49, E11.51, E11.52, E11.59, E11.610, E11.618, E11.620, E11.621, E11.622, E11.628, E11.630, E11.638, E11.641, E11.649, E11.65, E11.69, E11.8, E11.9, E13.00, E13.01, E13.10, E13.11, E13.21, E13.22, E13.29, E13.311, E13.319, E13.321, E13.329, E13.331, E13.339, E13.341, E13.349, E13.351, E13.359, E13.36, E13.39, E13.40, E13.41, E13.42, E13.43, E13.44, E13.49, E13.51, E13.52, E13.59, E13.610, E13.618, E13.620, E13.621, E13.622, E13.628, E13.630, E13.638, E13.641, E13.649, E13.65, E13.69, E13.8, E13.9, O24.011, O24.012, O24.013, O24.019, O24.02, O24.03, O24.111, O24.112, O24.113, O24.119, O24.12, O24.13, O24.311, O24.312, O24.313, O24.319, O24.32, O24.33, O24.811, O24.812, O24.813, O24.819, O24.82, O24.83, O24.911, O24.912, O24.913, O24.919, O24.92, O24.93 DRG: 637,638 Codes Used to Identify Encounter Type Table 2.1. Outpatient Setting CPT: 92002, 92004, 92012, 92014, 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99384-99387, 99394-99397, 99401-99404, 99411, 99412, 99420, 99429, 99455, 99456 UB-92 revenue: 051x, 0520-0523, 0526-0529, 057x-059x, 077x, 082x-085x, 088x, 0982, 0983 Table 2.2 Non-Acute Inpatient CPT: 99304-99310, 99315, 99316, 99318, 99324-99328, 99334-99337 UB-92 revenue: 0118, 0128, 0138, 0148, 0158, 019x, 0524, 0525, 055x, 066x

	0545 Adherence to Statins for Individuals with Diabetes Mellitus
Exclusions	We excluded the following individuals from the denominator: Individuals with polycystic ovaries, gestational diabetes, or steroid-induced diabetes who do not have a face-to-face visit with a diagnosis of diabetes in any setting during the measurement period. Exclusion 1 Individuals with a diagnosis of polycystic ovaries who do not have a visit with a diagnosis of diabetes in any setting during the measurement period*; and, Exclusion 2 Individuals with a diagnosis of gestational diabetes or steroid-induced diabetes who do not have a visit with a diagnosis of diabetes mellitus in any setting during the measurement period. *Adapted from NCQA HEDIS 2013 (2013). Note: HEDIS uses a look-back period of one year prior to the measurement period for both the prescription data and diagnosis.
Exclusion Details	Table 5. Diagnostic Exclusions for Diabetes Denominator Exclusion 1 Polycystic Ovaries ICD-9-CM: 256.4 ICD-10-CM: E28.2 Exclusion 2 Steroid-Induced Diabetes ICD-9-CM: 249.xx, 251.8, 962.0 ICD-10-CM: E08.00, E08.01, E08.10, E08.11, E08.21, E08.22, E08.29, E08.311, E08.319, E08.321, E08.329, E08.331, E08.339, E08.341, E08.349, E08.351, E08.359, E08.36, E08.39, E08.40, E08.41, E08.42, E08.43, E08.44, E08.49, E08.51, E08.52, E08.59, E08.610, E08.618, E08.620, E08.621, E08.622, E08.628, E08.630, E08.638, E08.641, E08.649, E08.65, E08.69, E08.8, E08.9, E09.00, E09.01, E09.10, E09.11, E09.21, E09.22, E09.29, E09.311, E09.319, E09.321, E09.329, E09.331, E09.339, E09.341, E09.349, E09.351, E09.359, E09.36, E09.39, E09.40, E09.41, E09.42, E09.43, E09.44, E09.49, E09.51, E09.52, E09.59, E09.610, E09.618, E09.620, E09.621, E09.622, E09.628, E09.630, E09.638, E09.641, E09.649, E09.65, E09.69, E09.8, E09.9, E16.8, T38.0X1A, T38.0X2A, T38.0X3A, T38.0X4A, T50.0X1A, T50.0X2A, T50.0X3A, T50.0X4A Gestational Diabetes ICD-9-CM: 648.80, 648.81, 648.82, 648.83, 648.84 ICD-10-CM: O24.410, O24.414, O24.419, O24.420, O24.424, O24.429, O24.430, O24.434, O24.439, O99.810, O99.814, O99.815
Risk Adjustment	No risk adjustment or risk stratification Not applicable

	0545 Adherence to Statins for Individuals with Diabetes Mellitus
Stratification	Depending on the operational use of the measure, measure results may be stratified by: • State • Accountable Care Organizations (ACOs)* • Plan • Physician Group • Age - Divided into 6 categories: 18-24, 25-44, 45-64, 65-74, 75-84, and 85+ years • Race/Ethnicity • Dual Eligibility *ACO attribution methodology is based on where the beneficiary is receiving the plurality of his/her primary care services and subsequently assigned to the participating providers.
Type Score	Rate/proportion better quality = higher score

	0545 Adherence to Statins for Individuals with Diabetes Mellitus
Algorithm	To calculate Adherence to Statins for Individuals with Diabetes Mellitus, Medicare administrative claims data and related files, as described in detail in Section S.24, will be required. Denominator: Individuals at least 18 years of age as of the beginning of the measurement period with diabetes mellitus and at least two prescriptions for statins during the measurement period (12 consecutive months). Create Denominator 1. Pull individuals who are 18 years of age or older as of the beginning of the measurement period. 2. Include individuals who were continuously enrolled in Part D coverage during the measurement year, with no more than a one-month gap in enrollment during the measurement year, or up until their death date if they died during the measurement period. 3. Include individuals who had no more than a one-month gap in Part A enrollment, no more than a one-month gap in Part B enrollment, and no more than one month of HMO enrollment during the current measurement period (FFS individuals only). 4. Of those individuals identified in Step 3, keep those who had: At least two face-to-face encounters with a principal or secondary diagnosis of diabetes with different dates of service in an outpatient setting or non-acute inpatient setting during the measurement period; OR At least one face-to-face encounter with a principal or secondary diagnosis of diabetes in an acute inpatient setting or emergency department setting during the measurement period; OR At least one ambulatory prescription claim for insulin or other oral diabetes medication dispensed during the measurement period. 5. Of the individuals identified in Step 4, exclude those with a diagnosis of polycystic ovaries, gestational diabetes, or steroid-induced diabetes who do not have at least one face-to-face visit with a diagnosis of diabetes in any setting during the measurement period. 6. Pull all Part D claims for statins. Attach generic name and drug ID to the dataset. 7a. Keep individuals with at least two claims for a drug in the statin class on different dates of service during the measurement period. 7b. Of the individuals not excluded in Step 5, keep those that are also in the statins class dataset created in Step 7a. This is the denominator. 7c. For each individual in the dataset created in Step 7b, identify the date of the first prescription in the measurement period as the index event. Numerator: Individuals in the denominator with at least two prescriptions for statins with a PDC of at least 0.8 for statins. Create Numerator For the individuals in the denominator, calculate the PDC for each individual according to the following methods: 1. Determine the individual's measurement period, defined as the number of days from the index prescription date through the end of the measurement year, or death, whichever comes first. Index date is the date of the first statin prescription in the measurement period. 2. Within the measurement period, count the days the individual was covered by at least one drug in the statin class based on the prescription fill date and days of supply. a. Pull Part D claims for drugs in the respective drug class for individuals in the denominators. Attach drug ID and generic name to the datasets. b. Sort and de-duplicate claims by beneficiary ID, service date, generic name, and descending days' supply. If prescriptions for the same drug (generic name) are dispensed on the same date of service for an individual, keep the dispensing with the largest days' supply. c. Calculate the number of days covered per individual for each drug class. i. For prescriptions with a days' supply that extends beyond the end of the measurement period, count only the days for which the drug was available to the individual during the

	0545 Adherence to Statins for Individuals with Diabetes Mellitus
Submission items	5.1 Identified measures: 0055 : Comprehensive Diabetes Care: Eye Exam (retinal) performed 0056 : Diabetes: Foot Exam 0057 : Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing 0059 : Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%) 0061 : Comprehensive Diabetes Care: Blood Pressure Control (<140/90 mm Hg) 0062 : Comprehensive Diabetes Care: Medical Attention for Nephropathy 0063 : Comprehensive Diabetes Care: LDL-C Screening 0064 : Comprehensive Diabetes Care: LDL-C Control <100 mg/dL 0417 : Diabetic Foot & Ankle Care, Peripheral Neuropathy – Neurological Evaluation 0541 : Proportion of Days Covered (PDC): 3 Rates by Therapeutic Category 0542 : Adherence to Chronic Medications 0543 : Adherence to Statin Therapy for Individuals with Coronary Artery Disease 0569 : ADHERENCE TO STATINS 0575 : Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%) 0604 : Adult(s) with diabetes mellitus that had a serum creatinine in last 12 reported months. 0619 : Diabetes with Hypertension or Proteinuria - Use of an ACE Inhibitor or ARB 0630 : Diabetes and Elevated HbA1C – Use of Diabetes Medications 1879 : Adherence to Antipsychotic Medications for Individuals with Schizophrenia 0416 : Diabetic Foot & Ankle Care, Ulcer Prevention – Evaluation of Footwear 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: NQF 0545 is related to and completely harmonized with the four NQF-endorsed measure that use the Proportion of Days Covered (PDC) method of calculating adherence. These four measures include one NQF-endorsed measure by PQA (NQF 0541) and three NQF-endorsed measures by CMS (NQF 0542, 0543, and 1879). For the related measures that are not completely harmonized with NQF 0545, the following sections identify differences between these measures and NQF 0545, rationale, and impact on interpretability, and data collection burden. Diabetes Measures by National Committee for Quality Assurance (NCQA) and Optum - NQF 0545 has the same target population (i.e., individuals with diabetes mellitus) as the nine Diabetes Measures developed by the National Committee for Quality Assurance (NCQA) and one measure developed by Optum. The nine NCQA measures (NQF 0055, 0056, 0057, 0059, 0061, 0062, 0063, 0064, and 0075) and the Optum measure (NQF 0604) are related to, but are not completely harmonized with, NQF 0545. Differences Between NQF 0545 and NCQA and Optum Diabetes Measures - Identification of Individuals with Diabetes Mellitus: NQF 0545 uses the same algorithm for identifying individuals with diabetes as the NCQA and Optum Diabetes Measures, which entails using diagnosis codes and/or drug proxy to identify diabetes mellitus within the inpatient or outpatient claims data. However, NQF 0545 uses only claims for the 12-month measurement period, whereas the NCQA and Optum Diabetes Measures use a look-back period of one year for both the prescription data and diagnosis data. In addition, the Optum measure (NQF 0604) also uses a Disease Registry Input File, if available, to identify patients with diabetes mellitus. Age of Individuals Included in the Measure: NQF 0545 includes individuals who are at least 18 years of age and older as of the beginning of the measurement year, whereas the NCQA and Optum Diabetes Measures include individuals who are 18-75 years as of December 31st of the measurement year. Rationale - NQF 0545 uses a one-year time frame, rather than two years for the NCQA Diabetes measures, which allows more individuals (i.e., those with one year of data) to be included. NQF 0545 includes individuals 18 years and older, rather than 18-75 years for the NCQA and Optum measures, because many Medicare beneficiaries are over 75 years of age, and the guideline recommendations for the medication therapies do not restrict to the 18-75 age group. Impact on interpretability - NQF 0545 is easier to interpret than the NCQA and Optum Diabetes measures because it focuses on a single year and includes all adults 18 years and older. Data collection burden - The target populations of NQF 0545 and the NCQA Diabetes measures are identified using administrative

	0575 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Steward	National Committee for Quality Assurance
Description	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level is <8.0% during the measurement year.
Type	Outcome
Data Source	Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Laboratory, Paper Medical Records, Electronic Clinical Data : Pharmacy This measure is based on administrative claims and medical record documentation collected in the course of providing care to health plan patients. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from Health Management Organizations and Preferred Provider Organizations via NCQA's online data submission system. No data collection instrument provided Attachment 0575_CDC_HbA1c_Control_Value_Sets-635219475215342352.xlsx
Level	Clinician : Group/Practice, Health Plan, Clinician : Individual, Integrated Delivery System
Setting	Ambulatory Care : Clinician Office/Clinic
Time Window	Measurement year (12-month period)
Numerator Statement	Patients whose most recent HbA1c level is less than 8.0% during the measurement year. The outcome is a result of an HbA1c test, indicating desirable control of diabetes. Poor control puts the individual at risk for complications including renal failure, blindness, and neurologic damage. There is no need for risk adjustment for this intermediate outcome.
Numerator Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying numerator events for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: At a minimum, documentation in the medical record must include a note indicating the date when the HbA1c test was performed and the result. The patient is numerator compliant if the result for the most recent HbA1c level during the measurement year is <8.0%. The patient is not numerator compliant if the result for the most recent HbA1c level during the measurement year is >8.0% or is missing, or if an HbA1c test was not performed during the measurement year. Ranges and thresholds do not meet criteria for this measure. A distinct numeric result is required for numerator compliance.
Denominator Statement	Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.

	0575 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Denominator Details	Patients with diabetes can be identified two ways: CLAIM/ENCOUNTER DATA: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B PHARMACY DATA: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year (Table CDC-A). PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES (TABLE CDC-A): Alpha-glucosidase inhibitors: Acarbose, Miglitol Amylin analogs: Pramlinitide Antidiabetic combinations: Glimepiride-pioglitazone, Glimepiride-rosiglitazone, Glipizide-metformin, Glyburide-metformin, Linagliptin-metaformin, Metformin-pioglitazone, Metformin-rosiglitazone, Metaformin-saxagliptin, Metformin-sitagliptin, Saxagliptin, Sitagliptin-simvastatin Insulin: Insulin aspart, Insulin aspart-insulin aspart protamine, Insulin detemir, Insulin glargine, Insulin glulisine, Insulin inhalation, Insulin isophane beef-pork, Insulin isophane human, Insulin isophane-insulin regular, Insulin lispro, Insulin lispro-insulin lispro protamine, Insulin regular human Meglitinides: Nateglinide, Repaglinide Miscellaneous antidiabetic agents: Exenatide, Linagliptin, Liraglutide, Metformin-repaglinide, Sitagliptin Sodium glucose cotransporter 2 (SGLT2) inhibitor: Canagliflozin Sulfonylureas: Acetohexamide, Chlorpropamide, Glimepiride, Glipizide, Glyburide, Tolazamide, Tolbutamide Thiazolidinediones: Pioglitazone, Rosiglitazone
Exclusions	Exclusions (optional): -Exclude patients who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year. AND -Exclude patients who meet either of the following criteria: -A diagnosis of polycystic ovaries, in any setting, any time in the patient's history through December 31 of the measurement year. -A diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.

	0575 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Exclusion Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying the denominator for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and had a diagnosis of polycystic ovaries any time in the patient's history through December 31 of the measurement year. OR -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and a diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	N/A
Type Score	Rate/proportion better quality = higher score
Algorithm	STEP 1. Determine the eligible population. To do so, identify patients who meet all the specified criteria. -AGES: 18-75 years as of December 31 of the measurement year. -EVENT/DIAGNOSIS: Identify patients with diabetes in two ways: by claim/encounter data and by pharmacy data. Claim/Encounter Data: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B Pharmacy Data: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year. *SEE PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES IN S.9 STEP 2. Determine the number of patients in the eligible population who had a recent HbA1c test result during the measurement year through the search of administrative data systems. STEP 3. Identify patients with a most recent HbA1c test performed and the result. STEP 4. Identify the most recent result with an HbA1c level <8.0% (numerator compliant). Identify the most recent result with an HbA1c level >=8.0%, a missing result or no HbA1c test done during the measurement year (not numerator compliant). STEP 5. Exclude from the eligible population patients from step 2 for whom administrative system data identified an exclusion to the service/procedure being measured. *SEE DENOMINATOR EXCLUSION CRITERIA IN QUESTION S.10 STEP 6. Calculate the rate (number of patients with HbA1c control <8.0%). No diagram provided

	0575 Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Submission items	5.1 Identified measures: 0024 : Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents (WCC) 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Measure 0575 is a single measure that uses health plan reported data to assess the percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level is <8.0%. Measure 0729 is a composite measure that uses physician reported data to assess the percentage of adult diabetes patients who have optimally managed modifiable risk factors (A1c, LDL, blood pressure, tobacco non-use and daily aspirin usage for patients with diagnosis of ischemic vascular disease). HARMONIZED MEASURE ELEMENTS: Both measures focus on an adult patient population 18-75 years with diabetes. Both measures assess whether the patient had a target HbA1c level <8.0%. Both measures include visit criteria in the last two years to be included in the denominator. UNHARMONIZED MEASURE ELEMENTS: -Data Source: Measure 0575 is collected through use of administrative claims and/or medical record. Measure 0729 is collected through medical record abstraction. -Level of Accountability: Measure 0575 is a health plan level measure and is also widely used in clinician quality and recognition programs. Measure 0729 is a physician level measure and therefore only includes only patients who had an office visit with a reporting provider. -Exclusions: Measure 0575 includes denominator exclusions for those without a diagnosis of diabetes in the last two years in any setting and a diagnosis of polycystic ovaries in measurement year or diagnosis of gestational or steroid-induced diabetes in the last two years. Measure 0729 includes denominator exclusions for patients with only one visit in the last two years, patients who were pregnant, patients who died, or patients who were in hospice or permanently living in a nursing home. IMPACT ON INTERPRETABILITY AND DATA COLLECTION BURDEN: The differences between these measures do not have an impact on interpretability of publically reported rates. Measure 0575 is collected at the health plan level and the sample does not allow for calculation of a provider specific rate. Measure 0729 is collected at the provider level and is not reported by enough providers to allow for aggregation to the health plan level. There is no added burden of data collection because the data for each measure is collected from different data sources by different entities. 5b.1 If competing, why superior or rationale for additive value: N/A

	2362 Glycemic Control - Hyperglycemia
Steward	Centers for Medicare & Medicaid Services
Description	Average percentage of hyperglycemic hospital days for individuals with a diagnosis of diabetes mellitus, anti-diabetic drugs (except metformin) administered, or at least one elevated glucose level during the hospital stay
Type	Outcome
Data Source	Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy • Hospital electronic health record (EHR) data • For measure calculation, the following EHR data were required: o Inpatient (IP) Master Patient file with demographic, diagnostic, and procedural information for inpatients o Glucose test file with the names, results, and times of glucose tests for both laboratory and point-of-care testing o Medication administration records (MARs) for anti-diabetic drugs o Location file with the care units and the start and end times of patients' stays No data collection instrument provided Attachment Hyperglycemia_value_sets.xls
Level	Facility
Setting	Hospital/Acute Care Facility
Time Window	Measure data will be aggregated annually (12 months) and reported on a rolling quarter.
Numerator Statement	Sum of the percentage of hospital days in hyperglycemia for each admission in the denominator
Numerator Details	Hyperglycemic hospital days are defined as days in which: 1. Two or more blood glucose levels were elevated (>200 mg/dL [11.1 mmol/L]), measured at least six hours apart; Or 2. A single blood glucose level was elevated, if only one value was available that day; Or 3. No blood glucose level was measured that day, and it was not preceded by two normoglycemic days.
Denominator Statement	Total number of admissions with a diagnosis of diabetes mellitus, at least one administration of insulin or any anti-diabetic medication except metformin, or at least one elevated blood glucose value (>200 mg/dL [11.1 mmol/L]) at any time during the entir

	2362 Glycemic Control - Hyperglycemia
Denominator Details	For each admission, hospital days included in the analysis are the first 10 calendar days during the hospital stay after excluding: • The 1st day (date of admission), if the patient is admitted before noon • The 1st and 2nd day, if the patient is admitted after noon or the patient is admitted before noon with the first glucose level >400 mg/dL • The 1st, 2nd, and 3rd day, if the patient is admitted after noon with the first glucose level >400 mg/dL • The day of discharge For cardiothoracic (CT) surgery patients, the calendar days adjacent to the time period from operating room (OR) start time until OR end time plus 18 hours are removed from the analysis. Table 1.1. Identification of Diabetes Mellitus ICD-9-CM: 250.xx ICD-10-CM: E10.10, E10.11, E10.21, E10.22, E10.29, E10.311, E10.319, E10.321, E10.329, E10.331, E10.339, E10.341, E10.349, E10.351, E10.359, E10.36, E10.39, E10.40, E10.41, E10.42, E10.43, E10.44, E10.49, E10.51, E10.52, E10.59, E10.610, E10.618, E10.620, E10.621, E10.622, E10.628, E10.630, E10.638, E10.641, E10.649, E10.65, E10.69, E10.8, E10.9, E11.00, E11.01, E11.21, E11.22, E11.29, E11.311, E11.319, E11.321, E11.329, E11.331, E11.339, E11.341, E11.349, E11.351, E11.359, E11.36, E11.39, E11.40, E11.41, E11.42, E11.43, E11.44, E11.49, E11.51, E11.52, E11.59, E11.610, E11.618, E11.620, E11.621, E11.622, E11.628, E11.630, E11.638, E11.641, E11.649, E11.65, E11.69, E11.8, E11.9, E13.00, E13.01, E13.10, E13.11, E13.21, E13.22, E13.29, E13.311, E13.319, E13.321, E13.329, E13.331, E13.339, E13.341, E13.349, E13.351, E13.359, E13.36, E13.39, E13.40, E13.41, E13.42, E13.43, E13.44, E13.49, E13.51, E13.52, E13.59, E13.610, E13.618, E13.620, E13.621, E13.622, E13.628, E13.630, E13.638, E13.641, E13.649, E13.65, E13.69, E13.8, E13.9 The following are the diabetic medications by class for the denominator. The route of administration includes all oral, inhalation, and injectable formulations of the medications listed below. Table 1.2. Anti-Diabetic Medications Excluding Metformin Generic names – Brand Names – Rx Norm Codes: Alpha-glucosidase inhibitors: acarbose – (Precose) – (199150, 200132, 199149) miglitol – (Glyset) – (205331, 205329, 205330) Anti-diabetic amylin analogs: pramlintide – (Symlin) – (861042, 861044, 861039, 861035) Anti-diabetic combinations: glipizide-metformin (Metaglip, Glipizide/Metformin HCL) – (861731, 861736, 861740) glyburide-metformin (Glucovance, Glyburide/Metformin HCL) – (861743, 861748, 861753) linagliptin-metformin (Jentadueto) pioglitazone-glimepiride (Duetact) – (647237, 647239) pioglitazone-metformin (Actoplus MET) – (899989, 899996, 899994, 900001, 861783, 861822) rosiglitazone-glimepiride (Avandaryl) – (602544, 602549, 706895, 602550, 706896) rosiglitazone-metformin (Avandamet) – (861760, 861763, 861806, 861816) saxagliptin-metformin (Kombiglyze) – (1043563, 1043570, 1043578, 1043568, 1043575, 1043583) sitagliptin-metformin (Janumet) -– (861769, 861819) repaglinide-metformin (Prandimet) – (861787, 861790) sitagliptin-simvastatin (Juvisync) – (1189804, 1189808, 1189821) Dipeptidyl peptidase-4 (dpp-4) inhibitors: sitagliptin – (Januvia) – (665033, 665038, 665042) saxagliptin – (Onglyza) – (858042, 858036) linagliptin – (Tradjenta) – (1100702)

	2362 Glycemic Control - Hyperglycemia
Exclusions	The following admissions are excluded from the denominator: • Admissions with diagnosis of diabetic ketoacidosis (DKA) or hyperglycemic hyperosmolar syndrome (HHS) • Admissions without any hospital days included in analysis • Admissions with lengths of stay greater than 120 days
Exclusion Details	Table 1.5. Identification of Diabetic Ketoacidosis ICD-9-CM: 250.10, 250.11, 250.12, 250.13, 250.30, 250.31, 250.32, 250.33, 249.10, 249.11, 249.30, 249.31 ICD-10-CM: E08.10, E08.11, E08.641, E08.65, E09.10, E09.11, E09.641, E09.65, E10.10, E10.11, E10.641, E10.65, E11.01, E11.641, E11.65, E11.69, E13.10, E13.11, E13.641 Table 1.6. Identification of Hyperglycemic Hyperosmolar Syndrome ICD-9-CM: 250.20, 250.21, 250.22, 250.23, 249.20, 249.21 ICD-10-CM: E08.00, E08.01, E08.65, E09.00, E09.01, E10.65, E10.69, E11.00, E11.01, E11.65, E13.00, E13.01
Risk Adjustment	Stratification by risk category/subgroup Not applicable
Stratification	Depending on the operational use of the measure, measure results will be stratified by: • Care units (intensive care unit vs. non-intensive care unit) Hospital days will be assigned to the unit with the majority of time. • Type of patients (medical vs. surgical) • Daily cumulative steroid dose (=10 mg, 10-499 mg, =500 mg prednisone equivalents) Table 1.7 MSDRG Codes Used to Identify Surgical Patients 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 031, 032, 033, 034, 035, 036, 037, 038, 039, 040, 041, 042, 049, 050, 051, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 400, 401, 402, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 525, 526, 527, 528, 529, 530, 531, 532, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666,667, 668, 669, 670, 671, 672, 673, 674, 675, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 765, 766, 767, 768, 769, 770, 799, 800, 801, 802, 803, 804, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 853, 854, 855, 856, 857, 858, 876, 901, 902, 903, 904, 905, 906, 907, 908, 909, 927, 928, 929, 939, 940, 941, 955, 956, 957, 958, 959, 969, 970, 981, 982, 983, 984, 985, 986, 987, 988, 989
Type Score	Ratio better quality = lower score

	2362 Glycemic Control - Hyperglycemia
Algorithm	Target Population Inpatient admissions/encounters where individuals are at least 18 years of age on admission date, both admission and discharge dates are within the measurement period, and the length of stay is less than 120 days Denominator: Total number of admissions with a diagnosis of diabetes mellitus, at least one administration of insulin or any oral anti-diabetic medication except metformin, or at least one elevated blood glucose value (>200 mg/dL [11.1 mmol/L]) at any time during the entire hospital stay 1. Was the admission during the measurement period? If Yes, go to Step 2. If No, exclude. 2. Determine the patient's age in years. The patient's age is equal to the admission date minus the birth date. If the patient is at least 18 years old, go to Step 3. If less than 18 years old, exclude from the measure population. 3. Determine the length of hospital stay in days. The length of stay is equal to the discharge date minus the admission date. If the length of stay is at least 120 days, move to step 4. If the length of stay is less than 120 days, exclude from the measure population. 4. During the admission did the patient have a diagnosis of diabetes mellitus (on Table 1.1), or receive an anti-diabetic medication excluding Metformin (on Table 1.2), or have at least one elevated blood glucose level greater than 200 mg/dL (on Table 1.3)? If Yes, go to Step 5. If No, exclude from the measure population. 5. Determine if, during the admission, any random or peri-prandial blood glucose tests (on Table 1.3) were conducted. If Yes, go to Step 6. If No, exclude from the measure population. 6. If there was no diagnosis of diabetic ketoacidosis (DKA on Table 1.5) during the admission, go to Step 7. If there was a diagnosis of DKA, exclude from the measure population. 7. If there was no diagnosis of hyperglycemic hyperosmolar syndrome (HHS on Table 1.6) during the admission, determine the measureable days, as described in Step 8. If there was a diagnosis of HHS, exclude from the measure population. 8. To determine the measureable days in the admission: a. Remove the admission and discharge day. b. Remove the first day following the admission date, if the patient was admitted after noon or the patient was admitted before noon with the first blood glucose level greater than 400 mg/dL. c. Remove the first and second day following the admission date, if the patient was admitted after noon with the first glucose level greater than 400 mg/dL. d. Remove any days in which any part of the day was covered by the patient in the operating room (OR) for a cardio-thoracic procedure (on Table 1.4) through 18 hours after they leave the OR. 9. Is there at least one measurable day left? If Yes, go to Step 10. If No, exclude from the measure population. 10. If there were 10 calendar days or less, go to Step 11. Exclude any calendar days over 10 days from the measure population. 11. Count the number of admissions left. The total number of the qualifying admissions is the measure denominator. Numerator: Sum of the percentage of hospital days in hyperglycemia for all admissions in the denominator 1. For each calendar day identified in Step 10 of the denominator logic, extract the test results that are from either random or peri-prandial blood glucose tests. Sort them by the collection time in ascending order. 2. For each day, determine if there were at least six hours between the first elevated blood glucose level (> 200 mg/dL) and the last elevated blood glucose level; or there was one single elevated blood glucose level (if only one value was available); or no blood glucose level was measured and two normoglycemic days did not precede it. If Yes, mark the day as a Hyperglycemic Day. If No, exclude the day from the numerator population. 3. For each admission, count the number of Hyperglycemic Days (from Numerator Step 2) and the number of measureable days qualified for the measure (from Denominator Step 10).

	2362 Glycemic Control - Hyperglycemia
Submission items	5.1 Identified measures: 0055 : Comprehensive Diabetes Care: Eye Exam (retinal) performed 0056 : Diabetes: Foot Exam 0057 : Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing 0059 : Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%) 0061 : Comprehensive Diabetes Care: Blood Pressure Control (<140/90 mm Hg) 0062 : Comprehensive Diabetes Care: Medical Attention for Nephropathy 0063 : Comprehensive Diabetes Care: LDL-C Screening 0064 : Comprehensive Diabetes Care: LDL-C Control <100 mg/dL 0300 : Cardiac Surgery Patients With Controlled Postoperative Blood Glucose 0416 : Diabetic Foot & Ankle Care, Ulcer Prevention – Evaluation of Footwear 0417 : Diabetic Foot & Ankle Care, Peripheral Neuropathy – Neurological Evaluation 0519 : Diabetic Foot Care and Patient Education Implemented 0545 : Adherence to Statins for Individuals with Diabetes Mellitus 0546 : Diabetes: Appropriate Treatment of Hypertension 0575 : Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%) 0603 : Adult(s) taking insulin with evidence of self-monitoring blood glucose testing. 0604 : Adult(s) with diabetes mellitus that had a serum creatinine in last 12 reported months. 0618 : Diabetes with LDL-C greater than 100 – Use of a Lipid Lowering Agent 0619 : Diabetes with Hypertension or Proteinuria - Use of an ACE Inhibitor or ARB 0630 : Diabetes and Elevated HbA1C – Use of Diabetes Medications 0632 : Primary Prevention of Cardiovascular Events in Diabetics – Use of Aspirin or Antiplatelet Therapy 0704 : Proportion of Patients Hospitalized with AMI that have a Potentially Avoidable Complication (during the Index Stay or in the 30-day Post-Discharge Period) 0705 : Proportion of Patients Hospitalized with Stroke that have a Potentially Avoidable Complication (during the Index Stay or in the 30-day Post-Discharge Period) 0708 : Proportion of Patients Hospitalized with Pneumonia that have a Potentially Avoidable Complication (during the Index Stay or in the 30-day Post-Discharge Period) 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: This proposed measure is a new measure. The definition of diabetes in the measure was harmonized, where feasible, with NQF-endorsed NCQA measures (#0055, 0056, 0057, 0059, 0061, 0062, 0063, 0064, and 0575) and NQF-endorsed CMS measures (#0519 and 0545). The measure specifications of the proposed measure are not completely harmonized with NQF #0300 Cardiac Surgery Patients with Controlled Postoperative Blood Glucose, which has the same measure focus (hyperglycemia in the inpatient hospital setting) as the proposed measure. Below we describe the differences between the proposed measure and NQF #0300 as well as the implications of those differences. Data Source - Difference: The proposed measure uses hospital EHR data as the data source. NQF #0300 uses administrative claims and paper medical records as the data source for the measure. Rationale: The utilization of hospital EHR data should streamline data collection and analysis and therefore require less time and resources. Impact on interpretability: Hospital EHR data should be more accurate than abstraction of paper medical records for blood glucose levels. Data collection burden: Because the proposed measure is based on hospital EHR data, it should require less time and resources than the analysis of claims data and abstraction of paper medical records that are required for NQF #0300. Definition of Target Population Used in the Measures - Difference: The target population for the proposed measure is all inpatient admissions 18 years or older with specified exclusions. The target population for NQF #0300 is all cardiac surgery patients 18 years or older with specified exclusions. Rationale: The proposed measure adds value because it includes all patients at risk of hyperglycemia in the inpatient hospital setting, rather than only cardiac surgery patients as in NQF #0300. The impact of the proposed measure should be

	2363 Glycemic Control - Hypoglycemia
Steward	Centers for Medicare & Medicaid Services
Description	The rate of hypoglycemic events following the administration of an anti-diabetic agent
Type	Outcome
Data Source	Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy • Hospital electronic health record (EHR) data • For measure calculation, the following EHR data were required: o Inpatient (IP) Master Patient file with demographic, diagnostic, and procedural information for inpatients o Glucose Tests file with the names, results, and times of glucose tests o Medication administration records (MARs) for anti-diabetic drugs o Location file with the care units and the start and end times of patients' stays No data collection instrument provided Attachment Hypoglycemia_2013-value_sets.xls
Level	Facility
Setting	Hospital/Acute Care Facility
Time Window	Measure data will be aggregated annually (12 months) and reported on a rolling quarter.
Numerator Statement	Total number of hypoglycemic events (<40 mg/dL) that were preceded by administration of rapid/short-acting insulin within 12 hours or an anti-diabetic agent other than short-acting insulin within 24 hours, were not followed by another glucose value greater than 80 mg/dL within five minutes, and were at least 20 hours apart Optional numerator: Total number of hypoglycemic events (<70 mg/dL) that were preceded by administration of rapid/short-acting insulin within 12 hours or an anti-diabetic agent other than short-acting insulin within 24 hours, were not followed by another glucose value greater than 80 mg/dL within five minutes, and were at least 20 hours apart
Numerator Details	Table 2.2 LOINC Codes Used to Identify Glucose Tests* 2309-0 – Glucose [Mass/Volume] in Blood 2340-8 – Glucose [Mass/Volume] in Blood by Test Strip Auto 2341-6 – Glucose [Mass/Volume] in Blood by Test Strip Manual 2345-7 – Glucose [Mass/Volume] in Serum or Plasma 32016-8 – Glucose [Mass/Volume] in Capillary Blood 41651-1 – Glucose [Mass/Volume] in Arterial Blood 41652-9 – Glucose [Mass/Volume] in Venous Blood 41653-7 – Glucose [Mass/Volume] in Capillary Blood by Glucometer *Definition of eligible glucose tests: random or peri-prandial blood (capillary, serum, plasma, whole blood) glucose tests excluding fasting or post-glucose Note: Laboratory and point-of-care glucose tests are both required for the calculated measure rate to be valid.
Denominator Statement	Total number of hospital days with at least one anti-diabetic agent administered

	2363 Glycemic Control - Hypoglycemia
Denominator Details	Table 2.1 Anti-Diabetic Medications: Generic Names – Brand Names – Rx Norm Codes: Metformin: metformin – (Glucophage, Riomet, Glumetza, Fortamet, Appformin) – (476506, 358336, 860996, 860975, 860981, 541765, 311571, 311570, 311572, 861025, 860999, 861004, 860978, 861007, 860984, 861010) Anti-diabetic amylin analogs: pramlintide – (Symlin) – (861042, 861044, 861039, 861035) Anti-diabetic combinations: glipizide-metformin (Metaglip, Glipizide/Metformin HCL) – (861731, 861736, 861740) glyburide-metformin (Glucovance, Glyburide/Metformin HCL) – (861743, 861748, 861753) linagliptin-metformin pioglitazone-glimepiride (Duetact) – (647237, 647239) pioglitazone-metformin (Actoplus MET) – (899989, 899996, 899994, 900001, 861783, 861822) rosiglitazone-glimepiride (Avandaryl) – (602544, 602549, 706895, 602550, 706896) rosiglitazone-metformin (Avandamet) – (861760, 861763, 861806, 861816) saxagliptin-metformin (Kombiglyze) – (1043563, 1043570, 1043578, 1043568, 1043575, 1043583) sitagliptin-metformin (Janumet) – (861769, 861819) repaglinide-metformin (Prandimet) – (861787, 861790) sitagliptin-simvastatin (Juvisync) – (1189804, 1189808, 1189821) Dipeptidyl peptidase-4 (dpp-4) inhibitors: sitagliptin – (Januvia) – (665033, 665038, 665042) saxagliptin – (Onglyza) – (858042, 858036) linagliptin – (Tradjenta) – (1100702) Incretin mimetics: exenatide – (Byetta, Bydureon) – (847915, 847910) liraglutide – (Victoza) – (897122) Insulin: insulin detemir – (Levemir) – (847239, 484322) insulin glargine – (Lantus, Solostar) – (847230, 311041) insulin isophane & reg (human) – (Humulin, Novolin, Relion) – (245265, 311048, 847187, 847256) insulin isophane (human) – (Humulin, Novolin, Relion) – (311028, 847278, 847197) Short-acting insulin: insulin aspart – (Novolog) – (311040, 847263) insulin aspart protamine & aspart (human) – (Novolog) – (847191, 351297) insulin glulisine – (Apidra) – (847259, 485210) insulin lispro (human) – (Humalog) – (847207, 847416, 242120) insulin lispro protamine & lispro (human) – (Humalog) – (847252, 847211, 259111, 260265) insulin regular (human) includes inhalation – (Humulin, Exubera, Novolin) – (763020, 763015, 847417, 847203, 763002, 763007, 763013, 763014, 311034, 249220) Meglitinides: nateglinide – (Starlix) – (311919, 314142) repaglinide – (Prandin) – (200257, 200256, 200258) Sulfonylureas: chlorpropamide – (Diabinese) – (197495, 197496) glimepiride – (Amaryl) – (199245, 199246, 199247) glipizide – (Glucotrol) – (315107, 310489, 314006, 844827, 310488, 844809, 844824, 310490) glyburide – (Micronase, Diabeta) – (197737, 310534, 310537)

	2363 Glycemic Control - Hypoglycemia
Exclusions	Admissions with lengths of stay greater than 120 days are excluded.
Exclusion Details	Not applicable
Risk Adjustment	No risk adjustment or risk stratification Not applicable
Stratification	None
Type Score	Ratio better quality = lower score

	2363 Glycemic Control - Hypoglycemia
Algorithm	Target Population Inpatient admissions/encounters where individuals are at least 18 years of age on admission date, both admission and discharge dates are within the measurement period, and the length of stay is less than 120 days Denominator: Total number of hospital days with at least one anti-diabetic agent administered 1. Was the admission during the measurement period? If Yes, go to Step 2. If No, exclude from measure population. 2. Determine the patient's age in years. The patient's age is equal to the admission date minus the birth date. If the patient is at least 18 years old, go to Step 3. If less than 18 years old, exclude from the measure population. 3. Determine the length of hospital stay in days. The length of stay is equal to the discharge date minus the admission date. If the length of stay is at least 120 days, move to step 4. If the length of stay is less than 120 days, exclude from the measure population. 4. Determine if there was at least one anti-diabetic medication (Table 2.1) administered. If Yes, go to Step 5. If No, exclude from the measure population. 5. For each admission, determine the number of hospital days that had at least one anti-diabetic medication administered. 6. Sum the number of hospital days identified in Step 5 from all the qualifying admissions and this is the denominator for the measure population. Numerator: Total number of hypoglycemic events (<40 mg/dL) that were preceded by administration of rapid/short-acting insulin within 12 hours or an anti-diabetic agent other than rapid/short-acting insulin within 24 hours, were not followed by another glucose value greater than 80 mg/dL within five minutes, and were at least 20 hours apart 7. Determine if, during the admission, any random or peri-prandial blood glucose tests were conducted. If Yes, go to Step 7. If No, exclude from the measure population. 8. Determine if the admission included blood glucose results of less than 40 mg/dL from the blood glucose tests that are either random or peri-prandial. If Yes, go to Step 8. If No, exclude from the measure population. Each result of less than 40 mg/dL from a random or peri-prandial blood glucose test indicates a Hypoglycemic Event. 9. For each Hypoglycemic Event identified in the admission, determine if there was an administration of a rapid/short-acting insulin within 12 hours or other anti-diabetic medication within 24 hours before the event. If Yes, go to Step 10. If No, then the event is excluded from the measure population. 10. For each remaining Hypoglycemic Event, determine that there was not a blood glucose result that was greater than 80 mg/dL within five minutes of the event. If Yes, go to Step 11. If No, exclude the event from the measure population. 11. For each remaining Hypoglycemic Event, determine if this event occurred more than 20 hours after the previous event. If Yes, then this event is a valid event, go to Step 12. If No, exclude the event from the measure population. 12. Determine the total number of valid Hypoglycemic Events remaining from all the qualifying admissions. This is the numerator for the measure population. A flow diagram for the denominator and numerator logics is attached to the NQF Submission Form as a supplemental document. No diagram provided

	2363 Glycemic Control - Hypoglycemia
Submission items	5.1 Identified measures: 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Not applicable; there are no NQF-endorsed measures that are related (i.e., have either the same measure focus or target population) to the proposed measure. 5b.1 If competing, why superior or rationale for additive value: Not applicable; there are no NQF-endorsed measures that compete (i.e., have the same measure focus and the same target population) with the proposed measure.

	2416 Laboratory Investigation for Secondary Causes of Fracture
Steward	The Joint Commission
Description	Percentage of patients age 50 and over with fragility fracture who have had appropriate laboratory investigation for secondary causes of fracture ordered or performed prior to discharge from inpatient status.
Type	Process
Data Source	Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Paper Medical Records The data source is the medical record. No data collection instrument provided Attachment OAF_Appendix_Final.xlsx
Level	Facility
Setting	Hospital/Acute Care Facility
Time Window	The time period for measurement is the duration of the hospitalization.
Numerator Statement	Patients who have all the specified laboratory tests ordered or performed prior to discharge: 1. Complete blood cell count (CBC) 2. Kidney function test 3. Liver function test 4. Serum calcium 5. 25(OH) Vitamin D level OR Oral Administration of Vitamin D

	2416 Laboratory Investigation for Secondary Causes of Fracture
Numerator Details	Data Elements: Laboratory Tests Ordered or Performed Prior to Discharge - The specific laboratory tests are (all five): Complete Blood Count (CBC) and Kidney Function Test - may be either: Serum Creatinine Kidney Function Panel Kidney Panel Renal Function Panel and Liver Function Test – may be either: Liver Panel Liver Profile Liver Function Panel Hepatic Panel Hepatic Profile Hepatic Function Profile All of the following: Bilirubin Alk. Phos AST ALT Total Protein Albumin and Serum Calcium and 25(OH) Vitamin D level Instructions to the patient must be specific for the laboratory test to be performed; general terms such as “labs” are unacceptable. If some of the laboratory tests are performed while an inpatient and the patient is given a prescription for the remaining laboratory tests on discharge, select value 1, (Yes). Allowable Values: 1 (Yes) There is an order for the specified laboratory tests. 2 (Yes) There are results for the specified laboratory tests in the record. 3 (Yes) A prescription for performance of the specified laboratory tests was given to the patient on discharge. 4 (Yes) Written discharge instructions given to the patient include instructions to follow up with his or her physician for the specified laboratory tests. 5 (Partial) The only lab test not ordered or performed is the Vitamin D test, 25(OH)D. 6 (No) There is no order for all the specified laboratory tests, the specified laboratory test results are not in the record, there is no prescription given to the patient for the specified laboratory tests, and there are no written discharge instructions given to the patient to follow up with his or her physician for the specified laboratory tests. 7 (Refused) There is evidence in the record that the patient refused all laboratory testing for osteoporosis. Oral Administration of Vitamin D - Administration of Vitamin D, alone or in combination with other components, by mouth. Vitamin D must be given by mouth at a dose to equal or exceed 800 IU daily. Examples of dosing regimens that are acceptable are: 1000 IU daily

	2416 Laboratory Investigation for Secondary Causes of Fracture
Denominator Statement	Patients age 50 and over discharged from inpatient status with an ICD-9-CM Principal or Other Diagnosis Code of selected fractures as defined in Table 3.1 Vertebral Fracture, Table 4.1 Hip Fracture, or Table 5.1 Other Fracture
Denominator Details	Patients age 50 and over discharged from inpatient status with an ICD-9-CM Principal or Other Diagnosis Code of selected fractures as defined in Table 3.1 Vertebral Fracture, Table 4.1 Hip Fracture, or Table 5.1 Other Fracture. (See codes in attached Excel file – Tables). Data Elements: (See definitions provided in the attached Excel file – Data Elements) Admission date Birthdate ICD-9-CM Principal Diagnosis Code ICD-9-CM Other Diagnosis Codes Comfort Measures Only Clinical Trial Laboratory Testing Performed in the Prior 12 Months Discharge Date Discharge Disposition
Exclusions	Exclusions are those patients with: • Age less than 50 years • "Comfort Measures Only" documented • Enrollment in a clinical trial pertaining to osteoporosis • Laboratory testing performed in the prior 12 months • Expired
Exclusion Details	Age less than 50 years Admission date is subtracted from birth date to calculate age. Comfort Measures Only Comfort Measures Only refers to medical treatment of a dying person where the natural dying process is permitted to occur while assuring maximum comfort. It includes attention to the psychological and spiritual needs of the patient and support for both the dying patient and the patient's family. Comfort Measures Only is commonly referred to as "comfort care" by the general public. It is not equivalent to a physician order to withhold emergency resuscitative measures such as Do Not Resuscitate (DNR). Clinical Trial Documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients with the same condition as the measure set were being studied (i.e., fragility fracture). Laboratory Testing Performed in the Prior 12 Months Documentation in the current medical record that all five required laboratory tests were performed in the 12 months prior to the admission date. The five required laboratory tests are: Complete blood cell count (CBC) Kidney function test Liver function test Serum calcium Vitamin D level (25(OH)D)
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	This measure is not stratified.
Type Score	Rate/proportion better quality = higher score

	2416 Laboratory Investigation for Secondary Causes of Fracture
Algorithm	1. Target population identified as inpatients age 50 and over 2. Target population of fragility fracture patients identified by Diagnosis Code 3. Patients to be excluded by virtue of discharge status expired, comfort measures only, and clinical trial are excluded 4. Patients for whom the physician has documented that they are known to have osteoporosis, or for whom there is documentation of a known cause of osteoporosis, are excluded from the measure to avoid testing for information that is known. 5. Patients who had all the laboratory testing in the prior 12 months are excluded from the measure. 6. Remaining patients who had all the laboratory testing done during the current inpatient stay are placed in the numerator 7. Remaining patients whose only missing laboratory test is a 25(OH)D are identified; if they received at least one oral dose of Vitamin D equal to or greater than 800IU daily they are placed in the numerator 8. All remaining patients are in the denominator. Available at measure-specific web page URL identified in S.1

	2416 Laboratory Investigation for Secondary Causes of Fracture
Submission items	5.1 Identified measures: 0045 : Osteoporosis: Communication with the Physician Managing On-going Care Post Fracture of Hip, Spine or Distal Radius for Men and Women Aged 50 Years and Older 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Differences : 1. Target population of #0045 is the ambulatory care/clinic or physician office patient; target population of this measure (OAF-01) is hospital inpatient. 2. Numerator of #0045 is notification of physician following the patient that patient should be tested or treated for osteoporosis; numerator of OAF-01 is ordering of laboratory testing for underlying causes of osteoporosis/osteopenia or administration of Vitamin D. 3. Denominator of #0045 is patients with hip, spine or distal radial fracture; denominator of OAF-01 includes those sites of fracture plus additional sites of fracture known to be sites of fragility fracture such as humerus, ankle, and pelvis. 4. The level of analysis for OAF-01 is facility=specific; the level of analysis for #0045 is the individual physician. Rationale: 1. Communication to a following physician does not ensure that testing will be ordered; reviewing hospital inpatients encourages appropriate testing during hospitalization or ordering post discharge. 2. If the patient does not follow up with a physician, or a different physician than the one who was communicated to (partners, etc.), then the communication is lost in terms of benefit to the patient. 3. OAF-01 indicates specifically which laboratory tests should be done, while 0045 does not. Often, patients are not assessed for Vitamin D deficiency/insufficiency. Given that Vitamin D insufficiency is at epidemic levels in the United States and is a substance necessary to enhance the absorption of calcium and increase the efficacy of osteoporosis medications and calcium, treatment success is enhanced by assessment of 25(OH)D levels. 4. OAF-01 avoids the costs of additional phlebotomy and repeat testing. 5. OAF-01 avoids delay in diagnosis and treatment of underlying causes of osteoporosis/osteopenia. 6. #0045 does not recognize the efforts of the orthopedic community to “Own the Bone” and perpetuates the fragmentary care for osteoporosis that has resulted in inadequate diagnosis and treatment thus far. Impact on interpretability: #0045 results give no information as to whether the testing was ordered, only that the doctor was notified, and therefore the relationship to improved patient care and outcome is unknown. OAF-01 is clear in that it indicates if all required lab tests were done or undone. Data Collection Burden: It is quicker to find laboratory and medication reports than it is to find a specific letter or communication in a medical record, particularly as the measure is converted to eSpecifications. 5b.1 If competing, why superior or rationale for additive value: No NQF-endorsed competing measures were found.

	2417 Risk Assessment/Treatment After Fracture
Steward	The Joint Commission
Description	Patients age 50 or over with a fragility fracture who have either a dual-energy X-Ray absorptiometry (DXA) scan ordered or performed, or a prescription for FDA-approved pharmacotherapy for osteoporosis, or who are seen by or linked to a fracture liaison service prior to discharge from inpatient status,. If DXA is not available and documented as such, then any other specified fracture risk assessment method may be ordered or performed.
Type	Process
Data Source	Electronic Clinical Data : Electronic Health Record, Paper Medical Records A data collection instrument has been developed by The Joint Commission for the purpose of the pilot test. Contracted vendors will develop data collection tools specific to their performance measurement systems when the measures specifications are released to them. No data collection instrument provided Attachment OAF_Appendix_Final-635231390001572897.xlsx
Level	Facility
Setting	Hospital/Acute Care Facility
Time Window	The time period for measurement is the duration of the hospitalization.
Numerator Statement	Patients who had either a DXA scan ordered or performed, OR a prescription for FDA-approved pharmacotherapy for osteoporosis treatment, OR those who were seen by, contacted by, or linked to a fracture liaison service prior to discharge OR had other fracture risk assessment method ordered or performed if DXA is not available.
Numerator Details	Data Elements: (See attached Excel file for definitions and allowable values) DXA Scan Ordered or Performed Prior to Discharge Other Fracture Risk Assessment Method Ordered or Performed Prior to Discharge FDA-approved Pharmacotherapy for Osteoporosis Treatment Reason for No DXA Scan Reason for No FDA-approved Pharmacotherapy for Treatment of Osteoporosis Fracture liaison service
Denominator Statement	Patients age 50 and over discharged from inpatient status with an ICD-9-CM Principal or Other Diagnosis Code of selected fractures as defined in Table 3.1 Vertebral Fracture, Table 4.1 Hip Fracture, or Table 5.1 Other Fracture,
Denominator Details	Data Elements: (See definitions and allowable values in attached Excel file) Admission date Birthdate ICD-9-CM Principal Diagnosis Code ICD-9-CM Other Diagnosis Code Comfort Measures Only Clinical Trial Bone Mineral Density Test Performed in the 12 Months Prior to the Fracture On FDA-approved Pharmacotherapy for Treatment of Osteoporosis Prior to Fracture Discharge Date Discharge Disposition

	2417 Risk Assessment/Treatment After Fracture
Exclusions	• Age less than 50 years • "Comfort Measures Only" documented • Enrollment in a clinical trial pertaining to osteoporosis • On FDA-Approved pharmacotherapy for osteoporosis treatment as defined in Table 1.1 prior to the fracture date • Bone Mineral density test documented in the 12 months prior to the fracture • Expired See attached Excel file for definitions
Exclusion Details	See attached Excel file for definitions of exclusions as listed in S-10.
Risk Adjustment	No risk adjustment or risk stratification N/A
Stratification	This measure is not stratified.
Type Score	Rate/proportion better quality = higher score
Algorithm	1. Target population is identified by principal or other diagnosis code 2. Admission and appropriate age identified; those not admitted and under age 50 are excluded 3. Expired patients are excluded 4. Patients who had comfort measures only or who participated in a clinical trial for osteoporosis are excluded 5. Patients who had a bone mineral density test in the prior 12 months or who were on FDA=approved pharmacotherapy for osteoporosis immediately prior to the fracture are excluded 6. Those who had a DXA scan ordered or performed are in the numerator 7. For those remaining patients without a DXA scan if some other risk assessment method was performed, they are placed in the numerator. 8. For those remaining patients without a scan or fracture risk assessment method performed, if they were seen by or linked to a fracture liaison service or placed on FDA-approved pharmacotherapy for osteoporosis, they are placed in the numerator. 9. For those remaining patients without a scan or fracture risk assessment method or pharmacotherapy, if there is a documented reason for no pharmacotherapy they are placed in the numerator; if the patient refused pharmacotherapy they are excluded from the measure 10. For those patients remaining who have had no DXA scan ordered or performed, no other fracture risk assessment method, and no pharmacotherapy administered and there is no reason for no pharmacotherapy documented and they have not refused pharmacotherapy, if they were contacted by, seen by or linked to a fracture liaison service they are placed in the numerator. 11. All remaining patients are part of the denominator population. Available at measure-specific web page URL identified in S.1

	2417 Risk Assessment/Treatment After Fracture
Submission items	5.1 Identified measures: 0048 : Osteoporosis: Management Following Fracture of Hip, Spine or Distal Radius for Men and Women Aged 50 Years and Older 0053 : Osteoporosis Management in Women Who Had a Fracture 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Differences: 1. NQF#0048 is intended for use in Care Settings of Ambulatory Care: Clinician Office/Clinic, Ambulatory Care: Urgent Care; OAF-02 is intended for use in acute care hospitals. 2. Denominator of #0045 is patients with hip, spine or distal radial fracture; denominator of OAF-02 includes those sites of fracture plus additional sites of fracture. 3. NQF#0048 allows only central DXA to be performed and does not allow for any other fracture risk assessment method. 4. NQF #0048 does not address the use of a fracture liaison service. 5. NQF #0048 does not state a time frame for performance of the testing 6. The data source for NQF#0048 is administrative claims, while the data source for OAF-02 is the medical record. 7. NQF#0053 excludes men, excludes women under the age of 67, and excludes patients with an acute care hospitalization. 8. NQF#0053 allows 6 months to elapse from the date of the fracture. 9. The level of analysis of NCQA measures is either health-plan or physician-specific; OAF-02 level of analysis is the inpatient facility. Rationale: 1. The acute care hospital setting assures more timely care and increases the likelihood of diagnosis and treatment of osteoporosis, particularly in a timely manner that will curtail intervening fragility fractures that will occur with a delay in diagnosis and treatment. 2. OAF-02 includes additional sites of fracture known to be sites of fragility fracture such as humerus, clavicle, ankle, tibia, and pelvis 3. OAF-02 recognizes that there are instances in which a DXA cannot be performed due to lack of equipment, scheduling, or other patient issues (such as inability to position the patient in a DXA scanner or patient access issues) and allows for the use of valid alternative risk assessment methods. 4. The physician following the patient may not be skilled or specialized in the diagnosis or treatment of osteoporosis, so that QAF-02 provides that patients are seen by or referred to entities skilled in diagnosis and management of osteoporosis, such as fracture liaison services or specialty physicians, if the diagnostic testing is not actually done while an inpatient. 5. Rapid assessment and management reduce the re-fracture rate that can occur while the patient is waiting to be assessed or managed in NQF#0048. 6. NQF#0048 indicates that documented patient, system or medical reasons exclude the patient from the measure. How is that determined on an administrative claim? While the same considerations are active in OAF-02, that information is only documented in a medical record, not an administrative claim. 7. OAF-02 includes men and women 50 and over because any fragility fracture in that age group, irrespective of gender, needs to be assessed and treated for osteopenia/osteoporosis; the disease is not limited to women 67 and over. This measure is for acute care inpatients, where care can be rendered efficiently. 8. Patients with a fragility fracture have a high rate of re-fracture, that can occur in the 6 months that are allowed in NQF#0053; there is no point in delay of diagnosis and treatment. 9. Early diagnosis and treatment is often a facility-based initiative; OAF-02 allows facilities to evaluate the effectiveness of any such program they initiate or have in place. 10. OAF-02 can increase compliance with #0053 and #0048. 5b.1 If competing, why superior or rationale for additive value: No NQF-endorsed competing measures were found.

	2467 Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus
Steward	Centers for Medicare & Medicaid
Description	The measure addresses adherence to angiotensin converting enzyme inhibitors (ACEIs)/angiotensin receptor blockers (ARBs). The measure is reported as the percentage of eligible individuals with diabetes mellitus who had at least two prescriptions for ACEIs/ARBs and who have a Proportion of Days Covered (PDC) of at least 0.8 during the measurement period (12 consecutive months).
Type	Process
Data Source	Administrative claims, Other, Electronic Clinical Data : Pharmacy For measure calculation, the following Medicare files were required: • Denominator tables • Prescription drug benefit (Part D) coverage tables • Beneficiary file • Institutional claims (Part A) • Non-institutional claims (Part B)—physician carrier/non-DME • Prescription drug benefit (Part D) claims For ACO attribution, the following were required: • Denominator tables for Parts A and B enrollment • Prescription drug benefit (Part D) coverage tables • Beneficiary file • Institutional claims (Part A) • Non-institutional claims (Part B)—physician carrier/non-DME • Prescription drug benefit (Part D) claims For physician group attribution, the following were required: • Non-institutional claims (Part B)—physician carrier/non-DME • Denominator tables to determine individual enrollment • Beneficiary file or coverage table to determine hospice benefit and Medicare as secondary payor status • CMS physician and physician specialty tables • National Plan & Provider Enumeration System (NPPES) database No data collection instrument provided Attachment NQF2467_-_Codes_Table_-_ACEIs_ARBs.xls
Level	Clinician : Group/Practice, Health Plan, Integrated Delivery System, Population : State
Setting	Ambulatory Care : Clinician Office/Clinic
Time Window	The time period for data is defined as any time during the measurement period (12 consecutive months).
Numerator Statement	Individuals in the denominator with at least two prescriptions for ACEIs/ARBs with a PDC of at least 0.8 for ACEIs/ARBs.

	2467 Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus
Numerator Details	The numerator is defined as individuals with a PDC of 0.8 or greater. The PDC is calculated as follows: • PDC Numerator: The PDC numerator is the sum of the days covered by the days' supply of all drug claims in each respective drug class. The period covered by the PDC starts on the day the first prescription is filled (index date) and lasts through the end of the measurement period, or death, whichever comes first. For prescriptions with a days' supply that extends beyond the end of the measurement period, count only the days for which the drug was available to the individual during the measurement period. If there are prescriptions for the same drug (generic name) on the same date of service, keep the prescription with the largest days' supply. If prescriptions for the same drug (generic name) overlap, then adjust the prescription start date to be the day after the previous fill has ended. • PDC Denominator: The PDC denominator is the number of days from the first prescription date through the end of the measurement period, or death date, whichever comes first.
Denominator Statement	Individuals at least 18 years of age as of the beginning of the measurement period with diabetes mellitus and at least two prescriptions for ACEIs/ARBs during the measurement period (12 consecutive months).

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Denominator Details	Target population meets the following conditions: 1. Continuously enrolled in Part D with no more than a one-month gap in enrollment during the measurement year; 2. Continuously enrolled in Part A and Part B with no more than a one-month gap in Part A enrollment and no more than a one-month gap in Part B enrollment during the measurement year; and, 3. No more than one month of HMO enrollment during the measurement year. IDENTIFICATION OF DIABETES MELLITUS Individuals with diabetes mellitus are identified using diagnosis codes and/or drug proxy to identify diabetes mellitus within the inpatient or outpatient claims data.* Individuals must have: At least two encounters with a principal or secondary diagnosis of diabetes with different dates of service in an outpatient setting or non-acute inpatient setting during the measurement period; OR At least one encounter with a principal or secondary diagnosis of diabetes in an acute inpatient or emergency department setting during the measurement period; OR At least one ambulatory prescription claim for insulin or other oral diabetes medication dispensed during the measurement period. *Adapted from NCQA HEDIS 2012 (2012). Note: HEDIS uses a look-back period of one year for both the prescription data and diagnosis. Table 1. Codes Used to Identify Diabetes Mellitus Diagnosis ICD-9-CM: 250.xx, 357.2, 362.01, 362.02, 362.03, 362.04, 362.05, 362.06, 362.07, 366.41, 648.00, 648.01, 648.02, 648.03, 648.04 ICD-10-CM: E08.311, E08.319, E08.321, E08.329, E08.331, E08.339, E08.341, E08.349, E08.351, E08.359, E08.40, E08.42, E09.311, E09.319, E09.321, E09.329, E09.331, E09.339, E09.341, E09.349, E09.351, E09.359, E09.36, E09.40, E09.42, E10.10, E10.11, E10.21, E10.22, E10.29, E10.311, E10.319, E10.321, E10.329, E10.331, E10.339, E10.341, E10.349, E10.351, E10.359, E10.36, E10.39, E10.40, E10.41, E10.42, E10.43, E10.44, E10.49, E10.51, E10.52, E10.59, E10.610, E10.618, E10.620, E10.621, E10.622, E10.628, E10.630, E10.638, E10.641, E10.649, E10.65, E10.69, E10.8, E10.9, E11.00, E11.01, E11.21, E11.22, E11.29, E11.311, E11.319, E11.321, E11.329, E11.331, E11.339, E11.341, E11.349, E11.351, E11.359, E11.36, E11.39, E11.40, E11.41, E11.42, E11.43, E11.44, E11.49, E11.51, E11.52, E11.59, E11.610, E11.618, E11.620, E11.621, E11.622, E11.628, E11.630, E11.638, E11.641, E11.649, E11.65, E11.69, E11.8, E11.9, E13.00, E13.01, E13.10, E13.11, E13.21, E13.22, E13.29, E13.311, E13.319, E13.321, E13.329, E13.331, E13.339, E13.341, E13.349, E13.351, E13.359, E13.36, E13.39, E13.40, E13.41, E13.42, E13.43, E13.44, E13.49, E13.51, E13.52, E13.59, E13.610, E13.618, E13.620, E13.621, E13.622, E13.628, E13.630, E13.638, E13.641, E13.649, E13.65, E13.69, E13.8, E13.9, O24.011, O24.012, O24.013, O24.019, O24.02, O24.03, O24.111, O24.112, O24.113, O24.119, O24.12, O24.13, O24.311, O24.312, O24.313, O24.319, O24.32, O24.33, O24.811, O24.812, O24.813, O24.819, O24.82, O24.83, O24.911, O24.912, O24.913, O24.919, O24.92, O24.93 DRG: 637,638 Codes Used to Identify Encounter Type Table 2.1. Outpatient Setting CPT: 92002, 92004, 92012, 92014, 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99341-99345, 99347-99350, 99384-99387, 99394-99397, 99401-99404, 99411, 99412, 99420, 99429, 99455, 99456 UB-92 revenue: 051x, 0520-0523, 0526-0529, 057x-059x, 077x, 082x-085x, 088x, 0982, 0983 Table 2.2 Non-Acute Inpatient CPT: 99304-99310, 99315, 99316, 99318, 99324-99328, 99334-99337 UB-92 revenue: 0118, 0128, 0138, 0148, 0158, 019x, 0524, 0525, 055x, 066x

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Exclusions	We excluded the following individuals from the denominator: Individuals with polycystic ovaries, gestational diabetes, or steroid-induced diabetes who do not have a face-to-face visit with a diagnosis of diabetes in any setting during the measurement period. Exclusion 1 Individuals with a diagnosis of polycystic ovaries who do not have a visit with a diagnosis of diabetes in any setting during the measurement period*; and, Exclusion 2 Individuals with a diagnosis of gestational diabetes or steroid-induced diabetes who do not have a visit with a diagnosis of diabetes mellitus in any setting during the measurement period. *Adapted from NCQA HEDIS 2013 (2013). Note: HEDIS uses a look-back period of one year prior to the measurement period for both the prescription data and diagnosis.
Exclusion Details	Table 5. Diagnostic Exclusions for Diabetes Denominator Exclusion 1 Polycystic Ovaries ICD-9-CM: 256.4 ICD-10-CM: E28.2 Exclusion 2 Steroid-Induced Diabetes ICD-9-CM: 249.xx, 251.8, 962.0 ICD-10-CM: E08.00, E08.01, E08.10, E08.11, E08.21, E08.22, E08.29, E08.311, E08.319, E08.321, E08.329, E08.331, E08.339, E08.341, E08.349, E08.351, E08.359, E08.36, E08.39, E08.40, E08.41, E08.42, E08.43, E08.44, E08.49, E08.51, E08.52, E08.59, E08.610, E08.618, E08.620, E08.621, E08.622, E08.628, E08.630, E08.638, E08.641, E08.649, E08.65, E08.69, E08.8, E08.9, E09.00, E09.01, E09.10, E09.11, E09.21, E09.22, E09.29, E09.311, E09.319, E09.321, E09.329, E09.331, E09.339, E09.341, E09.349, E09.351, E09.359, E09.36, E09.39, E09.40, E09.41, E09.42, E09.43, E09.44, E09.49, E09.51, E09.52, E09.59, E09.610, E09.618, E09.620, E09.621, E09.622, E09.628, E09.630, E09.638, E09.641, E09.649, E09.65, E09.69, E09.8, E09.9, E16.8, T38.0X1A, T38.0X2A, T38.0X3A, T38.0X4A, T50.0X1A, T50.0X2A, T50.0X3A, T50.0X4A Gestational Diabetes ICD-9-CM: 648.80, 648.81, 648.82, 648.83, 648.84 ICD-10-CM: O24.410, O24.414, O24.419, O24.420, O24.424, O24.429, O24.430, O24.434, O24.439, O99.810, O99.814, O99.815
Risk Adjustment	No risk adjustment or risk stratification Not applicable

	2467 Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus
Stratification	Depending on the operational use of the measure, measure results may be stratified by: • State • Accountable Care Organizations (ACOs)* • Plan • Physician Group** • Age - Divided into 6 categories: 18-24, 25-44, 45-64, 65-74, 75-84, and 85+ years • Race/Ethnicity • Dual Eligibility *ACO attribution methodology is based on where the beneficiary is receiving the plurality of his/her primary care services and subsequently assigned to the participating providers.
Type Score	Rate/proportion better quality = higher score

	2467 Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus
Algorithm	To calculate Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus, Medicare administrative claims data and related files, as described in detail in Section S.24, will be required. Denominator: Individuals at least 18 years of age as of the beginning of the measurement period with diabetes mellitus and at least two prescriptions for ACEIs/ARBs during the measurement period (12 consecutive months). Create Denominator 1. Pull individuals who are 18 years of age or older as of the beginning of the measurement period. 2. Include individuals who were continuously enrolled in Part D coverage during the measurement year, with no more than a one-month gap in enrollment during the measurement year, or up until their death date if they died during the measurement period. 3. Include individuals who had no more than a one-month gap in Part A enrollment, no more than a one-month gap in Part B enrollment, and no more than one month of HMO enrollment during the current measurement period (FFS individuals only). 4. Of those individuals identified in Step 3, keep those who had: At least two face-to-face encounters with a principal or secondary diagnosis of diabetes with different dates of service in an outpatient setting or non-acute inpatient setting during the measurement period; OR At least one face-to-face encounter with a principal or secondary diagnosis of diabetes in an acute inpatient setting or emergency department setting during the measurement period; OR At least one ambulatory prescription claim for insulin or other oral diabetes medication dispensed during the measurement period. 5. Of the individuals identified in Step 4, exclude those with a diagnosis of polycystic ovaries, gestational diabetes, or steroid-induced diabetes who do not have at least one face-to-face visit with a diagnosis of diabetes in any setting during the measurement period. 6. Pull all Part D claims for ACEIs and ARBs. Attach generic name and drug ID to the dataset. 7a. Keep individuals with at least two claims for ACEIs/ARBs on different dates of service during the measurement period. 7b. Of the individuals in Step 5, include those that are also in the ACEIs/ARBs class dataset created in Step 7a. This is the denominator. 7c. For each individual in the dataset created in Step 7b, identify the date of the first prescription in the measurement period as the index event. Numerator: Individuals in the denominator with at least two prescriptions for ACEIs/ARBs with a PDC of at least 0.8 for ACEIs/ARBs. Create Numerator For the individuals in the denominator, calculate the PDC for each individual according to the following methods: 1. Determine the individual's measurement period, defined as the number of days from the index prescription date through the end of the measurement year, or death, whichever comes first. Index date is the date of the first ACEIs/ARBs prescription in the measurement period. 2. Within the measurement period, count the days the individual was covered by at least one drug in the class based on the prescription fill date and days of supply. a. Pull Part D claims for drugs in the respective drug class for individuals in the denominators. Attach drug ID and generic name to the datasets. b. Sort and de-duplicate claims by beneficiary ID, service date, generic name, and descending days' supply. If prescriptions for the same drug (generic name) are dispensed on the same date of service for an individual, keep the dispensing with the largest days' supply. c. Calculate the number of days covered per individual for each drug class. i. For prescriptions with a days' supply that extends beyond the end of the measurement period, count only the days for which the drug was available to the individual during the

	2467 Adherence to ACEIs/ARBs for Individuals with Diabetes Mellitus
Submission items	5.1 Identified measures: 0055 : Comprehensive Diabetes Care: Eye Exam (retinal) performed 0056 : Diabetes: Foot Exam 0057 : Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing 0059 : Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%) 0061 : Comprehensive Diabetes Care: Blood Pressure Control (<140/90 mm Hg) 0062 : Comprehensive Diabetes Care: Medical Attention for Nephropathy 0063 : Comprehensive Diabetes Care: LDL-C Screening 0064 : Comprehensive Diabetes Care: LDL-C Control <100 mg/dL 0417 : Diabetic Foot & Ankle Care, Peripheral Neuropathy – Neurological Evaluation 0541 : Proportion of Days Covered (PDC): 3 Rates by Therapeutic Category 0542 : Adherence to Chronic Medications 0543 : Adherence to Statin Therapy for Individuals with Coronary Artery Disease 0575 : Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%) 0604 : Adult(s) with diabetes mellitus that had a serum creatinine in last 12 reported months. 0619 : Diabetes with Hypertension or Proteinuria - Use of an ACE Inhibitor or ARB 0630 : Diabetes and Elevated HbA1C – Use of Diabetes Medications 1879 : Adherence to Antipsychotic Medications for Individuals with Schizophrenia 0416 : Diabetic Foot & Ankle Care, Ulcer Prevention – Evaluation of Footwear 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: NQF 2467 is related to and completely harmonized with the four NQF-endorsed measure that use the Proportion of Days Covered (PDC) method of calculating adherence. These four measures include one NQF-endorsed measure by PQA (NQF 0541) and three NQF-endorsed measures by CMS (NQF 0542, 0543, and 1879). For the related measures that are not completely harmonized with NQF 2467, the following sections identify differences between these measures and NQF 2467, rationale, and impact on interpretability and data collection burden. Diabetes Measures by National Committee for Quality Assurance (NCQA) and Optum - NQF 2467 has the same target population (i.e., individuals with diabetes mellitus) as the nine Diabetes Measures developed by the National Committee for Quality Assurance (NCQA) and one measure developed by Optum. The nine NCQA measures (NQF 0055, 0056, 0057, 0059, 0061, 0062, 0063, 0064, and 0075) and the Optum measure (NQF 0604) are related to, but are not completely harmonized with, NQF 2467. Differences Between NQF 2467 and NCQA and Optum Diabetes Measures - Identification of Individuals with Diabetes Mellitus: NQF 2467 uses the same algorithm for identifying individuals with diabetes as the NCQA and Optum Diabetes Measures, which entails using diagnosis codes and/or drug proxy to identify diabetes mellitus within the inpatient or outpatient claims data. However, NQF 2467 uses only claims for the 12-month measurement period, whereas the NCQA and Optum Diabetes Measures use a look-back period of one year for both the prescription data and diagnosis data. In addition, the Optum measure (NQF 0604) also uses a Disease Registry Input File, if available, to identify patients with diabetes mellitus. Age of Individuals Included in the Measure: NQF 2467 includes individuals who are at least 18 years of age and older as of the beginning of the measurement year, whereas the NCQA and Optum Diabetes Measures include individuals who are 18-75 years as of December 31st of the measurement year. Rationale - NQF 2467 uses a one-year time frame, rather than two years for the NCQA Diabetes measures, which allows more individuals (i.e., those with one year of data) to be included. NQF 2467 includes individuals 18

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	years and older, rather than 18-75 years for the NCQA and Optum measures, because many Medicare beneficiaries are over 75 years of age, and the guideline recommendations for the medication therapies do not restrict to the 18-75 age group. Impact on interpretability - NQF 2467 is easier to interpret than the NCQA and Optum Diabetes measures because it focuses on a single year and includes all adults 18 years and older. Data collection burden - The target populations of NQF 2467 and the NCQA Diabetes measures are identified using administrative claims or encounter data, so the data collection burden should be similar. The Optum Diabetes measure uses a Disease Registry Input File, if available, and therefore, may require more time and resources than administrative data to identify patients with diabetes mellitus. Diabetes Measures by American Podiatric Medical Association (APMA) - NQF 2467 has the same target population (i.e., individuals with diabetes mellitus) as the two Diabetes Measures by the APMA (NQF 416 and 417). These two APMA measures are related to, but are not completely harmonized with NQF 2467. Differences Between NQF 2467 and APMA Diabetes Measures - Identification of Individuals with Diabetes Mellitus: NQF 2467 uses a different algorithm for identifying individuals with diabetes than the APMA Diabetes Measures. NQF 2467 requires two outpatient or nonacute inpatient visits or one acute inpatient or emergency department visit or a prescription claim for insulin or other anti-diabetic medication. However, the APMA Diabetes Measures require only one claim for an outpatient visit or a nonacute inpatient visit or a selected procedure with a diagnosis of diabetes mellitus, but they do not use acute inpatient data or pharmacy data for identifying individuals with diabetes. Rationale - NQF 2467 requires two claims so the coded outpatient or nonacute inpatient diagnosis is confirmed. Using only one outpatient diagnosis could lead to including individuals who do not actually have diabetes. NQF 2467 uses acute inpatient and pharmacy data in the definition of diabetes, in addition to outpatient and nonacute inpatient data, to capture as many individuals with a diagnosis of diabetes as possible. Impact on interpretability - Requiring two claims for an outpatient or nonacute inpatient diagnosis of diabetes will eliminate individuals who received a diagnosis of diabetes in error, or if it was coded as a rule-out diagnosis. If the additional data sources (i.e., acute inpatient data and pharmacy data) are not used, only individuals who have an outpatient or nonacute inpatient diagnosis of diabetes would be included in the denominator; those with only an inpatient admission or a prescription for diabetes would not be included. This might result in missing individuals with diabetes. Data collection burden - The target populations of NQF 2467 and the APMA Diabetes measures both are identified using administrative claims or encounter data, so the data collection burden should be similar. Diabetes Measures by ActiveHealth Management - NQF 2467 has the same target population (i.e., individuals with diabetes mellitus) as two Diabetes Measures by ActiveHealth Management, NQF 0619 and 0630. These two ActiveHealth Management measures are related to, but are not completely harmonized with, NQF 2467. Differences Between NQF 2467 and ActiveHealth Management Diabetes Measures - Identification of Individuals with Diabetes Mellitus: NQF 2467 uses an algorithm for identifying individuals with diabetes, which entails using diagnosis codes and/or drug proxy to identify diabetes mellitus within the inpatient or outpatient claims data during the 12-month measurement period. The two ActiveHealth Management Diabetes Measures require four diabetes mellitus diagnoses from administrative claims in the past 12 months, one diabetes mellitus diagnosis from electronic clinical data anytime in the past, one diabetes mellitus diagnosis in the electronic personal health record, or one diabetes mellitus diagnosis from administrative claims in the past five years plus filled prescriptions for diabetes medications, insulin, or a HbA1C value in the past 12 months. In addition, the target populations in the two ActiveHealth Management Diabetes Measures are further restricted either to those with diabetes mellitus and hypertension or proteinuria (NQF 0619), or to those with diabetes mellitus and at least one elevated HbA1C in the past six months (NQF 0630). Age of Individuals Included in the Measure: NQF 2467 includes individuals who are at least 18 years of age as of the beginning of

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	the measurement year, whereas the ActiveHealth Management Diabetes Measures include individuals who are 18-75 years of age. Rationale - The target population of NQF 2467 is defined on the basis of a diagnosis of diabetes mellitus and at least two prescriptions of ACEI/ARBs (Measure B). This denominator definition of NQF 2467 limits the measure to those individuals who have been on the medication long enough for the prescribing provider to determine that ACEI/ARB therapy is appropriate for the patient and is tolerated. NQF 2467 includes individuals 18 years and older, rather than 18-75 years for the ActiveHealth Management Diabetes measures, because many Medicare beneficiaries are over 75 years of age, and the guideline recommendations do not restrict to the 18-75 age group. Impact on interpretability - NQF 2467 is easier to interpret than the ActiveHealth Management Diabetes measures because it estimates adherence to medications among individuals with diabetes mellitus who have had at least two prescriptions, and it includes all adults 18 years and older. Data collection burden - NQF 2467 is based on administrative claims data. The ActiveHealth Management Diabetes measures are based on multiple data sources (e.g., administrative claims, electronic clinical data, patient data from electronic personal health records and feedback, provider survey). Therefore, NQF 2467 presents less of a data collection burden. 5b.1 If competing, why superior or rationale for additive value: Not applicable

Appendix G

Appendix G: Related and Competing Measures

Comparison of NQF #0059, 0575 and 0057

	0057: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing	0059: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	0575: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Steward	National Committee for Quality Assurance	National Committee for Quality Assurance	National Committee for Quality Assurance
Description	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) who received an HbA1c test during the measurement year.	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level during the measurement year was greater than 9.0% (poor control) or was missing a result, or if an HbA1c test was not done during the measurement year.	The percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level is <8.0% during the measurement year.
Type	Process	Outcome	Outcome
Data Source	Administrative claims, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Paper Medical Records This measure is based on administrative claims and medical record documentation collected in the course of providing care to health plan members. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from Health Management Organizations and Preferred Provider Organizations via NCQA's online data submission system. No data collection instrument provided Attachment 0057_CDC_HbA1c_Testing_Value_Sets-635219472851147197.xlsx	Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Laboratory, Paper Medical Records, Electronic Clinical Data : Pharmacy This measure is based on administrative claims and medical record documentation collected in the course of providing care to health plan patients. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from Health Management Organizations and Preferred Provider Organizations via NCQA's online data submission system. No data collection instrument provided Attachment 0059_CDC_HbA1c_Poor_Control_Value_Sets-635219472170982837.xlsx	Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Laboratory, Paper Medical Records, Electronic Clinical Data : Pharmacy This measure is based on administrative claims and medical record documentation collected in the course of providing care to health plan patients. NCQA collects the Healthcare Effectiveness Data and Information Set (HEDIS) data for this measure directly from Health Management Organizations and Preferred Provider Organizations via NCQA's online data submission system. No data collection instrument provided Attachment 0575_CDC_HbA1c_Control_Value_Sets-635219475215342352.xlsx
Level	Health Plan, Integrated Delivery System	Clinician : Group/Practice, Health Plan, Clinician : Individual, Integrated Delivery System, Population : National, Population : Regional, Population : State	Clinician : Group/Practice, Health Plan, Clinician : Individual, Integrated Delivery System
Setting	Ambulatory Care : Clinician Office/Clinic	Ambulatory Care : Clinician Office/Clinic	Ambulatory Care : Clinician Office/Clinic

	0057: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing	0059: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	0575: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Numerator Statement	Patients who had an HbA1c test performed during the measurement year.	Patients whose most recent HbA1c level is greater than 9.0% or is missing a result, or for whom an HbA1c test was not done during the measurement year. The outcome is an out of range result of an HbA1c test, indicating poor control of diabetes. Poor control puts the individual at risk for complications including renal failure, blindness, and neurologic damage. There is no need for risk adjustment for this intermediate outcome measure.	Patients whose most recent HbA1c level is less than 8.0% during the measurement year. The outcome is a result of an HbA1c test, indicating desirable control of diabetes. Poor control puts the individual at risk for complications including renal failure, blindness, and neurologic damage. There is no need for risk adjustment for this intermediate outcome.
Numerator Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying numerator events for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: At a minimum, documentation in the medical record must include a note indicating the date when the HbA1c test was performed and the result. The patient is numerator compliant if the HbA1c test completed during the measurement year and result are documented. The patient is not numerator compliant if the HbA1c test and result are missing. Ranges and thresholds do not meet criteria for this measure. A distinct numeric result is required for numerator compliance.	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying numerator events for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: At a minimum, documentation in the medical record must include a note indicating the date when the HbA1c test was performed and the result. The patient is numerator compliant if the result for the most recent HbA1c level during the measurement year is >9.0% or is missing, or if an HbA1c test was not done during the measurement year. The patient is not numerator compliant if the result for the most recent HbA1c level during the measurement year is =9.0%. Ranges and thresholds do not meet criteria for this measure. A distinct numeric result is required for numerator compliance. *A lower rate indicates better performance for this indicator (i.e., low rates of poor control indicate better care).	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying numerator events for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: At a minimum, documentation in the medical record must include a note indicating the date when the HbA1c test was performed and the result. The patient is numerator compliant if the result for the most recent HbA1c level during the measurement year is <8.0%. The patient is not numerator compliant if the result for the most recent HbA1c level during the measurement year is >8.0% or is missing, or if an HbA1c test was not performed during the measurement year. Ranges and thresholds do not meet criteria for this measure. A distinct numeric result is required for numerator compliance.

	0057: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing	0059: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	0575: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Denominator Statement	Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.	Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.	Patients 18-75 years of age by the end of the measurement year who had a diagnosis of diabetes (type 1 or type 2) during the measurement year or the year prior to the measurement year.

	0057: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing	0059: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	0575: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Denominator Details	Patients with diabetes can be identified two ways: CLAIM/ENCOUNTER DATA: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B PHARMACY DATA: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year (Table CDC-A). --- PRESCRIPTIONS TO IDENTIFY MEMBERS WITH DIABETES (Table CDC-A) Alpha-glucosidase inhibitors: Acarbose, Miglitol Amylin analogs: Pramlinitide Antidiabetic combinations: Glimepiride-pioglitazone, Glimepiride-rosiglitazone, Glipizide-metformin, Glyburide-metformin, Metformin-pioglitazone, Metformin-rosilitazone, Metformin-sitagliptin, Saxagliptin, Sitagliptin-simvastatin Insulin: Insulin aspart, Insulin aspart-insulin aspart protamine, Insulin detemir, Insulin glargine, Insulin glulisine, Insulin inhalation, Insulin isophane beef-pork, Insulin isophane human, Insulin	Patients with diabetes can be identified two ways: -CLAIM/ENCOUNTER DATA: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B -PHARMACY DATA: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year (Table CDC-A). PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES (TABLE CDC-A): Alpha-glucosidase inhibitors: Acarbose, Miglitol Amylin analogs: Pramlinitide Antidiabetic combinations: Glimepiride-pioglitazone, Glimepiride-rosiglitazone, Glipizide-metformin, Glyburide-metformin, Linagliptin-metaformin, Metformin-pioglitazone, Metformin-rosiglitazone, Metaformin-saxagliptin, Metformin-sitagliptin, Saxagliptin, Sitagliptin-simvastatin Insulin: Insulin aspart, Insulin aspart-insulin aspart protamine, Insulin detemir, Insulin glargine, Insulin glulisine, Insulin inhalation, Insulin isophane beef-pork, Insulin isophane human, Insulin isophane-insulin regular, Insulin lispro, Insulin lispro-insulin lispro protamine, Insulin regular human Meglitinides: Nateglinide, Repaglinide	Patients with diabetes can be identified two ways: CLAIM/ENCOUNTER DATA: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B PHARMACY DATA: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year (Table CDC-A). PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES (TABLE CDC-A): Alpha-glucosidase inhibitors: Acarbose, Miglitol Amylin analogs: Pramlinitide Antidiabetic combinations: Glimepiride-pioglitazone, Glimepiride-rosiglitazone, Glipizide-metformin, Glyburide-metformin, Linagliptin-metaformin, Metformin-pioglitazone, Metformin-rosiglitazone, Metaformin-saxagliptin, Metformin-sitagliptin, Saxagliptin, Sitagliptin-simvastatin Insulin: Insulin aspart, Insulin aspart-insulin aspart protamine, Insulin detemir, Insulin glargine, Insulin glulisine, Insulin inhalation, Insulin isophane beef-pork, Insulin

	0057: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing	0059: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	0575: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Exclusions	Exclusions (optional): -Exclude patients who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year. AND -Exclude patients who meet either of the following criteria: -A diagnosis of polycystic ovaries, in any setting, any time in the patient's history through December 31 of the measurement year. -A diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.	Exclusions (optional): -Exclude patients who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year. AND -Exclude patients who meet either of the following criteria: -A diagnosis of polycystic ovaries, in any setting, any time in the patient's history through December 31 of the measurement year. -A diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.	Exclusions (optional): -Exclude patients who did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year. AND -Exclude patients who meet either of the following criteria: -A diagnosis of polycystic ovaries, in any setting, any time in the patient's history through December 31 of the measurement year. -A diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.

	0057: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing	0059: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	0575: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Exclusion Details	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying the denominator for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. --- MEDICAL RECORD Exclusionary evidence in the medical record must include a note indicating a diagnosis of polycystic ovaries at any time in the member's history, but must have occurred by the end of the measurement year. The member must not have a face-to-face encounter in any setting, with a diagnosis of diabetes, during the measurement year or year prior to the measurement year. Exclusionary evidence in the medical record must include a note indicating a diagnosis of gestational or steroid-induced diabetes during the measurement year or the year prior to the measurement year. The member must not have a face-to-face encounter in any setting, with a diagnosis of diabetes, during the measurement year or the year prior to the measurement year.	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying the denominator for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and had a diagnosis of polycystic ovaries any time in the patient's history through December 31 of the measurement year. OR -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and a diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.	ADMINISTRATIVE CLAIMS: Due to the extensive volume of codes associated with identifying the denominator for this measure, we are attaching a separate file with code value sets. See code value sets located in question S.2b. MEDICAL RECORD: -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and had a diagnosis of polycystic ovaries any time in the patient's history through December 31 of the measurement year. OR -Exclusionary evidence in the medical record must include a note indicating the patient did not have a diagnosis of diabetes, in any setting, during the measurement year or the year prior to the measurement year and a diagnosis of gestational or steroid-induced diabetes, in any setting, during the measurement year or the year prior to the measurement year.
Risk Adjustment	No risk adjustment or risk stratification N/A	No risk adjustment or risk stratification N/A	No risk adjustment or risk stratification N/A
Stratification	N/A	N/A	N/A
Type Score	Rate/proportion better quality = higher score	Rate/proportion better quality = lower score	Rate/proportion better quality = higher score

	0057: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing	0059: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	0575: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Algorithm	STEP 1. Determine the eligible population. To do so, identify patients who meet all the specified criteria. -AGES: 18-75 years as of December 31 of the measurement year. -EVENT/DIAGNOSIS: Identify patients with diabetes in two ways: by claim/encounter data and by pharmacy data. Claim/Encounter Data: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B Pharmacy Data: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year. *SEE PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES IN S.9 STEP 2. Determine the number of patients in the eligible population who had a recent HbA1c test during the measurement year through the search of administrative data systems. STEP 3. Identify patients with a most recent HbA1c test performed. STEP 4. Identify the most recent HbA1c test with result (numerator compliant). Identify a missing result or no HbA1c test done during the	STEP 1. Determine the eligible population. To do so, identify patients who meet all the specified criteria. -AGES: 18-75 years as of December 31 of the measurement year. -EVENT/DIAGNOSIS: Identify patients with diabetes in two ways: by claim/encounter data and by pharmacy data. Claim/Encounter Data: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B Pharmacy Data: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year. *SEE PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES IN QUESTION S.9 STEP 2. Determine the number of patients in the eligible population who had a recent HbA1c test result during the measurement year through the search of administrative data systems. STEP 3. Identify patients with a most recent HbA1c test performed and the result. STEP 4. Identify the most recent result with an HbA1c level >9.0%, a missing result or no HbA1c test done during the measurement year (numerator compliant). Identify the most recent result with an HbA1c level <=9.0% (not numerator compliant). STEP 5. Exclude from the eligible	STEP 1. Determine the eligible population. To do so, identify patients who meet all the specified criteria. -AGES: 18-75 years as of December 31 of the measurement year. -EVENT/DIAGNOSIS: Identify patients with diabetes in two ways: by claim/encounter data and by pharmacy data. Claim/Encounter Data: -Patients who had at least two outpatient visits, observation visits or nonacute inpatient encounters on different dates of service, with a diagnosis of diabetes. Visit type need not be the same for the two visits. -Patients with at least one acute inpatient encounter with a diagnosis of diabetes. -Patients with at least one ED visit with a diagnosis of diabetes. *SEE ATTACHED EXCEL FILE FOR CODE VALUE SETS INCLUDED IN QUESTION S.2B Pharmacy Data: Patients who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis during the measurement year or the year prior to the measurement year. *SEE PRESCRIPTIONS TO IDENTIFY PATIENTS WITH DIABETES IN S.9 STEP 2. Determine the number of patients in the eligible population who had a recent HbA1c test result during the measurement year through the search of administrative data systems. STEP 3. Identify patients with a most recent HbA1c test performed and the result. STEP 4. Identify the most recent result with an HbA1c level <8.0% (numerator compliant). Identify the most recent result with an HbA1c

	0057: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) testing	0059: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Poor Control (>9.0%)	0575: Comprehensive Diabetes Care: Hemoglobin A1c (HbA1c) Control (<8.0%)
Submission items	5.1 Identified measures: 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: N/A 5b.1 If competing, why superior or rationale for additive value: N/A	5.1 Identified measures: 5a.1 Are specs completely harmonized? 5a.2 If not completely harmonized, identify difference, rationale, impact: N/A 5b.1 If competing, why superior or rationale for additive value: N/A	5.1 Identified measures: 0024 : Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents (WCC) 5a.1 Are specs completely harmonized? No 5a.2 If not completely harmonized, identify difference, rationale, impact: Measure 0575 is a single measure that uses health plan reported data to assess the percentage of patients 18-75 years of age with diabetes (type 1 and type 2) whose most recent HbA1c level is <8.0%. Measure 0729 is a composite measure that uses physician reported data to assess the percentage of adult diabetes patients who have optimally managed modifiable risk factors (A1c, LDL, blood pressure, tobacco non-use and daily aspirin usage for patients with diagnosis of ischemic vascular disease). HARMONIZED MEASURE ELEMENTS: Both measures focus on an adult patient population 18-75 years with diabetes. Both measures assess whether the patient had a target HbA1c level <8.0%. Both measures include visit criteria in the last two years to be included in the denominator. UNHARMONIZED MEASURE ELEMENTS: -Data Source: Measure 0575 is collected through use of administrative claims and/or medical record. Measure 0729 is collected through medical record abstraction. -Level of Accountability: Measure 0575 is a health plan level measure and is also widely used in clinician quality and recognition programs. Measure 0729 is a physician level measure and therefore

Appendix H: FMQAI Memo

Response to Steering Committee Concerning
NQF 2468: Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus
Submitted By: FMQAI on behalf of CMS
May 14, 2014

The NQF Endocrine Steering Committee, which met on February 27, 2014, requested a revision to the measure specifications that would account for patients who switched from oral diabetes agents to insulin-only during the measurement period. In addition, FMQAI received a public comment requesting the measure account for patients using incretin mimetics (i.e., exenatide and liraglutide). This document provides results from additional analyses conducted to evaluate these scenarios and recommendations regarding revision to the measure specifications.

1. **What proportion of patients in the denominator use insulin and incretin mimetics?**
   In the 10-state sample, 24.3% (150,774/620,934) of the denominator population had at least one claim for insulin, and 2.85% (17,690/620,934) had at least one claim for incretin mimetics. Since both insulin and incretin mimetics have the indication to be used as the sole medication therapy for diabetes, the impact of medication switching should be evaluated.

2. **What proportion of individuals switched from oral diabetes agents (ODAs) to insulin- or incretin mimetic-only therapy during the measurement period?**
   In the 10 state sample, among individuals who had at least one claim for insulin (n=150,774), 13.1% switched from ODAs to an insulin-only therapy. Among individuals who had at least one claim for incretin mimetics (n=17,690), 8.8% switched from ODAs to an incretin mimetic-only therapy. This suggests that measure rates would be falsely lowered by not accounting for switching in the measure specification.

3. **How are individuals who switched from ODAs to insulin or incretin mimetics identified?**
   Individuals switching to insulin or incretin mimetics are identified by having at least one claim for any type of insulin or incretin mimetic after the end of the days' supply of the last ODA prescription.

4. **How would adherence to ODAs be calculated for individuals who switched to insulin- or incretin mimetics-only during the measurement period?**
   For these individuals, the ODA measurement period is set to the end date of the days' supply of the last ODA prescription during the measurement year. Therefore, adherence is only calculated while the patient is taking ODAs and there is no disincentive for providers to switch their patients to insulin or incretin mimetics-only.

5. **Should the measure specifications also address switching between ODAs?**
   The current measure specifications calculate an individual's adherence to each class of ODAs separately (e.g., biguanides, sulfonylureas, etc.) and the individual would need to achieve a Proportion of Days Covered (PDC) $\geq$0.8 for at least <u>one</u> of the classes to qualify for the numerator. Since individuals might be switched from one ODA to other and it would be difficult

to operationalize all the potential switching that would occur, FMQAI proposes a second revision of the specifications that would calculate medication adherence to the whole category of ODAs regardless of the class. Therefore, as long as the proportion of days covered across all ODAs was at least 0.8, the individual would qualify for the numerator.

6. **What are the impacts from the proposed specification changes on the measure rates and scientific acceptability?**
   On average, the mean measure rate has increased by approximately 1-3% across each level measured and a substantial gap in performance remains with a mean rate of approximately 76% overall (Appendix A). Variation in performance remains approximately 10-14% between the 10th and 90th percentile (Appendix A). Reliability remains adequate across all levels of measurement and convergent validity is improved (Appendix B).

7. **Based on the review, what are the final recommendations and conclusions for the Steering Committee?**
   FMQAI recommends revising the specifications to account for individuals switching to insulin- or incretin mimetic-only therapy and to calculate adherence across all ODA drug classes collectively. Proposed revisions to the specifications are shown below in red.

Revised Specifications

Numerator Statement: Individuals with diabetes mellitus who have at least two claims for ODAs and have a PDC of at least 0.8 for oral diabetes agents.

Numerator Details:
The numerator is defined as individuals with a PDC of 0.8 or greater.

The PDC is calculated as follows:
• PDC Numerator: The PDC numerator is the sum of the days covered by the days' supply of all drug claims in the ODA class. The period covered by the PDC starts on the day the first prescription is filled (index date) and lasts through the end of the measurement period, or death, whichever comes first. For prescriptions with a days' supply that extends beyond the end of the measurement period, count only the days for which the drug was available to the individual during the measurement period. If there are prescriptions for the same drug (generic name) on the same date of service, keep the prescription with the largest days' supply. If prescriptions for the same drug (generic name) overlap, then adjust the prescription start date to be the day after the previous fill has ended.
• PDC Denominator*: The PDC denominator is the number of days from the first prescription date through the end of the measurement period, or death date, whichever comes first.

*Individuals switching to insulin or incretin mimetics are identified by having at least one claim for any type of insulin or incretin mimetics after the end of the days' supply of the last ODA prescription. For these individuals, the ODA measurement period is set to the end date of the days' supply of the last ODA prescription during the measurement year.

Denominator Statement: Individuals at least 18 years of age as of the beginning of the measurement period with diabetes mellitus and at least two claims for oral diabetes agents during the measurement period (12 consecutive months).

Appendix A – Meaningful Differences in Performance

Table A1. Summary of State Level Performance

	n	Mean	Median	Min	Max	STD	IQR	P10	P25	P50	P75	P90
Original Measure	10	73.9%	75.2%	67.7%	80.8%	4.0%	5.7%	68.2%	70.3%	75.2%	76.0%	78.4%
Revised Measure	10	76.6%	77.9%	70.2%	83.2%	3.9%	5.2%	70.9%	73.3%	77.9%	78.5%	81.0%

Based on the revised measure, four of the 10 states (40.0%) had scores statistically significantly lower than the mean and six states (60.0%) had scores significantly higher than the mean. Measure rates ranged from 70.2% in Mississippi to 83.2% in Iowa, indicating suboptimal performance across all 10 states.

Table A2. Summary of Plan Level Performance

	n	Mean	Median	Min	Max	STD	IQR	P10	P25	P50	P75	P90
Original Measure	40	74.2%	75.0%	60.7%	83.6%	5.7%	6.8%	66.0%	71.2%	75.0%	78.0%	80.8%
Revised Measure	40	76.7%	77.5%	63.2%	86.3%	5.4%	6.4%	69.2%	73.9%	77.5%	80.4%	82.1%

Based on the revised measure at the plan level, 27.5% of providers were statistically significantly lower than the mean, and 50.0% of providers were statistically significantly higher than the mean. For those plans with at least 175 eligible individuals, high- (90th percentile) and low- (10th percentile) performing plans were 12.9% apart, indicating suboptimal performance across all plans and variation between high- and low-performing plans.

Table A3. Summary of Physician Group Level Performance

	n	Mean	Median	Min	Max	STD	IQR	P10	P25	P50	P75	P90
Original Measure	543	72.6%	73.4%	43.6%	88.7%	6.3%	7.6%	64.8%	69.6%	73.4%	77.2%	79.6%
Revise	46	75.9	76.6%	50.5	90.5	5.8	7.3	68.2	72.6	76.6	79.9	82.3

d Measure	4	%		%	%	%	%	%	%	%	%	%

Based on the revised measure at the physician group level, 20.3% of providers were statistically significantly lower than the mean, and 23.9% of providers were statistically significantly higher than the mean, indicating a wide range of scores. For those physician groups with at least 175 eligible individuals, high- (90th percentile) and low- (10th percentile) performing physician groups were 14.1% apart. The results indicate ample room for improvement and meaningful differences in quality of care between the highest and lowest performing physician groups.

Table A4. Summary of ACO Level Performance

	n	Mean	Median	Min	Max	STD	IQR	P10	P25	P50	P75	P90
Original Measure	31	74.6%	74.9%	67.5%	82.5%	3.9%	5.6%	69.0%	71.9%	74.9%	77.5%	79.5%
Revised Measure	31	75.9%	76.5%	69.1%	83.4%	3.9%	5.8%	70.3%	72.6%	76.5%	78.4%	80.8%

Based on the revised measure at the ACO level, 29.0% of providers were statistically significantly lower than the mean, and 38.7% of providers were statistically significantly higher than the mean. Among all 31 ACOs, high- (90th percentile) and low- (10th percentile) performing ACOs were 10.5% apart, indicating suboptimal performance across all ACOs and variation between high- and low-performing ACOs.

Interpretation of the Results

The results indicate that overall performance, calculated using the revised measure, is suboptimal with variation in performance across states, plans, ACOs, and physician groups. Statistically significant differences were identified at the state, plan, ACO, and physician group level when compared to the overall mean.

Appendix B –Reliability and Validity

Table B1. 2011-2012 State Level Measure Rates and Reliability Assessments

State	Original Measure				Revised Measure			
	Num	Denom	Rate	Reliability	Num	Denom	Rate	Reliability
Overall	449,843	620,934	72.5%	--	469,476	623,987	75.2%	--
AZ	19,533	27,773	70.3%	0.994	20,494	27,946	73.3%	0.995
DE	7,706	10,233	75.3%	0.986	8,007	10,286	77.8%	0.988
FL	105,256	144,262	73.0%	0.999	109,918	145,033	75.8%	0.999
IA	30,625	37,915	80.8%	0.997	31,630	38,012	83.2%	0.997
IN	47,862	63,664	75.2%	0.998	49,860	63,946	78.0%	0.998
MO	46,197	60,955	75.8%	0.998	47,976	61,184	78.4%	0.998
MS	32,702	48,289	67.7%	0.996	34,048	48,472	70.2%	0.997
RI	6,146	8,082	76.1%	0.982	6,365	8,107	78.5%	0.985
TX	123,050	179,316	68.6%	0.999	129,167	180,416	71.6%	0.999
WA	30,766	40,445	76.1%	0.996	32,011	40,585	78.9%	0.997

Based on the revised measure, we concluded that the reliability test was adequate, since all state-level reliability scores were greater than 0.7, indicating that the measure would produce reliable scores at the state level.

Table B2. 2011-2012 Plan Level Measure Rates and Reliability Assessments

	Min Denominator	# of Plans	Mean Rate	Reliability Score
Original Measure	150	40	74.2%	0.695
Revised Measure	175	40	76.7%	0.717

Based on the revised measure and using the method of mean denominator and volume categories, a minimum denominator of 175 resulted in an overall reliability score of >0.7, which is within acceptable norms and indicates sufficient signal strength to discriminate performance between plans.

Table B3. 2011-2012 Physician Group Level Measure Rates and Reliability Assessments

	Min Denominator	# of Physician Groups	Mean Rate	Reliability Score
Original Measure	150	543	72.6%	0.697
Revised Measure	175	464	75.9%	0.713

Based on the revised measure and using the method of mean denominator and volume categories, a minimum denominator of 175 resulted in an overall reliability score of >0.7,

which is within acceptable norms and indicates sufficient signal strength to discriminate performance between physician groups.

Table B4. ACO Level Measure Rates and Reliability Assessments

ACO	Original Measure				Revised Measure			
	Num	Denom	Rate	Reliability	Num	Denom	Rate	Reliability
Overall	42,619	57,454	74.2%	--	43,548	57,722	75.4%	--
1	1,327	1,669	79.5%	0.929	1,358	1,675	81.1%	0.932
2	923	1,205	76.6%	0.897	940	1,211	77.6%	0.898
3	1,409	1,854	76.0%	0.929	1,446	1,860	77.7%	0.932
4	760	1,018	74.7%	0.875	777	1,023	76.0%	0.877
5	947	1,276	74.2%	0.897	959	1,279	75.0%	0.897
6	691	892	77.5%	0.868	701	894	78.4%	0.869
7	926	1,199	77.2%	0.898	938	1,206	77.8%	0.898
8	2,013	2,773	72.6%	0.948	2,056	2,778	74.0%	0.948
9	1,984	2,732	72.6%	0.947	2,046	2,753	74.3%	0.949
10	873	1,283	68.0%	0.886	891	1,290	69.1%	0.886
11	1,694	2,244	75.5%	0.940	1,739	2,267	76.7%	0.942
12	528	709	74.5%	0.829	538	709	75.9%	0.831
13	1,465	1,891	77.5%	0.933	1,492	1,894	78.8%	0.935
14	1,035	1,267	81.7%	0.914	1,051	1,272	82.6%	0.916
15	1,470	1,943	75.7%	0.932	1,498	1,952	76.7%	0.933
16	2,284	2,996	76.2%	0.955	2,319	3,000	77.3%	0.956
17	1,677	2,241	74.8%	0.939	1.714	2,248	76.3%	0.940
18	798	1,026	77.8%	0.884	828	1,035	80.0%	0.890
19	659	799	82.5%	0.872	668	801	83.4%	0.874
20	1,112	1,485	74.9%	0.911	1,139	1,488	76.6%	0.913
21	783	982	79.7%	0.885	797	986	80.8%	0.888
22	427	633	67.5%	0.793	448	637	70.3%	0.799
23	2,382	3,148	75.7%	0.957	2,448	3,164	77.4%	0.958
24	2,471	3,436	71.9%	0.957	2,542	3,449	73.7%	0.958
25	1,097	1,589	69.0%	0.907	1,113	1,602	69.5%	0.907
26	750	1,069	70.2%	0.870	777	1,077	72.1%	0.873
27	1,190	1,654	72.0%	0.915	1,207	1,664	72.5%	0.915
28	768	1,129	68.0%	0.872	786	1,136	69.2%	0.873
29	847	1,210	70.0%	0.883	863	1,217	70.9%	0.884
30	1,119	1,425	78.5%	0.916	1,133	1,429	79.3%	0.916
31	6,210	8,677	71.6%	0.982	6,336	8,726	72.6%	0.982

We concluded that the reliability test was adequate, since all ACO-level reliability scores were much greater than 0.7, indicating that the measure would produce reliable scores at the ACO level.

Interpretation of the Results

The results from the reliability assessment indicated that the revised measure was reliable for state and ACO level regardless of the denominator size. For physician groups and plans, the reliable scores (i.e., >0.7) were identified with a minimum denominator sizes of 175.

Convergent Validity

We compared a related NQF-endorsed measure, NQF 0543, which assesses adherence to statin therapy for individuals with coronary artery disease (CAD) at the state, ACO, plan, and physician group levels. We would expect a positive correlation between the two measure scores since both measure medication adherence. We tested the measure distributions for normality at each unit of analysis and then selected the appropriate statistical test for the distribution and assessed the significance of the correlation coefficient.

Table B5. Convergent Validity: Distribution of State Measure Rates

Measure	n	Mean Measure Rate	Standard Deviation	Median	Minimum	Maximum
NQF 2468: Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus	10	76.6%	3.9%	77.9%	70.2%	83.2%
NQF 0543: Adherence to Statin Therapy for Individuals with CAD	10	71.9%	3.7%	72.6%	65.3%	77.8%

The measure rate is positively correlated with NQF 0543 at the state level ($\rho = 0.95$, $p<0.0001$).

Table B6. Convergent Validity: Distribution of Plan Measure Rates

Measure	n	Mean Measure Rate	Standard Deviation	Median	Minimum	Maximum
NQF 2468: Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus	70	75.9%	10.9%	77.1%	40.0%	100%
NQF 0543: Adherence to Statin Therapy for Individuals with CAD	70	71.6%	7.6%	73.0%	50.0%	90.0%

The measure rate is positively correlated with NQF 0543 at the plan level ($\rho = 0.58$, $p<0.0001$).

Table B7. Convergent Validity: Distribution of Physician Group Measure Rates

Measure	n	Mean Measure Rate	Standard Deviation	Median	Minimum	Maximum
NQF 2468: Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus	6,461	73.4%	17.2%	75.0%	0.0%	100%
NQF 0543: Adherence to Statin Therapy for Individuals with CAD	6,461	67.7%	21.5%	69.4%	0.0%	100%

The measure rate is positively correlated with NQF 0543 at the physician group level (ρ=0.25, p<0.0001).

Table B8. Convergent Validity: Distribution of ACO Measure Rates

Measure	n	Mean Measure Rate	Standard Deviation	Median	Minimum	Maximum
NQF 2468: Adherence to Oral Diabetes Agents for Individuals with Diabetes Mellitus	31	75.9%	3.9%	76.5%	69.1%	83.4%
NQF 0543: Adherence to Statin Therapy for Individuals with CAD	31	70.3%	4.6%	70.8%	59.2%	80.2%

The measure rate is positively correlated with NQF 0543 at the ACO level (ρ= 0.84, p<0.0001).

Interpretation of the Results

The measure was positively correlated with NQF 0543 (Adherence to Statin Therapy for Individuals with CAD) and statistically significant at all reporting levels with the state and ACO levels showing the strongest correlation.