NATIONAL QUALITY FORUM

Measure Submission and Evaluation Worksheet 5.0

This form contains the information submitted by measure developers/stewards, organized according to NQF's measure evaluation criteria and process. The evaluation criteria, evaluation guidance documents, and a blank online submission form are available on the submitting standards web page.

NQF #: 0614   **NQF Project:** Population Health: Prevention Project
(for Endorsement Maintenance Review) **Original Endorsement Date:** Dec 04, 2009 **Most Recent Endorsement Date:** Dec 04, 2009

BRIEF MEASURE INFORMATION
De.1 Measure Title: Steroid Use - Osteoporosis Screening
Co.1.1 Measure Steward: ActiveHealth Management
De.2 Brief Description of Measure: The percentage of patients, 18 and older, who have been on chronic steroids for at least 180 days in the past 9 months and who had a bone density evaluation or osteoporosis treatment
2a1.1 Numerator Statement: Patients who have had a bone density evaluation or osteoporosis treatment.
2a1.4 Denominator Statement: Patients, 18 and older, who have been on chronic steroids for at least 180 days
2a1.8 Denominator Exclusions: Specific exclusions: - Pregnancy General exclusions: - Evidence of metastatic disease or active treatment of malignancy (chemotherapy or radiation therapy) in the last 6 months - Patients who have been in a skilled nursing facility in the last 3 months
1.1 Measure Type: Process **2a1. 25-26 Data Source:** Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy, Electronic Clinical Data : Registry, Patient Reported Data/Survey **2a1.33 Level of Analysis:** Clinician : Group/Practice, Clinician : Individual, Clinician : Team, Facility, Health Plan, Integrated Delivery System, Population : Community, Population : County or City, Population : National, Population : Regional, Population : State **1.2-1.4 Is this measure paired with another measure?** No **De.3 If included in a composite, please identify the composite measure** (*title and NQF number if endorsed*): This measure is not included in a composite

STAFF NOTES (*issues or questions regarding any criteria*)
Comments on Conditions for Consideration:
Is the measure untested?   Yes☐ No☐   If untested, explain how it meets criteria for consideration for time-limited endorsement:
1a. Specific national health goal/priority identified by DHHS or NPP addressed by the measure (*check De.5*): 5. Similar/related endorsed or submitted measures (*check 5.1*): Other Criteria:
Staff Reviewer Name(s):

See Guidance for Definitions of Rating Scale: H=High; M=Moderate; L=Low; I=Insufficient; NA=Not Applicable   1

1. IMPACT, OPPORTUNITY, EVIDENCE - IMPORTANCE TO MEASURE AND REPORT

Importance to Measure and Report is a threshold criterion that must be met in order to recommend a measure for endorsement. All three subcriteria must be met to pass this criterion. See guidance on evidence.
Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria.
(evaluation criteria)

1a. High Impact: H☐ M☐ L☐ I☐
(*The measure directly addresses a specific national health goal/priority identified by DHHS or NPP, or some other high impact aspect of healthcare.*)

De.4 Subject/Topic Areas (*Check all the areas that apply*): Prevention
De.5 Cross Cutting Areas (*Check all the areas that apply*): Population Health

1a.1 Demonstrated High Impact Aspect of Healthcare: Affects large numbers, A leading cause of morbidity/mortality, Severity of illness, Patient/societal consequences of poor quality

1a.2 If "Other," please describe:

1a.3 Summary of Evidence of High Impact (*Provide epidemiologic or resource use data*):
In 2004 the US Surgeon General issued a report regarding bone health and osteoporosis. In this report they discussed the healthcare gaps regarding screening for and treatment of osteoporosis:
"Several studies have documented disparities in the screening of patients for osteoporosis. Fractures due to bone disease are common, costly, and often become a chronic burden on individuals and society. An estimated 1.5 million individuals suffer a bone disease-related fracture each year. Four out of every 10 White women age 50 or older in the United States will experience a hip, spine, or wrist fracture sometime during the remainder of their lives."
It is reported that glucocorticoid-induced osteoporosis (GIOP) is the leading cause of medication-induced osteoporosis. According to the American College of Rheumatology (ACR), "The magnitude of this problem has been demonstrated by cross-sectional studies, which suggest that the majority of patients receiving long-term glucocorticoid therapy have low bone mineral density, and that over one-fourth sustain osteoporotic fractures. The prevalence of vertebral fractures in asthma patients receiving steroid therapy for at least 1 year is 11%, and steroid-treated patients with rheumatoid arthritis have an increased incidence of fractures of the hip, rib, spine, leg, ankle, and foot."
The ACR also states that "glucocorticoid-induced osteoporosis is an undertreated condition. With more than an estimated 1 million patients in the US receiving a prescription for glucocorticoids yearly, GIOP has wide-reaching consequences.

Thus, glucocorticoid-induced osteoporosis is an important clinical problem which commands the physician´s attention to both prevention and treatment.
In a recent review of the epidemiology of glucocorticoid-induced osteoporosis, Civitelli R. and Ziambaras K. reported, that "the incidence of new fractures after one year of glucocorticoid therapy can be as high as 17%, and observational studies suggest that fractures, which are often asymptomatic, occur in 30-50% of chronic glucocorticoid-treated patients. Fractures can occur within 3 months of initiation of steroid therapy and with daily doses as low as 2.5 mg of prednisone, indicating that there is no "safe dose" of glucocorticoid therapy in terms of skeletal safety"

1a.4 Citations for Evidence of High Impact cited in 1a.3: 1. American College of Rheumatology 2010 Recommendations for the Prevention and Treatment of Glucocorticoid-Induced Osteoporosis. Arthritis Care & Research. Vol. 62, No. 11, November 2010, pp 1515–1526.
2.   National Osteoporosis Foundation. Clinician's Guide to Prevention and Treatment of Osteoporosis. Washington, DC: National Osteoporosis Foundation; 2010.
3.   Epidemiology of glucocorticoid-induced osteoporosis. Civitelli R, Ziambaras K. J Endocrinol Invest. 2008 Jul;31(7 Suppl):2-6.
4.   Morris CA et al. Patterns of Bone Mineral Density Testing. Current Guidelines, Testing Rates, and Interventions. J. Gen Intern Med. July; 19(7): 783–790.
5.   U.S. Department of Health and Human Services. Bone Health and Osteoporosis: A   Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General, 2004.
6.   National Health and Nutrition Survey III National Health and Nutrition Survey III
http://www.cdc.gov/nchs/products/elec_prods/subject/nhanes3.htm

7.   Practice patterns in patients at risk for glucocorticoid-induced Osteoporosis. Osteoporos Int (2005) 16: 2168–2174.

1b. Opportunity for Improvement: H☐ M☐ L☐ I☐
(*There is a demonstrated performance gap - variability or overall less than optimal performance*)

1b.1 Briefly explain the benefits (improvements in quality) envisioned by use of this measure:
Patients receiving steroids are at increased risk for osteoporosis. Bone mineral density monitoring would lead to earlier identification of patients with osteopenia or osteoporosis and provide a baseline measurement of their bone mineral density. Adequate treatment of osteoporosis will lower the risk of fracture.

1b.2 Summary of Data Demonstrating Performance Gap (*Variation or overall less than optimal performance across providers*):
[*For Maintenance – Descriptive statistics for performance results for this measure - distribution of scores for measured entities by quartile/decile, mean, median, SD, min, max, etc.*]
Despite the evidence for the importance of screening for, and treatment of osteoporosis, and national guidelines recommending BMD screening in patients receiving chronic steroids, studies show that there is room for improvement.

Morris CA. et al. reviewed 22 studies which addressed the rates of BMD screening in high risk populations including chronic glucocorticoid users. BMD testing rates ranged from 1% to 32% of postfracture patients and 1% to 47% of oral glucocorticoid users. The weighted average screening rates were 8% in the postfracture population and 9% in patients using oral glucocorticoids. In the three studies that examined physician characteristics for performing BMD testing, the percentage of doctors ordering bone densitometry as a screening test for osteoporosis varied from 38% to 62%.
Fourteen studies examined potential predictors of bone densitometry and 8 presented data that were adjusted for covariates. Female gender and having care provided by a rheumatologist were found to predict BMD testing in at least 2 studies. Neither patient age nor presence of comorbidities was associated with BMD testing. Female physicians and doctors caring for larger numbers of postmenopausal women associated with higher rates of use of bone densitometry in 2 studies, while physician age and years since medical school graduation were not associated with rates of bone density testing. One article found higher rates of BMD testing in areas with more bone densitometers.
Several other studies have looked specifically at osteoporosis screening and treatment patterns in patients receiving chronic steroids. One recent study characterized glucocorticoid use and osteoporosis screening and treatment patterns within a large U.S. health maintenance organization (HMO). This retrospective cohort study (n =3,031) used the HMO s electronic medical record and databases to identify patients who were dispensed the equivalent of >5 mg of prednisone per day for at least 90 days from January 2000 through December 2001. It assessed the primary outcomes, the percent who received a bone mineral density (BMD) measurement from January 1996 through 6 months after the index glucocorticoid prescription and the percent dispensed an osteoporosis medication within 6 months before or after the index glucocorticoid prescription. The participants mean age was 61.4 years, 60% were women, and the mean daily dose of corticosteroids was 20.0 mg of prednisone equivalents. The most frequent diagnoses associated with glucocorticoid use were chronic obstructive pulmonary disease, 25.8%; asthma, 21.4%; rheumatoid arthritis, 17.2%. Overall, only 9.8% of the population received a BMD measurement—13% of women and 4.9% of men; 38% were dispensed osteoporosis medications—57.1% of women and 8.9% of men; only 14.5% received treatment with antiresorptive medications other than hormone replacement therapy—18.3% of women and 8.9% of men. The researchers concluded that a substantial proportion of patients receiving long-term glucocorticoid therapy did not receive BMD measurement or preventive therapy for osteoporosis, as recommended in GIOP practice guidelines.

1b.3 Citations for Data on Performance Gap: [*For Maintenance – Description of the data or sample for measure results reported in 1b.2 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*]
One study characterized glucocorticoid use and osteoporosis screening and treatment patterns within a large U.S. health maintenance organization (HMO). In this retrospective cohort study (n=3,031) used data from the HMO´s electronic medical record and databases to identify patients who were dispensed the equivalent of >5 mg of prednisone per day for at least 90 days from January 2000 through December 2001. It assessed the primary outcomes, the percent who received a bone mineral density (BMD) measurement from January 1996 through 6 months after the index glucocorticoid prescription and the percent dispensed an osteoporosis medication within 6 months before or after the index glucocorticoid prescription.

* Reference: Practice patterns in patients at risk for glucocorticoid-induced Osteoporosis. Osteoporos Int (2005) 16: 2168–2174.

1b.4 Summary of Data on Disparities by Population Group: [*For Maintenance –Descriptive statistics for performance results*

for this measure by population group]

Several studies have documented disparities in the screening of patients for osteoporosis. Osteoporosis often goes undiagnosed and untreated in black patients with fragility fractures.

Fragility fractures, the result of low-impact falls that would ordinarily not fracture healthy bones, are the hallmark of osteoporosis (decreased bone mass). They affect all U.S. racial and ethnic groups, but blacks suffer more complications and deaths from these fractures than whites. This may be because the diagnosis of osteoporosis is often missed as the underlying cause of fragility fractures among black patients, according to a recent study which was supported in part by the AHRQ. Researchers found that for 91 percent of black patients with low-impact fragility fractures, osteoporosis was not recognized, diagnosed, or treated before or after hospitalization. This increases the risk of future fractures and the likelihood of disability or even nursing home entry, caution the researchers. For the study, the researchers reviewed the medical records of middle-aged men and women with fragility fractures who had been seen at Howard University Hospital—a teaching hospital that treats predominantly black patients—from 1992 through 2002. Of the 58,841 patients who were admitted during the study period, 2.1 percent had fractures. Of these, 65 percent had fractures secondary to low-impact falls, but only 9 percent were diagnosed with osteoporosis. Of those diagnosed with osteoporosis, only five (19 percent) were discharged on antiosteoporotic medications, and only one was discharged with a bisphosphonate therapy for bone loss. None of the patients had bone density scans to diagnose osteoporosis, which is recommended for patients with fragility fractures.

The 2004 Report from the Surgeon General on bone health and osteoporosis also discussed the disparities in care in underserved populations in regards to bone health:

" Some of the most important barriers relate to men and racial and ethnic minorities. Osteoporosis and fragility fractures are often mistakenly viewed by both the public and health care practitioners as only being a problem for older White women. This commonly held but incorrect view may delay prevention and even treatment in men and minority women who are not seen as being at risk for osteoporosis. While a relatively small percentage of the total number of people affected, these populations still represent millions of Americans who are suffering the debilitating effects of bone disease."

For the poor (especially the low-income elderly population), individuals with disabilities, individuals living in rural areas, and other underserved populations, timely access to care represents an additional important barrier."

"Underserved populations not only have difficulty in accessing care, but there are also concerns about the quality of those services they do receive. A recent study by the Institute of Medicine concluded that racial and ethnic minorities tend to receive lower-quality health care than does the majority population, even after accounting for access-related factors. These disparities are consistent across a wide range of services, including those critical to bone health. Moreover, in a large study of older adults who had suffered a hip or wrist fracture, certain groups of patients—including men, older persons, non-Whites, and those with co-morbid conditions—were less likely than White women to receive treatment for their bone disease after their fractures."

References:
1. Agency for Healthcare Research and Quality (AHRQ) http://www.ahrq.gov/RESEARCH/apr05/0405RA19.htm (accessed online 10-31-08)
2. Osteoporotic fragility fractures in African Americans: Under-recognized and undertreated. Journal of the National Medical Association. 2004. 96(12), pp. 1640-1645.
3. Report of the Surgeon General's Workshop on Osteoporosis and Bone Health; 2002 Dec 12-13;Washington (DC) [report on the Internet]: U.S. Department of Health and Human Services. http://www.surgeongeneral.gov/topics/bonehealth/.(accessed online 10-08)
4. U.S. Department of Health and Human Services. Bone Health and Osteoporosis: A
Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General, 2004.
5. National Health and Nutrition Survey III National Health and Nutrition Survey III http://www.cdc.gov/nchs/products/elec_prods/subject/nhanes3.htm

1b.5 Citations for Data on Disparities Cited in 1b.4: [*For Maintenance – Description of the data or sample for measure results reported in 1b.4 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*]

The data sample included 3031 HMO members who were dispensed the equivalent of >5 mg of prednisone per day for at least 90 days from January 2000 through December 2001. It assessed the primary outcomes, the percent who received a bone mineral density (BMD) measurement from January 1996 through 6 months after the index glucocorticoid prescription and the percent dispensed an osteoporosis medication within 6 months before or after the index glucocorticoid prescription. The participants mean age was 61.4 years, 60% were women, and the mean daily dose of corticosteroids was 20.0 mg of prednisone equivalents. The

most frequent diagnoses associated with glucocorticoid use were chronic obstructive pulmonary disease, 25.8%; asthma, 21.4%; rheumatoid arthritis, 17.2%. Overall, only 9.8% of the population received a BMD measurement—13% of women and 4.9% of men; 38% were dispensed osteoporosis medications—57.1% of women and 8.9% of men; only 14.5% received treatment with antiresorptive medications other than hormone replacement therapy—18.3% of women and 8.9% of men. The researchers concluded that a substantial proportion of patients receiving long-term glucocorticoid therapy did not receive BMD measurement or preventive therapy for osteoporosis, as recommended in GIOP practice guidelines.

1c. Evidence (*Measure focus is a health outcome OR meets the criteria for quantity, quality, consistency of the body of evidence.*)
Is the measure focus a health outcome?   Yes☐ No☐   If not a health outcome, rate the body of evidence.

Quantity: H☐ M☐ L☐ I☐   Quality: H☐ M☐ L☐ I☐   Consistency: H☐ M☐ L☐ I☐

Quantity	Quality	Consistency	Does the measure pass subcriterion1c?
M-H	M-H	M-H	Yes☐
L	M-H	M	Yes☐ IF additional research unlikely to change conclusion that benefits to patients outweigh harms: otherwise **No**☐
M-H	L	M-H	Yes☐ IF potential benefits to patients clearly outweigh potential harms: otherwise **No**☐
L-M-H	L-M-H	L	No ☐

Health outcome – rationale supports relationship to at least one healthcare structure, process, intervention, or service	Does the measure pass subcriterion1c? Yes☐ IF rationale supports relationship

1c.1 Structure-Process-Outcome Relationship (*Briefly state the measure focus, e.g., health outcome, intermediate clinical outcome, process, structure; then identify the appropriate links, e.g., structure-process-health outcome; process- health outcome; intermediate clinical outcome-health outcome*):
The focus of this measure is primarily improvement in health outcome. Glucocorticoid-induced osteoporosis is the leading cause of medication-induced osteoporosis. Screening for osteoporosis in these patients may lead to earlier treatment of osteoporosis with reduction of adverse events including additional fragility fractures.

1c.2-3 Type of Evidence (*Check all that apply*):
Evidence-based guideline, Expert opinion, Meta-analysis

1c.4 Directness of Evidence to the Specified Measure (*State the central topic, population, and outcomes addressed in the body of evidence and identify any differences from the measure focus and measure target population*):
According to the surgeon general´s report in 2004, BMD testing remains the "gold standard" test for those at risk of osteoporosis. BMD measurement can be used to assess fracture risk and to establish the diagnosis and severity of osteoporosis.
Marshall et.al. looked at the ability of measurements of bone density in women to predict later fractures in a meta-analysis of prospective cohort studies published between 1985 and end of 1994 with a baseline measurement of bone density in women and subsequent follow up for fractures. For comparative purposes, they also reviewed case control studies of hip fractures published between 1990 and 1994. In total they reviewed eleven separate study populations with about 90000 person years of observation time and over 2000 fractures. They found that all measuring sites had similar predictive abilities (relative risk 1.5 (95% confidence interval 1.4 to 1.6)) for decrease in bone mineral density except for measurement at spine for predicting vertebral fractures (relative risk 2.3 (1.9 to 2.8)) and measurement at hip for hip fractures (2.6 (2.0 to 3.5)). Predictive ability of decrease in bone mass was roughly similar to (or, for hip or spine measurements, better than) that of a 1 SD increase in blood pressure for stroke and better than a 1 SD increase in serum cholesterol concentration for cardiovascular disease.
The National Osteoporosis Foundation recommends BMD testing in adults with a condition (e.g., rheumatoid arthritis) or taking a medication (e.g., glucocorticoids in a daily dose = 5 mg prednisone or equivalent for = three months) associated with low bone mass or bone loss.
The 2010 American College of Rheumatology (ACR)recommendations included considering serial bone mineral density testing for patients receiving prevalent glucocorticoid therapy for a duration of >3 months. As part of their 2010 recommendations, the ACR recommendations for counseling and monitoring expanded to include fall risk assessment, height and 25-hydroxyvitamin D measurement, evaluation for prevalent and incident fragility fractures, and consideration for vertebral fracture assessment or radiographic imaging of the spine and calcium and vitamin D supplementation for any duration of glucocorticoid use.

Updated pharmacologic recommendations were also delineated for postmenopausal women and men over age 50 years, premenopausal women not of childbearing potential and men under the age of 50 years with a history of a fragility fracture, and premenopausal women of childbearing potential with a history of a fragility fracture. The newer therapies zoledronic acid and teriparatide are recommended along with alendronate and risedronate for the treatment of GIOP, while the previously included therapies estrogen replacement and testosterone are no longer endorsed.

1c.5 Quantity of Studies in the Body of Evidence *(Total number of studies, not articles)*:

1c.6 Quality of Body of Evidence (*Summarize the certainty or confidence in the estimates of benefits and harms to patients across studies in the body of evidence resulting from study factors. Please address: a) study design/flaws; b) directness/indirectness of the evidence to this measure (e.g., interventions, comparisons, outcomes assessed, population included in the evidence); and c) imprecision/wide confidence intervals due to few patients or events*):

1c.7 Consistency of Results across Studies *(Summarize the consistency of the magnitude and direction of the effect):*

1c.8 Net Benefit *(Provide estimates of effect for benefit/outcome; identify harms addressed and estimates of effect; and net benefit - benefit over harms)*:

1c.9 Grading of Strength/Quality of the Body of Evidence. Has the body of evidence been graded?

1c.10 If body of evidence graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:

1c.11 System Used for Grading the Body of Evidence: The American College of Rheumatology stated that the strength of evidence was graded using the methods reported by the American College of Cardiology (91) as follows: 1) for level of evidence A, data were derived from multiple RCTs or a meta-analysis, 2) for level B evidence, data were derived from a single RCT or nonrandomized study, and 3) for level C evidence, data were derived from consensus, expert opinion, or case series.

sources:
91. Hunt SA, Abraham WT, Chin MH, Feldman AM, Francis GS,Ganiats TG, et al. ACC/AHA 2005 guideline update for the diagnosis and management of chronic heart failure in the adult: a report of the American College of Cardiology/ American Heart Association Task Force on Practice Guidelines (Writing Committee to update the 2001 guidelines for the evaluation and management of heart failure). Developed in collaboration with the American College of Chest Physicians and the International Society for Heart and Lung
Transplantation: endorsed by the Heart Rhythm Society. Circulation 2005;112:e154–235.

1c.12 If other, identify and describe the grading scale with definitions:

1c.13 Grade Assigned to the Body of Evidence: The studies are of mixed quality. The NOF does not rate their recommendations. ACR´s recommendation to consider monitoring for patients receiving prevalent glucocorticoid therapy for aduration of >3 months by serial bone mineral density testing was rated C (expert opinon)

1c.14 Summary of Controversy/Contradictory Evidence: Summary of major recommendations:
1. NOF 2010: Indications for BMD Testing include: Adults with a condition (e.g., rheumatoid arthritis) or taking a medication (e.g., glucocorticoids in a daily dose>= 5 mg prednisone or equivalent for >= three months) associated with low bone mass or bone loss. Source: National Osteoporosis Foundation. Clinician's Guide to Prevention and Treatment of Osteoporosis. Washington, DC: National Osteoporosis Foundation; 2010.

2. USPTF 2011:The USPSTF recommends screening for osteoporosis in women aged 65 years or older and in younger women whose fracture risk is equal to or greater than that of a 65-year-old white woman who has no additional risk factors. Grade: B Recommendation.
   The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for osteoporosis in men. Grade: I (insufficient evidence)

Source: U.S. Preventive Services Task Force. Screening for osteoporosis: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med. 2011; Jan 18 http://www.uspreventiveservicestaskforce.org/uspstf/uspsoste.htm

3. ACR 2010: Bone density alone may not be the sole reliable diagnostic approach for some patients receiving glucocorticoids, because fracture in patients receiving glucocorticoids may occur independently of a decline in bone mass. ACR recommended monitoring for patients receiving prevalent glucocorticoid therapy for a duration of >=3 months which included serial bone mineral density testing. Level of Evidence: C (expert opinion)
Source: American College of Rheumatology 2010 Recommendations for the Prevention and Treatment of Glucocorticoid-Induced Osteoporosis. Arthritis Care & Research. Vol. 62, No. 11, November 2010, pp 1515–1526.

4. ACCE 2010: BMD testing is useful for screening people at high risk for osteoporosis (for example, postmenopausal women), for disease management in patients with hyperparathyroidism and other disorders or those taking medications (such as glucocorticoids) associated with bone loss (Table 4), if evidence of bone loss would result in modification of therapy, and for monitoring of pharmacologic therapy with bone-active agents.
Source: ACCE Postmenopausal Guidelines. Endocrine Practice. 2010; 16. Supplement 3.

5. AGA 2006: Periodic bone mineral density assessment is recommended
for patients on long-term corticosteroid therapy (> 3 months). (Grade A)
Source: American Gastroenterological Association Institute Medical
Position Statement on Corticosteroids, Immunomodulators and Infliximab in Inflammatory Bowel Disease. GASTROENTEROLOGY 2006;130:935–939.

1c.15 Citations for Evidence other than Guidelines*(Guidelines addressed below)*:
1.	American College of Rheumatology 2010 Recommendations for the Prevention and Treatment of Glucocorticoid-Induced Osteoporosis. Arthritis Care & Research. Vol. 62, No. 11, November 2010, pp 1515–1526.
2.	U.S. Preventive Services Task Force. Screening for osteoporosis: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med. 2011; Jan 18
3.	Epidemiology of glucocorticoid-induced osteoporosis. Civitelli R, Ziambaras K. J Endocrinol Invest. 2008 Jul;31(7 Suppl):2-6.
4.	Morris CA et al. Patterns of Bone Mineral Density Testing. Current Guidelines, Testing Rates, and Interventions. J. Gen Intern Med. July; 19(7): 783–790.
5.	U.S. Department of Health and Human Services. Bone Health and Osteoporosis: A	Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General, 2004.
6.	National Health and Nutrition Survey III National Health and Nutrition Survey III
http://www.cdc.gov/nchs/products/elec_prods/subject/nhanes3.htm
7.	Practice patterns in patients at risk for glucocorticoid-induced Osteoporosis. Osteoporos Int (2005) 16: 2168–2174.

1c.16 Quote verbatim, the specific guideline recommendation *(Including guideline # and/or page #)*:
GUIDELINE 1 (NOF –CLINICIAN'S GUIDE TO PREVENTION AND TREATMENT OF OSTEOPOROSIS 2010 Page -14)

Indications for BMD Testing:
• Women age 65 and older and men age 70 and older, regardless of clinical risk factors
• Younger postmenopausal women and men age 50 to 69 about whom you have concern based on their clinical risk factor profile
• Women in the menopausal transition if there is a specific risk factor associated with increased fracture risk such as low body weight, prior low-trauma fracture or high risk medication
• Adults who have a fracture after age 50
• Adults with a condition (e.g., rheumatoid arthritis) or taking a medication (e.g., glucocorticoids in a daily dose >= 5 mg prednisone or equivalent for >= three months) associated with low bone mass or bone loss
• Anyone being considered for pharmacologic therapy for osteoporosis
• Anyone being treated for osteoporosis, to monitor treatment effect
• Anyone not receiving therapy in whom evidence of bone loss would lead to treatment.

1c.17 **Clinical Practice Guideline Citation:** National Osteoporosis Foundation. Clinician's Guide to Prevention and Treatment of Osteoporosis. Washington, DC: National Osteoporosis Foundation; 2010.

1c.18 National Guideline Clearinghouse or other URL:
http://www.nof.org/sites/default/files/pdfs/NOF_ClinicianGuide2009_v7.pdf

1c.19 Grading of Strength of Guideline Recommendation. Has the recommendation been graded?

1c.20 If guideline recommendation graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:

1c.21 System Used for Grading the Strength of Guideline Recommendation: The NOF guideline is not rated.

1c.22 If other, identify and describe the grading scale with definitions:

1c.23 Grade Assigned to the Recommendation: The NOF guideline is not rated.

1c.24 Rationale for Using this Guideline Over Others: The Clinician´s Guide to Prevention and Treatment of Osteoporosis (2010)was developed by the National Osteoporosis Foundation (NOF). Established in 1984, the NOF is a major voluntary health organization that is recognized as a national and global leader in Osteoporosis. The guide addresses postmenopausal women and men age 50 and older. The guide also addresses secondary causes of osteoporosis which should be excluded by clinical evaluation. Furthermore, all individuals should follow the universal recommendations for osteoporosis prevention outlined in this guide.
The American College of Rheumatology (ACR) also addresses BMD testing in members on chronic steroids. However, the 2010 ACR guidelines recommend considering serial bone mineral testing (expert opinion). The NOF guideline recommendation is more definitive including, "adults with a condition (e.g., rheumatoid arthritis) or taking a medication (e.g., glucocorticoids in a daily dose >= 5 mg prednisone or equivalent for >= three months) associated with low bone mass or bone loss" , under the indications for BMD testing.

Based on the NQF descriptions for rating the evidence, what was the <u>developer's assessment</u> of the quantity, quality, and consistency of the body of evidence?
1c.25 Quantity: **1c.26** Quality: **1c.27** Consistency**:**

Was the threshold criterion, *Importance to Measure and Report*, met?
(*1a & 1b must be rated moderate or high and 1c yes*)   Yes☐ No☐
Provide rationale based on specific subcriteria:

For a new measure if the Committee votes NO, then STOP.
For a measure undergoing endorsement maintenance, if the Committee votes NO because of 1b. (no opportunity for improvement), it may be considered for continued endorsement and all criteria need to be evaluated.

2. RELIABILITY & VALIDITY - SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES

Extent to which the measure, <u>as specified</u>, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (<u>evaluation criteria</u>)
Measure testing must demonstrate adequate reliability and validity in order to be recommended for endorsement. Testing may be conducted for data elements and/or the computed measure score. Testing information and results should be entered in the appropriate field. Supplemental materials may be referenced or attached in item 2.1. See guidance on measure testing.

S.1 Measure Web Page *(In the future, NQF will require measure stewards to provide a URL link to a web page where current detailed specifications can be obtained)*. Do you have a web page where current detailed specifications for <u>this</u> measure can be obtained? Yes

S.2 If yes, provide web page URL: http://www.activehealth.net/nqf-measures.php

2a. RELIABILITY. Precise Specifications and Reliability Testing: H☐ M☐ L☐ I☐

2a1. Precise Measure Specifications. (*The measure specifications precise and unambiguous.*)

2a1.1 Numerator Statement *(Brief, narrative description of the measure focus or what is being measured about the target population, e.g., cases from the target population with the target process, condition, event, or outcome)*:
Patients who have had a bone density evaluation or osteoporosis treatment.

2a1.2 Numerator Time Window *(The time period in which the target process, condition, event, or outcome is eligible for inclusion)*:
Anytime in the past

2a1.3 Numerator Details *(All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, codes with descriptors, and/or specific data collection items/responses)*:
NUMERATOR:
All of the following are correct:
1.   Denominator is true
2.   Osteoporosis Screening Anytime Validation (see below)is confirmed for the member

Osteoporosis Screening Anytime Validation
One of the following is correct:
1.   Presence of at least 1 BONE MINERAL DENSITY STUDIES procedure in the past anytime
2.   Presence of at least 1 BONE IMAGING-WHOLE BODY procedure in the past anytime
3.   Presence of at least 1 refill OSTEOPOROSIS THERAPY in the past anytime
4.   Presence of patient data confirming at least 1 PDD- OSTEOPOROSIS TREATMENT in the past anytime
5.   Presence of patient data confirming at least 1 PDD- OSTEOPOROSIS in the past anytime
6.   Presence of patient data confirming PDD- BONE DENSITY TEST in the past anytime
7.   Presence of at least 1 OSTEOPOROSIS diagnosis in the past anytime
8.   Presence of patient data confirming at least 1 refill OSTEOPOROSIS THERAPY drug in the past anytime
9.   Presence of at least 1 ZOLEDRONIC ACID- RECLAST(CPT) procedure in the past anytime
10.   Presence of at least 1 TERIPARATIDE (HCPCS) procedure in the past anytime
11.   Presence of at least 1 OSTEOPOROSIS SCREENING (ICD9) Diagnosis in the past anytime

Note: A 3-month window has been added to certain timeframes to account for the inherent delay in the acquisition of administrative claims data.

Note: A current refill is defined as a refill in which the total day supply of a drug plus a grace period of an additional 30 days that extends into the end of the measurement window.

For the complete list of code sets that are applicable to numerator and denominator details, please review attachment – 0614_Measure_Code Sets.

2a1.4 Denominator Statement *(Brief, narrative description of the target population being measured)*:
Patients, 18 and older, who have been on chronic steroids for at least 180 days

2a1.5 Target Population Category *(Check all the populations for which the measure is specified and tested if any)*:

2a1.6 Denominator Time Window *(The time period in which cases are eligible for inclusion)*:
9 months

2a1.7 Denominator Details (*All information required to identify and calculate the target population/denominator such as definitions, codes with descriptors, and/or specific data collection items/responses)*:
DENOMINATOR:
All of the following are correct:

1. If patient age >= 18
2. One of the following is correct:
    a.Presence of STEROIDS >/ 5MG PREDNISONE 180 total days supply in the past 9 months

b.Presence of patient data confirming at least 1 PDD- STEROID USE (6 MTHS OR MORE) in the past 6 months

For the complete list of code sets that are applicable to numerator and denominator details, please review attachment - 0614_Measure_Code Sets.

2a1.10 Stratification Details/Variables *(All information required to stratify the measure results including the stratification variables, codes with descriptors, definitions, and/or specific data collection items/responses)*:
No stratification

2a1.11 Risk Adjustment Type *(Select type. Provide specifications for risk stratification in 2a1.10 and for statistical model in 2a1.13)*: No risk adjustment or risk stratification   **2a1.12 If "Other," please describe:**

2a1.13 Statistical Risk Model and Variables *(Name the statistical method - e.g., logistic regression and list all the risk factor variables. Note - risk model development should be addressed in 2b4.)*:
There is no risk adjustment

2a1.14-16 Detailed Risk Model Available at Web page URL (or attachment). Include coefficients, equations, codes with descriptors, definitions, and/or specific data collection items/responses. Attach documents only if they are not available on a webpage and keep attached file to 5 MB or less. NQF strongly prefers you make documents available at a Web page URL. Please supply login/password if needed**:**

2a1.17-18. Type of Score: Rate/proportion

2a1.19 Interpretation of Score *(Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)*: Better quality = Higher score

2a1.20 Calculation Algorithm/Measure Logic*(Describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; aggregating data; risk adjustment; etc.)*:
DENOMINATOR:
All of the following are correct:
1.   If patient age >= 18

2.   One of the following is correct:

   a.Presence of STEROIDS >/ 5MG PREDNISONE 180 total days supply in the past 9 months
   b.Presence of patient data confirming at least 1 PDD- STEROID USE (6 MTHS OR MORE) in the past 6 months

DENOMINATOR EXCLUSIONS
One of the following is correct:
1.   Pregnancy Loose Version Validation Rule is confirmed for the member (see below)

NUMERATOR:
All of the following are correct:
1.   Denominator is true
2.   Osteoporosis Screening Anytime Validation is confirmed for the member (see below)

Pregnancy Loose Version Validation
One of the following is correct:

1.   Presence of at least 1 HCG (LOINC) Labs Result Value >100 in the past 6 months
2.   Presence of patient data confirming at least 1 PDD- PREGNANCY in the past 6 months
3.   Presence of at least 1 PREGNANCY diagnosis in the past 6 months
4.   Presence of at least 1 PREGNANCY RELATED PROCEDURE in the past 6 months
5.   Presence of At Least 1   PREGNANCY EXCLUSION   Diagnosis in the past 6 Months
6.   Presence of At Least 1   PREGNANCY COMPLICATIONS   Diagnosis in the past 6 Months
7.   Presence of At Least 1   PREGNANCY INFECTION SCREENING Procedure In the past 6 Months
8.   Presence of At Least 1   PREGNANCY HIGH RISK   Diagnosis in the past 6 Months

Osteoporosis Screening Anytime Validation
One of the following is correct:
1.   Presence of at least 1 BONE MINERAL DENSITY STUDIES procedure in the past anytime
2.   Presence of at least 1 BONE IMAGING-WHOLE BODY procedure in the past anytime
3.   Presence of at least 1 refill OSTEOPOROSIS THERAPY in the past anytime
4.   Presence of patient data confirming at least 1 PDD- OSTEOPOROSIS TREATMENT in the past anytime
5.   Presence of patient data confirming at least 1 PDD- OSTEOPOROSIS in the past anytime
6.   Presence of patient data confirming PDD- BONE DENSITY TEST in the past anytime
7.   Presence of at least 1 OSTEOPOROSIS diagnosis in the past anytime
8.   Presence of patient data confirming at least 1 refill OSTEOPOROSIS THERAPY drug in the past anytime
9.   Presence of at least 1 ZOLEDRONIC ACID- RECLAST(CPT) procedure in the past anytime
10.   Presence of at least 1 TERIPARATIDE (HCPCS) procedure in the past anytime
11.   Presence of at least 1 OSTEOPOROSIS SCREENING (ICD9) Diagnosis in the past anytime

Note: A 3-month window has been added to certain timeframes to account for the inherent delay in the acquisition of administrative claims data.

Note: A current refill is defined as a refill in which the total day supply of a drug plus a grace period of an additional 30 days that extends into the end of the measurement window.

2a1.21-23 Calculation Algorithm/Measure Logic Diagram URL or attachment:

2a1.24 Sampling (Survey) Methodology. If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate)**:**
Measure is not based on a sample

2a1.25 Data Source (*Check all the sources for which the measure is specified and tested*). If other, please describe**:**
 Administrative claims, Electronic Clinical Data, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Laboratory, Electronic Clinical Data : Pharmacy, Electronic Clinical Data : Registry, Patient Reported Data/Survey

2a1.26 Data Source/Data Collection Instrument (*Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.*)**:** Data is collected from a number of electronic sources, e.g., health plans, pharmacy-based management systems, electronic health records, etc.

2a1.27-29 Data Source/data Collection Instrument Reference Web Page URL or Attachment:

2a1.30-32 Data Dictionary/Code Table Web Page URL or Attachment:
Attachment
0614 codes.xlsx

2a1.33 Level of Analysis (*Check the levels of analysis for which the measure is specified and tested*): Clinician : Group/Practice, Clinician : Individual, Clinician : Team, Facility, Health Plan, Integrated Delivery System, Population : Community, Population : County or City, Population : National, Population : Regional, Population : State

2a1.34-35 Care Setting (*Check all the settings for which the measure is specified and tested*): Ambulatory Care : Clinic/Urgent Care, Ambulatory Care : Clinician Office, Post Acute/Long Term Care Facility : Nursing Home/Skilled Nursing Facility, Post Acute/Long Term Care Facility : Rehabilitation

2a2. Reliability Testing. (*Reliability testing was conducted with appropriate method, scope, and adequate demonstration of reliability.*)

2a2.1 Data/Sample (*Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*):
All the data for the measures are obtained from electronic sources. Based on the client, we take in electronic data from health plans, pharmacy-based management systems, laboratory systems, personal health records, health risk assessments, and electronic health records. In addition, we can take in data from care management systems. All data feeds are electronic and do not require manual medical chart abstraction. We have over 21 million patient records across our book of business. The average age of the population is 35 and 51.9% of the population is female. Currently we use a database of approximately over 2 million patient records for testing purposes populated from multiple populations. Our testing procedure includes testing the rules on the database of approximately 2 million patient records. We typically review the results for reliability, i.e., did we find the same people on multiple runs and validity, i.e., did we find the appropriate people in the denominator and numerator.

2a2.2 Analytic Method (*Describe method of reliability testing & rationale*):
All of our quality measures are electronic and all the data used to support the measures are electronic. In addition, we receive the data by electronic feeds. We have internal processes to ensure that we receive valid codes and where appropriate the associated values. Our analytic process includes testing a new rule or algorithm on our test database of 2 million patient records, so that we can be sure of the reliability of the code. At the end of the test, we randomly select patients who are either in the numerator, or in the denominator but not the numerator, to ensure that they met the requirements of the rule. As a part of our reliability testing, we check to ensure we have found the correct people in the denominator or the numerator, across multiple rules with similar definitions. To ensure accuracy, we check a subset of the people who were not in the numerator to ensure that we were accurate in not counting them in the numerator. If we find errors at any stage of the reliability testing, e.g., similar denominators that had significant differences in counts, different compliance rates for similar populations; we update the rules and retest.

2a2.3 Testing Results (*Reliability statistics, assessment of adequacy in the context of norms for the test conducted*):
The measure algorithms and code sets are all electronic. Once we complete testing the rules and correcting any errors, the rules are deployed in a production environment for our clients. At that point, the rules are considered reliable, i.e., if the rules are run on the same data set we expect to find the same people on a consistent basis.

2b. VALIDITY. Validity, Testing, <u>including all Threats to Validity</u>: H☐ M☐ L☐ I☐

2b1.1 Describe how the measure specifications (*measure focus, target population, and exclusions*) **are consistent with the evidence cited in support of the measure focus (***criterion 1c***) and identify any differences from the evidence:**
The measure was built to align with the guidelines and evidence.

2b2. Validity Testing. (*Validity testing was conducted with appropriate method, scope, and adequate demonstration of validity.*)

2b2.1 Data/Sample (*Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*):
The data for the measure are obtained from electronic sources. Based on the client, we take in electronic data from health plans, pharmacy-based management systems, laboratory systems, personal health records, health risk assessments, and electronic health records. In addition, we can take in data from care management systems. All data feeds are electronic and do not require manual medical chart abstraction.

2b2.2 Analytic Method (*Describe method of validity testing and rationale; if face validity, describe systematic assessment*):
All of our quality measures are electronic and all the data used to support the measures are electronic. In addition, we receive the

data by electronic feeds. We have internal processes to ensure that we receive valid codes and where appropriate the associated values. Currently we use a database of approximately 2 million patient records for testing purposes. Our analytic process includes testing a new rule or algorithm on the standard data set so that we can be sure of the reliability of the code. At the end of the test, we randomly select patients who are either in the numerator, or in the denominator but not the numerator, to ensure that they met the requirements of the rule. As a part of our validity testing, we check to ensure we have found the correct people in the denominator or the numerator. To ensure accuracy, we check a subset of the people who were not in the numerator to ensure that we were accurate in not counting them in the numerator. If we find errors at any stage of the reliability testing, e.g., similar denominators that had differences in counts, compliance rates for similar populations that differ, then we update the rules and retest.

Further, to ensure that we obtain valid results once the measures are deployed, when we run the measure for a client we evaluate the results to ensure they are consistent with what we have found in the past for the client and across our book of business.

2b2.3 Testing Results *(Statistical results, assessment of adequacy in the context of norms for the test conducted; if face validity, describe results of systematic assessment)*:
The algorithms and code sets used for the measures are all electronic. Once we test the rules, and correct any errors, the rules are deployed in a production environment for our clients. At that point, the rule is considered reliable, that is we are finding the appropriate people in the denominator and numerator.
Using our test data, the compliance rate of the measure was 59.8 % (denominator: 2334).

POTENTIAL THREATS TO VALIDITY. (*All potential threats to validity were appropriately tested with adequate results*.)

2b3. Measure Exclusions. (*Exclusions were supported by the clinical evidence in 1c or appropriately tested with results demonstrating the need to specify them.*)

2b3.1 Data/Sample for analysis of exclusions *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)*:
See above. It is an accepted medical practice not to irradiate pregnant women unnecessarily.

2b3.2 Analytic Method (*Describe type of analysis and rationale for examining exclusions, including exclusion related to patient preference)*:
See above. It is an accepted medical practice not to irradiate pregnant women unnecessarily.

2b3.3 Results *(Provide statistical results for analysis of exclusions, e.g., frequency, variability, sensitivity analyses):*
See above. It is an accepted medical practice not to irradiate pregnant women unnecessarily.

2b4. Risk Adjustment Strategy. (*For outcome measures, adjustment for differences in case mix (severity) across measured entities was appropriately tested with adequate results.*)

2b4.1 Data/Sample *(Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)*:
We do not apply risk adjustment to our rules.

2b4.2 Analytic Method (icon*Describe methods and rationale for development and testing of risk model or risk stratification including selection of factors/variables)*:
We do not apply risk adjustment to our rules.

2b4.3 Testing Results (*Statistical risk model: Provide quantitative assessment of relative contribution of model risk factors; risk model performance metrics including cross-validation discrimination and calibration statistics, calibration curve and risk decile plot, and assessment of adequacy in the context of norms for risk models. Risk stratification: Provide quantitative assessment of relationship of risk factors to the outcome and differences in outcomes among the strata)*:
We do not apply risk adjustment to our rules.

2b4.4 If outcome or resource use measure is not risk adjusted, provide rationale and analyses to justify lack of adjustment: To satisfy the ability to apply evidence-based risk stratification protocols, we would have to collect electronic data to support the stratification, systematically; and often these data are not readily captured using standard electronic feeds. Other potential risk factors, e.g. race, gender, age, and socioeconomic status, relate to disparities in care, and except for age would be

difficult to capture. In addition, risk stratification for a process measure might not be applicable
We anticipate that once electronic health records and clinical data become more prevalent and robust, we will be able to capture these additional data for routine risk adjustment.

2b5. Identification of Meaningful Differences in Performance. (*The performance measure scores were appropriately analyzed and discriminated meaningful differences in quality.*)

2b5.1 Data/Sample *(Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)*:
Our ability to analyze measures across different populations is limited by the characteristics of a specific client population. Since the rules are electronic, they are applied consistently, independent of the population characteristics. For example running this measure on a young population, may result in a lower denominator and compliance rate, compared to evaluating the measure across an older population.

2b5.2 Analytic Method *(Describe methods and rationale to identify statistically significant and practically/meaningfully differences in performance)*:
See comments above.

2b5.3 Results *(Provide measure performance results/scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance)*:
 See comments above.

2b6. Comparability of Multiple Data Sources/Methods. (*If specified for more than one data source, the various approaches result in comparable scores.*)

2b6.1 Data/Sample *(Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included)*:
We receive electronic data from multiple sources – health plan, electronic health record, personal health record, etc. Independent of the sources, all the available data about a patient are aggregated into a single patient record for use in performance measurement. Therefore, for an individual patient the record will include claims data, clinical data from an electronic health record, or a self-reported data from a patient health record. Based on this, we do not typically conduct analyses based on disparate sources of data. Instead, the rules contain redundancies to accommodate the different sources of data or the absence of specific data based on the source.

2b6.2 Analytic Method *(Describe methods and rationale for testing comparability of scores produced by the different data sources specified in the measure)*:
See comments above.

2b6.3 Testing Results *(Provide statistical results, e.g., correlation statistics, comparison of rankings; assessment of adequacy in the context of norms for the test conducted)*:
See comments above.

2c. Disparities in Care: H☐ M☐ L☐ I ☐ NA☐ (*If applicable, the measure specifications allow identification of disparities.*)

2c.1 If measure is stratified for disparities, provide stratified results *(Scores by stratified categories/cohorts)*: We do not stratify our measures for disparities.

2c.2 If disparities have been reported/identified (e.g., in 1b), but measure is not specified to detect disparities, please explain:
To stratify based on disparities, would require that we receive electronic data in our standard feeds that we do not currently receive, e.g., race, ethnicity, socioeconomic status. We anticipate that once electronic health records and clinical data become more prevalent and robust, we will be able to capture these additional data for routine use including stratification disparities.

2.1-2.3 Supplemental Testing Methodology Information:

Steering Committee: Overall, was the criterion, *Scientific Acceptability of Measure Properties*, met?
(*Reliability and Validity must be rated moderate or high*) Yes☐ No☐
Provide rationale based on specific subcriteria:

If the Committee votes No, STOP

3. USABILITY

Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (**evaluation criteria**)

C.1 **Intended Purpose/ Use** *(Check all the purposes and/or uses for which the measure is intended)*: Public Reporting, Quality Improvement (Internal to the specific organization)

3.1 **Current Use** *(Check all that apply; for any that are checked, provide the specific program information in the following questions)*:

3a. Usefulness for Public Reporting: H☐ M☐ L☐ I☐
(*The measure is meaningful, understandable and useful for public reporting.*)

3a.1. **Use in Public Reporting - disclosure of performance results to the public at large** *(If used in a public reporting program, provide name of program(s), locations, Web page URL(s)).* If not publicly reported in a national or community program, state the reason AND plans to achieve public reporting, potential reporting programs or commitments, and timeline, e.g., within 3 years of endorsement: [*For Maintenance – If not publicly reported, describe progress made toward achieving disclosure of performance results to the public at large and expected date for public reporting; provide rationale why continued endorsement should be considered.*]
Traditionally, we have reported our measures to clients, who then publish the results publicly. We are in the process of working with clients who are a part of a number of initiatives including patient-centered medical homes and accountable care organizations. We anticipate that with these new initiatives, that we will deploy our quality measures, the results of which should be part of the public reporting and quality initiative programs.

3a.2. **Provide a rationale for why the measure performance results are meaningful, understandable, and useful for public reporting**. If usefulness was demonstrated (e.g., focus group, cognitive testing), describe the data, method, and results: According to the American College of Rheumatology guidelines on Glucocorticoid-Induced Osteoporosis: "Despite the availability of therapies to reduce the risk of fractures, many patients receiving long-term glucocorticoid therapy do not receive any interventions to prevent or treat osteoporosis. In some populations, less than one-third received BMD testing or had documented use of calcium and vitamin D supplementation (13–15). Similarly, the use of bisphosphonate therapy is low, particularly among men and younger women (14–16)."

The measure's performance results are useful because there is independent evidence that patients who use steroids do not necessarily receive the appropriate intervention especially in the primary care setting. Patients on steroids are at higher risk for osteoporosis. The detection of osteoporosis and / or treatment allows may reduce subsequent complications and costs.

Providing public reporting of this measure will lead to increased awareness of the need to screen for osteoporosis in patients on steroids and where appropriate to treat.

3.2 **Use for other Accountability Functions (payment, certification, accreditation).** If used in a public accountability program, provide name of program(s), locations, Web page URL(s): Traditionally, we have reported our measures to clients who then publish the results publicly. We are in the process of working with clients who are a part of a number of initiative including patient-centered medical homes and accountable care organizations. We anticipate that with these new initiatives, that we will deploy our quality measures, the results of which should be part of the public reporting and quality initiative programs.

3b. Usefulness for Quality Improvement: H☐ M☐ L☐ I☐
(*The measure is meaningful, understandable and useful for quality improvement.*)

3b.1. **Use in QI.** If used in quality improvement program, provide name of program(s), locations, Web page URL(s):

[*For <u>Maintenance</u> – *If not used for QI, indicate the reasons and describe progress toward using performance results for improvement*].

Traditionally, we have reported our measures to clients, who then publish the results publicly. We are in the process of working with clients who are a part of a number of initiatives including patient-centered medical homes and accountable care organizations. We anticipate that with these new initiatives, that we will deploy our quality measures, the results of which should be part of the public reporting and quality initiative programs.

3b.2. Provide rationale for why the measure performance results are meaningful, understandable, and useful for quality improvement. <u>If usefulness was demonstrated</u> *(e.g., QI initiative),* describe the data, method and results:

According to the American College of Rheumatology guidelines on Glucocorticoid-Induced Osteoporosis: "Despite the availability of therapies to reduce the risk of fractures, many patients receiving long-term glucocorticoid therapy do not receive any interventions to prevent or treat osteoporosis. In some populations, less than one-third received BMD testing or had documented use of calcium and vitamin D supplementation (13–15). Similarly, the use of bisphosphonate therapy is low, particularly among men and younger women (14–16)."

The measure's performance results are useful because there is independent evidence that patients who use steroids do not necessarily receive the appropriate intervention especially in the primary care setting. Patients on steroids are at higher risk for osteoporosis. The detection of osteoporosis and / or treatment allows may reduce subsequent complications and costs.

Providing public reporting of this measure will lead to increased awareness of the need to screen for osteoporosis in patients on steroids and where appropriate to treat.

Overall, to what extent was the criterion, *Usability*, met? H☐ M☐ L☐ I☐
Provide rationale based on specific subcriteria:

4. FEASIBILITY

Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. **(evaluation criteria)**

4a. Data Generated as a Byproduct of Care Processes: H☐ M☐ L☐ I☐

4a.1-2 How are the data elements needed to compute measure scores generated? *(Check all that apply).*
Data used in the measure are:
generated by and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition,
Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims)
Data obtained through electronic personal health records and telephonic, nurse-driven disease management programs

4b. Electronic Sources: H☐ M☐ L☐ I☐

4b.1 Are the data elements needed for the measure as specified available electronically *(Elements that are needed to compute measure scores are in defined, computer-readable fields)*: Yes

4b.2 If ALL data elements are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources:

4c. Susceptibility to Inaccuracies, Errors, or Unintended Consequences: H☐ M☐ L☐ I☐

4c.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measurement identified during testing and/or operational use and strategies to prevent, minimize, or detect. If audited, provide results:
We use a combination of data sources to mitigate the risk of inaccuracies or errors. We recognize that generally, electronic data have inherent errors and inaccuracies related to incorrect coding, or missing data, which can result in less specificity in the definition of the denominator and /or the numerator. To minimize these errors and inaccuracies, we use clinically enriched data(laboratory results, medication lists) to augment the data. In addition, where possible, we corroborate the data, for example if we receive an ICD-9 code for diabetes from claims, we also include in the rule the requirement for diabetic medications. We have a mechanism in place to solicit feedback from providers via a feedback form, if they detect errors with the measure. We do not anticipate significant unintended consequences from the implementation of the measure. Our measures are all developed from

evidence-based literature or from clinical practice guidelines and are designed to encourage appropriate care of the patient.

4d. Data Collection Strategy/Implementation: H☐ M☐ L☐ I☐

A.2 **Please check if either of the following apply** (*regarding proprietary measures*): Proprietary measure
4d.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues (*e.g., fees for use of proprietary measures)*:
Generally, we have learned that we have to be flexible to take in data from all possible sources. We have also heard from providers, that they prefer that the rules err on the side of specificity, e.g., lessen the risk of false positives, that is, identifying the wrong patient for the denominator and that they want a mechanism to provide feedback.

Overall, to what extent was the criterion, *Feasibility*, met? H☐ M☐ L☐ I☐
Provide rationale based on specific subcriteria:

OVERALL SUITABILITY FOR ENDORSEMENT

Does the measure meet all the NQF criteria for endorsement? Yes☐ No☐
Rationale:

If the Committee votes No, STOP.
If the Committee votes Yes, the final recommendation is contingent on comparison to related and competing measures.

5. COMPARISON TO RELATED AND COMPETING MEASURES

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure before a final recommendation is made.

5.1 If there are related measures (*either same measure focus or target population)* **or competing measures** (*both the same measure focus and same target population*), **list the NQF # and title of all related and/or competing measures:**

5a. Harmonization

5a.1 If this measure has EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):
Are the measure specifications completely harmonized?

5a.2 If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden:

5b. Competing Measure(s)

5b.1 If this measure has both the same measure focus and the same target population as NQF-endorsed measure(s):
Describe why this measure is superior to competing measures (*e.g., a more valid or efficient way to measure quality); OR* **provide a rationale for the additive value of endorsing an additional measure.** (*Provide analyses when possible*):
This measure has a similar condition but covers a different target population.

CONTACT INFORMATION

Co.1 **Measure Steward (Intellectual Property Owner):** ActiveHealth Management, 1333 Broadway, New York, New York, 10018

Co.2 **Point of Contact:** Madhavi, Vemireddy, MD, mvemireddy@activehealth.net, 212-651-8200-

Co.3 **Measure Developer if different from Measure Steward:** ActiveHealth Management, 1333 Broadway, New York, New York, 10018

Co.4 **Point of Contact:** Lindee, Chin, MD, lchin@activehealth.net, 212-621-8200-
Co.5 **Submitter:** Lindee, Chin, MD, lchin@activehealth.net, 212-651-8200-, ActiveHealth Management
Co.6 **Additional organizations that sponsored/participated in measure development:**
Co.7 **Public Contact:** Lindee, Chin, MD, lchin@activehealth.net, 212-621-8200-, ActiveHealth Management

ADDITIONAL INFORMATION
Workgroup/Expert Panel involved in measure development Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development. no workgroup or expert panel involved
Ad.2 **If adapted, provide title of original measure, NQF # if endorsed, and measure steward. Briefly describe the reasons for adapting the original measure and any work with the original measure steward:** not applicable
Measure Developer/Steward Updates and Ongoing Maintenance Ad.3 **Year the measure was first released:** 2000 Ad.4 **Month and Year of most recent revision:** 12, 2010 Ad.5 **What is your frequency for review/update of this measure?** every 2 years Ad.6 **When is the next scheduled review/update for this measure?** 12, 2013
Ad.7 **Copyright statement:** This information, including any attachments hereto, is the sole, exclusive, proprietary and confidential property of Active Health Management, Inc., and is for the exclusive use of The National Quality Forum. Any use, copying, disclosure, dissemination or distribution by anyone other than the National Quality Forum is strictly prohibited.
Ad.8 **Disclaimers:**
Ad.9 **Additional Information/Comments:**
Date of Submission (*MM/DD/YY*): 07/15/2011