

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 #: 0554 NQF Project: Care Coordination Project
(for Endorsement Maintenance Review) Original Endorsement Date: Aug 05, 2009 Most Recent Endorsement Date: Aug 05, 2009
BRIEF MEASURE INFORMATION
De.1 Measure Title: Medication Reconciliation Post-Discharge
Co.1.1 Measure Steward: National Committee for Quality Assurance
De.2 Brief Description of Measure: The percentage of discharges from January 1–December 1 of the measurement year for members 66 years of age and older for whom medications were reconciled on or within 30 days of discharge.
2a1.1 Numerator Statement: Medication reconciliation conducted by a prescribing practitioner, clinical pharmacist or registered nurse, as documented through administrative or medical record review on or within 30 days of discharge. Medication reconciliation is defined as a type of review in which the discharge medications are reconciled with the most recent medication list in the outpatient medical record, on or within 30 days after discharge.
2a1.4 Denominator Statement: All discharges from an in-patient setting for health plan members who are 66 years and older as of December 31 of the measurement year.
2a1.8 Denominator Exclusions: Exclude both the initial discharge and the readmission/direct transfer discharge if the readmission/direct transfer discharge occurs after December 1 of the measurement year. If the discharge is followed by a readmission or direct transfer to an acute or non-acute facility within the 30-day follow-up period, count the only the readmission discharge or the discharge from the facility to which the member was transferred.
1.1 Measure Type: Process 2a1. 25-26 Data Source: Administrative claims, Electronic Clinical Data : Electronic Health Record, Paper Records 2a1.33 Level of Analysis: Clinician : Group/Practice, Clinician : Individual, Health Plan, Integrated Delivery System, Population : County or City, Population : National, Population : Regional
1.2-1.4 Is this measure paired with another measure? No
De.3 If included in a composite, please identify the composite measure (<i>title and NQF number if endorsed</i>): N/A

STAFF NOTES (<i>issues or questions regarding any criteria</i>)
Comments on Conditions for Consideration:
Is the measure untested? Yes <input type="checkbox"/> No <input type="checkbox"/> 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 (<i>check De.5</i>): 5. Similar/related endorsed or submitted measures (<i>check 5.1</i>): Other Criteria:
Staff Reviewer Name(s):

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):*

De.5 Cross Cutting Areas *(Check all the areas that apply):* Care Coordination, Safety : Medication Safety

1a.1 Demonstrated High Impact Aspect of Healthcare: Affects large numbers, 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):*

Implementing routine medication reconciliation after discharge from an inpatient facility is an important step in ensuring the continuity of patient care. Estimates suggest that 46% of medication errors occur on admission or discharge from a hospital (Pronovost 2003). Elderly patients possess several factors, including chronic conditions and increased drug utilization, which makes them particularly prone to adverse drug events resulting from multiple care settings (Marcum 2010).

Hospital medication records for admitted patients are often incomplete. A comparison of medication histories maintained by the hospital for admitted patients with community pharmacy records revealed that the hospital's records omitted 26% of the medications in use. This study also found that 61% of all patients had one or more drugs that were not registered with the hospital.. As a result, patients are discharged from the hospital without being continued on some of their chronic medications, possible inadvertently (Lau 2000). Significant changes can occur to a patient's medications during hospitalization; a study by Beers et al. found that 45% of all discharge medications were initiated during hospitalization (1989).

The process of resolving discrepancies in a patient's medication list reduces the risk of adverse drug interactions being overlooked and helps physicians minimize the duplication and complexity of the patient's medication regimen (Wenger 2004). This in turn may increase patient adherence to the medication regimen and reduce hospital readmission rates. A study by Gillespie et al utilized a randomized pharmacist-led medication review process of hospitalized patients and demonstrated a subsequent 16% reduction in all visits to the hospital and a 47% reduction in visits to the emergency department (Gillespie 2009).

1a.4 Citations for Evidence of High Impact cited in 1a.3: • Pronovost P, Weast B, Schwarz M, et al. Medication Reconciliation:

A Practical Tool to Reduce the Risk of Medication Errors. J Crit Care. 2003;18(4):201-5.

• Marcum ZA, Handler SM, Boyce R, et al. Medication Misadventures in the Elderly: A Year in Review. Am J Geriatr Pharmacother. 2010; 8(1):77-83.

• Lau HS, Florax C, Porsius AJ, De Boer A. The completeness of medication histories in hospital medical records of patients admitted to general internal medicine wards. Br J Clin Pharmacol. 2000;49(6):597-603.

• Beers MH, Dang J, Hasegawa J, Tamai IY. Influence of hospitalization on drug therapy in the elderly. J Am Geriatr Soc. 1989;37(8):679-83.

• Wenger NS and Young R. Working paper: Quality Indicators of Continuity and Coordination of Care for Vulnerable Elder Persons. Rand: August 2004.

• Gillespie U, Alassaad A, Henrohn D, et al. A Comprehensive Pharmacist Intervention to Reduce Morbidity in Patients 80 Years or Older. Arch Intern Med. 2009;169:894-900.

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:

The intent of this measure is to reduce complications resulting from drug interactions, omissions, or duplications in elderly patients after discharge from an inpatient facility. Communication between the inpatient facility and the patient's primary caregiver is often

delayed and incomplete, which may result in duplication of medications or the administration of medications with potentially harmful interactions (Williams 1990). Numerous evaluations have established that medication reconciliation is an effective tool to reduce preventable adverse drug events, which is associated with 1 of 5 injuries or deaths. (Pronovost 2003, IHI 2011) In one study, the percentage of patients affected by adverse drug events fell from 36.9% to 9.3% with the use of medication reviews (IOM 2011). This intervention may also ease the financial burden that medication errors place on the medical system; a study utilizing a pharmacist-led medication review concluded that there was a \$230 decrease in cost per patient (Gillespie 2009).

- Williams EI and Filton F. General practitioner response to elderly patients discharged from hospital. *BMJ*. 1990; 300:159-161.
- Pronovost P, Weast B, Schwarz M, et al. Medication Reconciliation: A Practical Tool to Reduce the Risk of Medication Errors. *J Crit Care*. 2003 Dec;18(4):201-5.
- Institute for Healthcare Improvement (IHI). Reconcile Medications at All Transition Points: Reconcile Medications in Outpatient Settings. Available at: <http://www.ihl.org/knowledge/Pages/Changes/ReconcileMedicationsatAllTransitionPoints.aspx>. Accessed December 2011.
- Committee on Quality Health Care in America. Institute of Medicine. To err is human: building a safer health system. Washington, D.C: National Academy Press. 2002.
- Gillespie U, Alsaad A, Henrohn D, et al. A Comprehensive Pharmacist Intervention to Reduce Morbidity in Patients 80 Years or Older. *Arch Intern Med*. 2009;169:894-900.

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.]

Medicare

Measurement Year: 2010; 2009; 2008

N: 279; 282; 303

MEAN: 31.8; 34.1; 33.1

STDEV: 21.7; 21.6; 19.7

STDERR: 1.3; 1.28; 1.13

MIN: 0; 0; 0

MAX: 97.3; 95.8; 98.6

P10: 7.89; 6.33; 4.14

P25: 15.8; 18.8; 21.9

P50: 27.3; 32.6; 31.7

P75: 44.7; 47; 44.9

P90: 62.7; 64.6; 57.4

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]

Section 1b.2 references data from the most recent three years of measurement for this measure. The data in section 1b.2 includes percentiles, mean, min, max, standard deviations and standard errors.

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

The measure is not stratified to detect disparities. NCQA has participated with IOM and others in attempting to include information on disparities in measure data collection. However, at the present time, this data, at all levels (claims data, paper chart review, and electronic records), is not coded in a standard manner, and is incompletely captured. There are no consistent standards for what entity (physician, group, plan, employer) should capture and report this data. While "requiring" reporting of the data could push the field forward, it has been our position that doing so would create substantial burden with inability to use the data because of its inconsistency. At the present time, we agree with the IOM report that disparities are best considered by the use of zip code analysis which has limited applicability in most reporting situations. At the health plan level, for HEDIS health plan data collection, NCQA does have extensive data related to our use of stratification by insurance status (Medicare, Medicaid and private-commercial) and would strongly recommend this process where the data base supporting the measurement includes this information. However, we believe that the measure specifications should NOT require this since the measure is still useful where the data needed to determine disparities cannot be ascertained from the data available.

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]
 N/A

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 <input type="checkbox"/>
L	M-H	M	Yes <input type="checkbox"/> IF additional research unlikely to change conclusion that benefits to patients outweigh harms: otherwise No <input type="checkbox"/>
M-H	L	M-H	Yes <input type="checkbox"/> IF potential benefits to patients clearly outweigh potential harms: otherwise No <input type="checkbox"/>
L-M-H	L-M-H	L	No <input type="checkbox"/>

Health outcome – rationale supports relationship to at least one healthcare structure, process, intervention, or service	Does the measure pass subcriterion1c? Yes <input type="checkbox"/> 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):

To our knowledge there are no systematic reviews of the effect of medication reconciliation alone on health outcomes for older adults. However, individual studies have shown a decrease in medication errors when medication reconciliation among other transition interventions are implemented (Bayoumi 2009; Coleman 2003; Gillespie 2009; Nassaralla 2007; Geurts 2012; Midlow 2012). Hospital admissions are associated with unintentional discontinuation of medication for chronic conditions (Bell 2011) and medication errors (Stafford 2011; IOM 2006). Medication reconciliation post-discharge is an important step to catch potentially harmful omissions or changes in prescribed medications, particularly in elderly patients that are prescribed a greater quantity and variety of medications (Leape 1991). Although the magnitude of the effect of medication reconciliation alone on patient outcomes is not well studied, there is agreement among experts the potential benefits outweigh the harm (Coleman 2003; Pronovost 2003; IOM 2002; IOM 2006). Medication reconciliation post-discharge is recommended by the Joint commission patient safety goals (Kienle 2008), the American Geriatric Society (Coleman 2003), Society of Hospital Medicine (Kripalani 2007; Grenwald 2010), ACOVE (Assessing Care of Vulnerable Elders; Knight 2001), and the task force on medicines partnership (2005). Additionally, measurement of medication reconciliation post-discharge has been cited by the National Quality Forum and the National Priorities Partnership as a measurement priority area (NQF 2010).

1c.2-3 Type of Evidence (Check all that apply):
 Selected individual studies (rather than entire body of evidence)

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):

The evidence directly relates to the topic of medication reconciliation, though it varies in the measurement population age range (adult, geriatric).

1c.5 Quantity of Studies in the Body of Evidence (Total number of studies, not articles): 6

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): Medication reconciliation post-discharge is widely regarded as good practice. Interventions which have targeted reducing adverse medication events have combined medication reconciliation with other care coordination and transition interventions. Therefore the body of evidence

directly linking medication reconciliation with patient outcomes is moderate. While all studies have shown a positive effect of medication reconciliation on reducing medication errors, very few have had the power to show an effect on outcomes such as morbidity and mortality. Despite this limitation, there is general expert consensus that the benefits of medication reconciliation outweigh the harms.

1c.7 Consistency of Results across Studies (*Summarize the consistency of the magnitude and direction of the effect*): All studies have shown a positive effect of medication reconciliation on reducing medication errors. Studies have shown mixed results when examining the effect of medication reconciliation on morbidity and mortality. No studies have shown any harm to the patient from medication reconciliation.

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

The studies show that medication reconciliation reduces the probability of discrepancies in the patient's medication regimen.

1c.9 Grading of Strength/Quality of the Body of Evidence. Has the body of evidence been graded? No

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

1c.11 System Used for Grading the Body of Evidence: Other

1c.12 If other, identify and describe the grading scale with definitions: The evidence has not been graded.

1c.13 Grade Assigned to the Body of Evidence: N/A

1c.14 Summary of Controversy/Contradictory Evidence: N/A

1c.15 Citations for Evidence other than Guidelines(*Guidelines addressed below*):

Bayoumi I, Howard M, Holbrook Am, Schabert I. Interventions to improve medication reconciliation in primary care. *Ann Pharmacother.* 2009; 43:1667-75.

Coleman EA, Boulton CE on behalf of the American Geriatrics Society Health Care Systems Committee. Improving the Quality of Transitional Care for Persons with Complex Care Needs. *Journal of the American Geriatrics Society.* 2003;51(4):556-557.

Gillespie U, Alsaad A, Henrhn D, et al. A Comprehensive Pharmacist Intervention to Reduce Morbidity in Patients 80 Years or Older. *Arch Intern Med.* 2009;169:894-900.

Nassaralla CL, Naessens JM, Chaudhry R, et al. Implementation of a medication reconciliation process in an ambulatory internal medicine clinic. *Qual Saf Health Care* 2007; 16: 90-94.

Geurts MM, Talsma J, Brouwers JR, de Gier JJ. Medication Review and Reconciliation with Cooperation between Pharmacist and General Practitioner and the Benefit for the Patient: a Systematic Review. *Br J Clin Pharmacol.* 2012. Epub ahead of print. Jan 13.

Midlov P, Bahrani L, Seyfali M, Hoglund P, Rickhag E, Eriksson T. The effect of medication reconciliation in elderly patients at hospital discharge. *Int J Clin Pharm.* 2012. Epub ahead of print. Feb 2012.

Bell CM, Brener SS, Gunraj N, Huo C, Bierman AS, Scales DC, Bajcar J, Szarenstein M, Urbach DR. Association of ICU or hospital admission with unintentional discontinuation of medication for chronic diseases. *JAMA.* 2011; 306:840-7.

Stafford L, Stafford A, Hughes J, Angley M, Berezniaki L, Peterson G. Drug-related problems identified in post-discharge medication reviews for patients taking warfarin. *Int J Clin Pharm.* 2011;33:621-6.

Institute of Medicine (IOM). *Preventing Medication Errors.* National Academies Press, Washington D.C. 2006.

Leape LL, Brennan TA, et al. The Nature of Adverse Events in Hospitalized Patients. N Engl J Med. 1991;324(6):377-84.

Pronovost P, Weast B, Schwarz M, et al. Medication Reconciliation: A Practical Tool to Reduce the Risk of Medication Errors. J Crit Care. 2003;18(4):201-5.

Institute of Medicine (IOM): Committee on Quality Health Care in America. Washington, D.C: National Academy Press. 2002.

Joint Commission. National Patient Safety Goals. 2012. Available at: http://www.jointcommission.org/standards_information/npsgs.aspx

Kienle P, Uselton JP. Mainting Compliance with Joint Commission Medication Management Standards. Patient Safety and Quality Healthcare. 2008; July/August.

Kripalani S, Jackson At, Schnipper JL, Coleman EA. Promoting effective transitions of care at hospital discharge: a review of key issues for hospitals. J Hosp Med. 2007; 2:314-23.

Grennwald JL, Halasyamani L, Greene J, LaCivita C, Stucky E, benjamine B, Reid W, Griffin FA, Vaida AJ, Williams MV. Making inpatient medication reconciliation patient centered, clinically relevant, and implementable: A consensus statement on key principles and necessary first steps. J Hosp Med. 2010;5:477-85.

Knight, E.L., J. Avorn. Quality indicators for appropriate medication use in vulnerable elders. Ann. Intern. Med. 2001. 703-10.

Task Force on Medicines Partnership. The National Collaborative medicines Management Services Programme. Room for Review. A Guide to Medication Review. London, 2002. Accessed via: <http://www.medicines-partnership.org/medication-review>, viewed September 2005.

National Quality Forum (NQF), Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination: A Consensus Report, Washington, DC: NQF; 2010.

National Quality Forum (NQF). National Voluntary Consensus Standards for Medication Management: A Consensus Report. Washington, DC: NQF; 2010.

1c.16 Quote verbatim, the specific guideline recommendation (Including guideline # and/or page #):

N/A

1c.17 Clinical Practice Guideline Citation: N/A

1c.18 National Guideline Clearinghouse or other URL: N/A

1c.19 Grading of Strength of Guideline Recommendation. Has the recommendation been graded? No

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: Other

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

1c.23 Grade Assigned to the Recommendation: N/A

1c.24 Rationale for Using this Guideline Over Others: N/A

Based on the NQF descriptions for rating the evidence, what was the developer's assessment of the quantity, quality, and consistency of the body of evidence?

1c.25 Quantity: Low 1c.26 Quality: Low 1c.27 Consistency: Moderate

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, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. (evaluation criteria)

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 this measure can be obtained? No

S.2 If yes, provide web page URL:

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):

Medication reconciliation conducted by a prescribing practitioner, clinical pharmacist or registered nurse, as documented through administrative or medical record review on or within 30 days of discharge.

Medication reconciliation is defined as a type of review in which the discharge medications are reconciled with the most recent medication list in the outpatient medical record, on or within 30 days after discharge.

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

The measurement year

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:

1) Administrative (when available):

Medication reconciliation (Table MRP-A) conducted by prescribing practitioner, clinical pharmacist or registered nurse on or within 30 days of discharge. A member had a medication reconciliation if a claim/encounter contains a code in Table MRP-A.

Table MRP-A: Codes to Identify Medication Reconciliation

Medication Reconciliation: CPT Category II: 1111F

2) Medical Record (as necessary):

Documentation in the medical record must include evidence of medication reconciliation, and the date on which it was performed.

The following evidence meets criteria:

- Notation that medications prescribed or ordered upon discharge were reconciled with the current medications (in outpatient record) by the appropriate practitioner type, or
- A medication list in a discharge summary that is present in the outpatient chart and evidence of a reconciliation with the current medications conducted by an appropriate practitioner type or
- Notation that no medications were prescribed or ordered upon discharge

Only documentation in the outpatient record chart meets the intent of the measure, but an in-person, outpatient visit is not required

2a1.4 Denominator Statement *(Brief, narrative description of the target population being measured):*

All discharges from an in-patient setting for health plan members who are 66 years and older as of December 31 of the measurement year.

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

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

The measurement year (one calendar year)

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):*

1) Administrative (when available):

An acute or nonacute inpatient discharge on or between January 1 and December 1 of the measurement year.

The denominator is based on episodes, not members. Members may appear more than once in the sample. If members have more than one discharge, include all discharges on or between January 1 and December 1 of the measurement year.

2) Medical Record (as necessary):

The denominator is based on episodes, not members. Members may appear more than once in the sample.

The denominator is based on the discharge date found in the administrative/claims data, but organizations may use other systems (including data found during medical record review) to identify data errors and make corrections.

2a1.8 Denominator Exclusions *(Brief narrative description of exclusions from the target population):*

Exclude both the initial discharge and the readmission/direct transfer discharge if the readmission/direct transfer discharge occurs after December 1 of the measurement year.

If the discharge is followed by a readmission or direct transfer to an acute or non-acute facility within the 30-day follow-up period, count the only the readmission discharge or the discharge from the facility to which the member was transferred.

2a1.9 Denominator Exclusion Details *(All information required to identify and calculate exclusions from the denominator such as definitions, codes with descriptors, and/or specific data collection items/responses):*

N/A

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):*

N/A

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.):*

N/A

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.*):

Step 1. Determine the eligible population. The eligible population is all members who satisfy all specified criteria, including any age, continuous enrollment, benefit, event, or anchor date enrollment requirement.

Step 2. Search administrative systems to identify numerator events for all members in the eligible population.

Step 3. If applicable, for members for whom administrative data do not show a positive numerator event, search administrative data for an exclusion to the service/procedure being measured. Note: This step applies only to measures for which optional exclusions are specified and for which the organization has chosen to search for exclusions. The organization is not required to search for optional exclusions.

Step 4. Exclude from the eligible population members from step 3 for whom administrative system data identified an exclusion to the service/procedure being measured.

Step 5. Calculate the rate.

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):

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 Health Record, Paper Records](#)

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.*): [NCOA collects HEDIS data directly from Health Management Organizations and Preferred Provider Organizations via a data submission portal - the Interactive Data Submission System \(IDSS\).](#)

2a1.27-29 **Data Source/data Collection Instrument Reference Web Page URL or Attachment:** [URL http://www.ncqa.org/tabid/370/default.aspx](#)

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

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

2a1.34-35 **Care Setting** (*Check all the settings for which the measure is specified and tested*): [Ambulatory Care : Clinician Office](#)

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):

The data sample was taken from the HEDIS Health performance data for the 2010 measurement year. Reliability testing was performed at the health plan level for all Medicare special needs plan enrollees. A total of 262 health plans were included in this analysis. The average number of members per health plan was 254 (range 30-4026 members).

2a2.2 Analytic Method (Describe method of reliability testing & rationale):

Reliability was estimated by using the beta-binomial model. Beta-binomial is a better fit when estimating the reliability of simple pass/fail rate measures as is the case with most HEDIS® health plan measures. The beta-binomial model assumes the plan score is a binomial random variable conditional on the plan's true value that comes from the beta distribution. The beta distribution is usually defined by two parameters, alpha and beta. Alpha and beta can be thought of as intermediate calculations to get to the needed variance estimates. The beta distribution can be symmetric, skewed or even U-shaped.

Reliability used here is the ratio of signal to noise. The signal in this case is the proportion of the variability in measured performance that can be explained by real differences in performance. A reliability of zero implies that all the variability in a measure is attributable to measurement error. A reliability of one implies that all the variability is attributable to real differences in performance. The higher the reliability score, the greater is the confidence with which one can distinguish the performance of one plan from another. A reliability score greater than or equal to 0.7 is considered very good.

2a2.3 Testing Results (Reliability statistics, assessment of adequacy in the context of norms for the test conducted):

The average reliability across all 262 health plans was 0.97897 for the 2010 measurement year. The minimum reliability at the health plan level was 0.84529. There was an average of 254 plan members per health plan included in this analysis. The plans had a minimum requirement of 30 patients in the denominator to report on this measure. This reliability score can range from 0 to 1. The higher the reliability score, the greater is the confidence with which one can distinguish the performance of one health plan from another. A reliability score greater than or equal to 0.7 is considered very good.

This measure is specified and reported by NCOA at the health plan level. However, some health plans use the data from this measure to identify individual clinician performance. This measure is not tested to distinguish individual clinician performance.

2b. VALIDITY. Validity, Testing, including all Threats to Validity: 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 focuses on medication reconciliation in the elderly population. The evidence is consistent with the focus and scope of this measure.

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 medication reconciliation measure was tested for face validity with two panels of experts. Measurement Advisory Panels (MAP) provide the clinical and technical knowledge required to develop the measures. The Geriatric MAP included 18 experts in geriatric medicine and population aging including representation by consumers, health plans, health care providers and policy makers. NCOA's Committee on Performance Measurement (CPM) oversees the evolution of the measurement set and includes representation by purchasers, consumers, health plans, health care providers and policy makers. This panel is made up of 21 members. The CPM is organized and managed by NCOA, and is responsible for advising NCOA staff on the development and maintenance of performance measures. The CPM also meets with the NCOA Board of Directors to recommend measures for inclusion in HEDIS. CPM members reflect the diversity of constituencies that performance measurement serves; some bring other perspectives and additional expertise in quality management and the science of measurement. Additional HEDIS Expert Panels and the Technical Advisory Group (TAG) provide invaluable assistance by identifying methodological issues and giving feedback on new and existing measures. See Additional Information: Ad.1. Workgroup/Expert Panel Involved in Measure Development for names and affiliation of expert panel.

2b2.2 Analytic Method (Describe method of validity testing and rationale; if face validity, describe systematic assessment):

NCQA identified and refined measure management into a standardized process called the HEDIS measure life cycle.

*Step 1: Topic selection is the process of identifying measures that meet criteria consistent with the overall model for performance measurement. There is a huge universe of potential performance measures for future versions of HEDIS. The first step is identifying measures that meet formal criteria for further development.

NCQA staff identifies areas of interest or gaps in care. Clinical expert panels (MAPs—whose members are authorities on clinical priorities for measurement) participate in this process. Once topics are identified, a literature review is conducted to find supporting documentation on their importance, scientific soundness and feasibility. This information is gathered into a work-up format. Refer to What Makes a Measure “Desirable”? The work-up is vetted by NCQA’s MAPs, the TAG, the HEDIS Policy Panel and various other panels.

*Step 2: Development ensures that measures are fully defined and tested before the organization collects them. MAPs participate in this process by helping identify the best measures for assessing health care performance in clinical areas identified in the topic selection phase.

Development includes the following tasks.

- 1.Ensure funding throughout measure testing
- 2.Prepare a detailed conceptual and operational work-up that includes a testing proposal
- 3.Collaborate with health plans to conduct field-tests that assess the feasibility and validity of potential measures

The CPM uses testing results and proposed final specifications to determine if the measure will move forward to Public Comment.

*Step 3: Public Comment is a 30-day period of review that allows interested parties to offer feedback to the CPM about new measures or about changes to existing measures.

NCQA MAPs and technical panels consider all comments and advise NCQA staff on appropriate recommendations brought to the CPM. The CPM reviews all comments before making a final decision about Public Comment measures. New measures and changes to existing measures approved by the CPM will be included in the next HEDIS year and reported as first-year measures.

*Step 4: First-year data collection requires organizations to collect, be audited on and report these measures, but results are not publicly reported in the first year and are not included in NCQA’s Quality Compass? or in accreditation scoring.

The first-year distinction guarantees that a measure can be efficiently collected, reported and audited before it is used for public accountability or accreditation. This is not testing—the measure was already tested as part of its development—rather, it ensures that there are no unforeseen problems when the measure is implemented in the real world. NCQA’s experience is that the first year of large-scale data collection often reveals unanticipated issues.

After collection, reporting and auditing on a one-year introductory basis, NCQA conducts a detailed evaluation of first-year data. The CPM uses evaluation results to decide whether the measure should become publicly reportable or whether it needs further modifications.

*Step 5: Public reporting is based on the first-year measure evaluation results. If the measure is approved, it will be reported in Quality Compass and may be used for scoring in accreditation.

Step 6: Evaluation is the ongoing review of a measure’s performance and recommendations for its modification or retirement. Every measure is reevaluated at least every three years. NCQA staff continually monitors the performance of publicly reported measures. Statistical analysis, audit result review and user comments contribute to measure evaluation. Information derived from analyzing the performance of existing measures is used to improve development of the next generation of measures.

Each year, a third of the measurement set is researched for changes in clinical guidelines or health care delivery systems, and the results from previous years are analyzed. Measure work-ups are updated with new information gathered from the literature review, and the appropriate MAPs review the work-ups and the previous year’s data. If necessary, the measure specification may be updated or the measure may be recommended for retirement. The CPM reviews recommendations from the evaluation process and approves or rejects the recommendation. If approved, the change is included in the next year’s HEDIS Volume 2.

What makes a measure “Desirable”?

Whether considering the value of a new measure or the continuing worth of an existing one, we must define what makes a measure useful. HEDIS measures encourage improvement. The defining question for all performance measurement—“Where can measurement make a difference?”—can be answered only after considering many factors. NCOA has established three areas of desirable characteristics for HEDIS measures, discussed below.

1. Relevance: Measures should address features that apply to purchasers or consumers, or which will stimulate internal efforts toward quality improvement. More specifically, relevance includes the following attributes.

Meaningful: What is the significance of the measure to the different groups concerned with health care? Is the measure easily interpreted? Are the results meaningful to target audiences?

Measures should be meaningful to at least one HEDIS audience (e.g., individual consumers, purchasers or health care systems). Decision makers should be able to understand a measure’s clinical and economic significance.

Important to health: What is the prevalence and overall impact of the condition in the U.S. population? What significant health care aspects will the measure address?

We should consider the type of measure (e.g., outcome or process), the prevalence of medical condition addressed by the measure and the seriousness of affected health outcomes.

Financially important: What financial implications result from actions evaluated by the measure? Does the measure relate to activities with high financial impact?

Measures should relate to activities that have high financial impact.

Cost effective: What is the cost benefit of implementing the change in the health care system? Does the measure encourage the use of cost-effective activities or discourage the use of activities that have low cost-effectiveness? Measures should encourage the use of cost-effective activities or discourage the use of activities that have low cost-effectiveness.

Strategically important: What are the policy implications? Does the measure encourage activities that use resources efficiently? Measures should encourage activities that use resources most efficiently to maximize member health.

Controllable: What impact can the organization have on the condition or disease? What impact can the organization have on the measure? Health care systems should be able to improve their performance. For outcome measures, at least one process should be controlled and have an important effect on outcome. For process measures, there should be a strong link between the process and desired outcome.

Variation across systems: Will there be variation across systems? There should be the potential for wide variation across systems.

Potential for improvement: Will organizations be able to improve performance? There should be substantial room for performance improvement.

2. Scientific soundness: Perhaps in no other industry is scientific soundness as important as in health care. Scientific soundness must be a core value of our health care system—a system that has extended and improved the lives of countless individuals.

Clinical evidence: Is there strong evidence to support the measure? Are there published guidelines for the condition? Do the guidelines discuss aspects of the measure? Does evidence document a link between clinical processes and outcomes addressed by the measure? There should be evidence documenting a link between clinical processes and outcomes.

Reproducible: Are results consistent? Measures should produce the same results when repeated in the same population and setting.

Valid: Does the measure make sense? Measures should make sense logically and clinically, and should correlate well with other measures of the same aspects of care.

Accurate: How well does the measure evaluate what is happening? Measures should precisely evaluate what is actually happening.

Risk adjustment: Is it appropriate to stratify the measure by age or another variable? Measure variables should not differ appreciably beyond the health care system's control, or variables should be known and measurable. Risk stratification or a validated model for calculating an adjusted result can be used for measures with confounding variables.

Comparability of data sources: How do different systems affect accuracy, reproducibility and validity? Accuracy, reproducibility and validity should not be affected if different systems use different data sources for a measure.

3. Feasibility:

The goal is not only to include feasible measures, but also to catalyze a process whereby relevant measures can be made feasible.

Precise specifications: Are there clear specifications for data sources and methods for data collection and reporting? Measures should have clear specifications for data sources and methods for data collection and reporting.

Reasonable cost: Does the measure impose a burden on health care systems? Measures should not impose an inappropriate burden on health care systems.

Confidentiality: Does data collection meet accepted standards of member confidentiality?

Data collection should not violate accepted standards of member confidentiality. Logistical feasibility

Are the required data available?

Auditability: Is the measure susceptible to exploitation or "gaming" that would be undetectable in an audit? Measures should not be susceptible to manipulation that would be undetectable in an audit.

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*):

Step 1: The Medication Reconciliation Post Discharge measure was developed in response to a growing concern about medication errors that occur during transitions from the hospital to home. NCQA's Performance Measurement Department and the Geriatric MAPs worked together to assess the most appropriate tools for monitoring medication review.

Step 2: The Medication Reconciliation Post-Discharge measure was written, field-tested, and presented to the CPM in 2008. The CPM recommended to send the measure to public comment with a vote of 14 in favor and none opposed.

Step 3: The Medication Reconciliation Post-Discharge measure was released for Public Comment in spring 2008. We received and responded to over 50 comments on this measure. The CPM recommended moving this measure to first year data collection with a vote of 14 in favor and none opposed.

Step 4: The Medication Reconciliation Post-Discharge measure was introduced in HEDIS 2010. Organizations reported the measures in the first year and the results were analyzed for public reporting in the following year. The CPM recommended moving this measure public reporting with a vote of 14 in favor and none opposed.

Step 6: The Medication Review measure will be reevaluated in 2013.

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*):

There are no measure exclusions.

2b3.2 Analytic Method (*Describe type of analysis and rationale for examining exclusions, including exclusion related to patient*

preference):

N/A

2b3.3 Results (Provide statistical results for analysis of exclusions, e.g., frequency, variability, sensitivity analyses):

N/A

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):

N/A

2b4.2 Analytic Method (Describe methods and rationale for development and testing of risk model or risk stratification including selection of factors/variables):

N/A

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):

N/A

2b4.4 If outcome or resource use measure is not risk adjusted, provide rationale and analyses to justify lack of adjustment: N/A

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):

Data analysis demonstrates that methods for scoring and analysis of the specified measure allow for identification of statistically significant and practically/clinically meaningful differences in performance.

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

Comparison of means and percentiles; analysis of variance against established benchmarks: if sample size is >400, we would use an analysis of variance.

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):

Medicare

Measurement Year: 2010; 2009; 2008

N: 279; 282; 303

MEAN: 31.8; 34.1; 33.1

STDEV: 21.7; 21.6; 19.7

STDERR: 1.3; 1.28; 1.13

MIN: 0; 0; 0

MAX: 97.3; 95.8; 98.6

P10: 7.89; 6.33; 4.14

P25: 15.8; 18.8; 21.9

P50: 27.3; 32.6; 31.7

P75: 44.7; 47; 44.9

P90: 62.7; 64.6; 57.4

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):

In the fall of 2007, NCOA conducted a field test, to assess the feasibility of Medication Review measure. The field test used two samples of patient-level data from health plans to refine and calibrate the measure specifications and gather initial data on health plan performance. Three health plans volunteered to submit data for the field test. Two plans did so by providing patient-level administrative data and medical record abstracts to NCOA under the terms of a formal data-sharing agreement. The enrollment of these plans ranged from 5,521 to 15,331 members.

Administrative Data Collection

Participating health plans were asked to submit a data file containing one record per patient meeting the eligibility and event criteria with a unique patient identifier that could be used to link data from other sources to the individual. Each record contained information from administrative data sources regarding advance care planning with covariates.

Medical Record Validation Data

Medical records for a sample of 150 patients from the Medicare members identified in the administrative database were utilized for each of the measures. The sample was selected either randomly or by using the HEDIS systematic sampling methodology. Plans were instructed to review the medical record located at the provider who most frequently provides care to the member. Charts were reviewed for information concerning the years 2005-2006.

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

The purpose of field testing is to determine:

- The validity of the administrative algorithm to identify the target population (denominator) based upon the measurement period, continuous enrollment /exclusionary criteria
- The validity of administrative data to accurately capture medical processes delivered (i.e. tests) or diagnoses by comparing administrative results with data from a sample of medical records
- The feasibility of the measure specifications to identify the quality problem and to discriminate performance between health plans for the purposes of HEDIS public reporting.
- The reliability and feasibility of the measure specifications so that all health plans can capture the required data elements and can conduct programming

Based upon the field test results, NCOA made necessary revisions to the measure specifications so that it meets the Desirable Attributes of a HEDIS measure.

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):

Across two plans, 56.0% of medical records had documentation of medication reconciliation, while 45.7% of records documented medication reconciliation that occurred within 60 days of discharge from any inpatient facility. The performance rate was 48.7% for plan B and 42.6% for plan C, demonstrating that there is room for improvement.

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): The measure is not stratified to detect disparities. NCOA has participated with IOM and others in attempting to include information on disparities in measure data collection. However, at the present time, this data, at all levels (claims data, paper chart review, and electronic records), is not coded in a standard manner, and is incompletely captured. There are no consistent standards for what entity (physician, group, plan, employer) should capture and report this data. While "requiring" reporting of the data could push the field forward, it has been our position that doing so would create substantial burden with inability to use the data because of its inconsistency. At the present time, we agree with the IOM report that disparities are best considered by the use of zip code analysis which has limited applicability in most reporting situations. At the health plan level, for HEDIS health plan data collection, NCOA does have extensive data related to our use of stratification by insurance status (Medicare, Medicaid and private-commercial) and would strongly recommend this process where the data base supporting the measurement includes this information. However, we believe that the measure specifications should NOT require this since the measure is still useful where the data needed to

determine disparities cannot be ascertained from the data available.

2c.2 If disparities have been reported/identified (e.g., in 1b), but measure is not specified to detect disparities, please explain:

N/A

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), Quality Improvement with Benchmarking (external benchmarking to multiple organizations)

3.1 Current Use (Check all that apply; for any that are checked, provide the specific program information in the following questions): Public Reporting, Quality Improvement with Benchmarking (external benchmarking to multiple organizations), Quality Improvement (Internal to the specific organization)

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.]

This measure is used in public reporting for plans only through Healthcare Effectiveness Data and Information Set (HEDIS) and is reported through venues such as the annual State of Healthcare Quality report, Quality Compass, America's Best Health Plans.

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: HEDIS measures adhere to the desirable attributes of scientific acceptability, feasibility and usability. The measures provide performance rates that are audited for consistency and accuracy.

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): It is used in NCOA's Health Plan Accreditation program.

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 Maintenance – If not used for QI, indicate the reasons and describe progress toward using performance results for improvement].

This measure is a measure in the Healthcare Effectiveness Data and Information Set (HEDIS) and is used in NCOA's Health Plan

Accreditation program.

3b.2. Provide rationale for why the measure performance results are meaningful, understandable, and useful for quality improvement. If usefulness was demonstrated (e.g., *QI initiative*), describe the data, method and results:
 Upon review of public comment results, the Committee on Performance Measurement approved the NCOA staff recommendation to add the measure to HEDIS. After reviewing first-year analysis results, the CPM approved the staff recommendation to publicly report the measure. The measure was deemed usable and feasible.

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), Abstracted from a record by someone other than person obtaining original information (e.g., chart abstraction for quality measure or registry)

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*): Some data elements are in electronic sources

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: NCOA is working on developing EHR specified measures to capture this information.

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:

NCOA recognizes that, despite the clear specifications defined for HEDIS measures, data collection and calculation methods may vary, and other errors may taint the results, diminishing the usefulness of HEDIS data for managed care organization (MCO) comparison. In order for HEDIS to reach its full potential, NCOA conducts an independent audit of all HEDIS collection and reporting processes, as well as an audit of the data which are manipulated by those processes, in order to verify that HEDIS specifications are met. NCOA has developed a precise, standardized methodology for verifying the integrity of HEDIS collection and calculation processes through a two-part program consisting of an overall information systems capabilities assessment followed by an evaluation of the MCO's ability to comply with HEDIS specifications (. NCOA-certified auditors using standard audit methodologies will help enable purchasers to make more reliable "apples-to-apples" comparisons between health plans. The HEDIS Compliance Audit addresses the following functions:

The HEDIS Compliance Audit addresses the following functions:

- 1) information practices and control procedures
- 2) sampling methods and procedures
- 3) data integrity
- 4) compliance with HEDIS specifications
- 5) analytic file production
- 6) reporting and documentation

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):
 NCQA's multi-stakeholder advisory panels examined an analysis of the measure after its first year of reporting. The measure was deemed appropriate for public reporting. NCQA has processes to ensure coding and specifications are clear and updated when needed.

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:
 0097 : Medication Reconciliation
 0553 : Care for Older Adults – Medication Review
 0646 : Reconciled Medication List Received by Discharged Patients (Discharges from an Inpatient Facility to Home/Self Care or Any Other Site of Care)

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? No

5a.2 If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden:
 See 5b.1 for more information.

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):
 Measure 0554 is conducted at the health plan level. This measure assesses medication reconciliation by a RN or prescribing practitioner within 30 days of hospital discharge. The denominator for this measure is all patients 65+ discharged from the hospital. All patients regardless of ambulatory care visit are included in the denominator.

Related Measures:

Measure 0553 is conducted at health plan level. This measure assesses annual outpatient medication review by a prescribing practitioner and is not driven by a hospital discharge. The denominator for this measure is all patients aged 65+.

Measure 0097 is conducted at the physician level. This measure assesses medication reconciliation post hospital discharge which occurs during an outpatient visit with a physician. The denominator for this measure is all patients 65+ discharged from the hospital with an ambulatory care visit within 60 days of discharge. Patients without a visit to an ambulatory care visit are not included in the denominator.

NQF #0554 Medication Reconciliation Post-Discharge

Measure 0646 is conducted at the facility level. This measure assesses whether the patient received a reconciled medication list at the time of discharge. The denominator for this measure is all patients, regardless of age, discharged from the hospital. This measure is not dependent on an ambulatory care provider reconciling the medication list.

Additive value of related measures:

The AMA and NCOA have worked together to assess how the three medication reconciliation measures can be harmonized and continue to address performance gaps at different levels of care. Care-coordination measures by nature must address care across levels of accountability. The three medication reconciliation measures submitted to NQF for re-endorsement address measure reconciliation at three levels of accountability and across three points of care. Together all three measures represent shared accountability for medication reconciliation across facilities, health plans and physicians.

Defining the process of medication reconciliation (this will determine the numerator)

- Patients should be educated about changes to medication list (Measure #646)
- Outpatient record should be updated as appropriate with the discharge medication list and reviewed for potential harm (Measure #0554)
- The physician responsible for patient care should review the discharge medication list for appropriateness over the long-term treatment of the patient and their multiple conditions (Measure #0097)

What is the point of care for medication reconciliation (this will determine the denominator)?

- At discharge (Measure #646)
- Within 30 days of discharge (Measure #0554)
- At outpatient follow-up visit within 60 days of discharge (Measure #0097)

Evidence of performance gap and relation to risk of adverse events

- Many medication errors occur during times of transition, when patients receive medications from different prescribers who lack access to patients' comprehensive medication list. Providing patients with a comprehensive, reconciled medication list at each care transition (eg, inpatient discharge) may improve patients' ability to manage their medication regimen properly and reduce the number of medication errors. (Measure #0646).
- Geriatric patients in particular are more likely to have multiple comorbid conditions and be receiving multiple medications, making them more at risk of having an adverse medication event. Therefore there is a need to have a higher level of reconciliation for these patients. (Measures #0554 and #0097).

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner): National Committee for Quality Assurance, 1100 13th Street NW, Suite 1000, Washington, District Of Columbia, 20005

Co.2 Point of Contact: Bob, Rehm, Assistant Vice President, Performance Measurement, Rehm@ncqa.org, 202-955-1728-

Co.3 Measure Developer if different from Measure Steward: National Committee for Quality Assurance, 1100 13th Street NW, Washington, District Of Columbia, 20005

Co.4 Point of Contact: Dawn, Alayon, MPH, CPH, alayon@ncqa.org, 202-955-3533-

Co.5 Submitter: Dawn, Alayon, MPH, CPH, Senior Health Care Analyst, alayon@ncqa.org, 202-955-3533-, National Committee for Quality Assurance

Co.6 Additional organizations that sponsored/participated in measure development:

Co.7 Public Contact: Bob, Rehm, Assistant Vice President, Performance Measurement, Rehm@ncqa.org, 202-955-1728-, National Committee for Quality Assurance

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.

Geriatric Measurement Advisory Panel

Wade Aubry, MD, National Medical Consultant, BCBS Association

Arlene Bierman, MD, MS, Chair in Women's Health Research, University of Toronto and St. Michael's Hospital

Joyce Dubow, MUP, Senior Advisor, AARP

Peter Hollmann, MD, Medical Director, BCBS of Rhode Island

Jerry Johnson, MD, Chief of the Geriatric Medical Division, University of Pennsylvania

David Martin, MD, National Medical Director, Ovations

Adrienne Mims, MD, MPH, Medical Director, Medicare Quality Improvement, Alliant Health Solutions

Steven Phillips, MD, CMD, Medical Director, Sierra Health Services, Inc.

Scott Sarran, MD, MM, VP and Chief Medical Officer, BCBS of Illinois

Eric G Tangalos, MD, FACP, AGSF, CMD, Professor of Medicine, Mayo Clinic

Joan Weiss, PhD, RN, CRNP, Chief Allied, Geriatrics, and Rural Health Branch, Health Resources and Services Administration

Neil Wenger, MD, Professor, UCLA Division of General Internal Medicine and RAND

Committee on Performance Measurement (CPM)

Peter Bach, MD, Memorial Sloan Kettering Cancer Center

Bruce Bagley, MD, American Academy of Family Physicians

Andrew Baskin, MD, Aetna

A. John Blair III, MD, Taconic IPA, Inc

Patrick Conway, MD, MSC, Center for Medicare & Medicaid Services

John A. Cutler, Esq., U.S. Office of Personnel Management

Jonathan D. Darer, MD, Geisinger Health System

Helen Darling, National Business Group on Health

Foster Gesten, MD, NYSDOH Office of Managed Care

Marge Ginsburg, Center for Healthcare Decisions

George J. Isham, MD, MS, HealthPartners

Jeffrey Kelman, MMSc, MD, Centers for Medicare & Medicaid Services

Lisa Latts, MD, MSPH, MBA, Well Point, Inc.

Arthur Levin, MPH (Co-Chair), Center for Medical Consumers

Phillip Madvig, MD, The Permanente Medical Group

Susan Reinhard, RN, PhD, AARP

Ted Rooney, RN, MPH, Pathways to Excellence

Bernard M. Rosof, MD, MACP, Huntington Hospital

Eric C. Schneider, MD, MSc (Co-Chair), RAND Corporation

Jane E. Sisk, PhD, Division of Health Care Statistics

Kevin Weiss, MD, FACP, American Board of Medical Specialties

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:

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.3 Year the measure was first released: 2010

Ad.4 Month and Year of most recent revision:

Ad.5 What is your frequency for review/update of this measure? Approximately every 3 years, sooner if the clinical guidelines have changed significantly.

Ad.6 When is the next scheduled review/update for this measure?

Ad.7 Copyright statement: © 2012 by the National Committee for Quality Assurance

1100 13th Street, NW, Suite 1000

Washington, DC 20005

NQF #0554 Medication Reconciliation Post-Discharge

Ad.8 Disclaimers: These performance Measures are not clinical guidelines and do not establish a standard of medical care, and have not been tested for all potential applications.

THE MEASURES AND SEPCIFICATIONS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND.

Ad.9 Additional Information/Comments:

Date of Submission (MM/DD/YY): 01/09/2012