

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 #: 0520	NQF Project: Care Coordination Project
(for Endorsement Maintenance Review)	
Original Endorsement Date: Mar 31, 2009 Most Recent Endorsement Date: Mar 31, 2009	
BRIEF MEASURE INFORMATION	
De.1 Measure Title: Drug Education on All Medications Provided to Patient/Caregiver During Short Term Episodes of Care	
Co.1.1 Measure Steward: Centers for Medicare & Medicaid Services	
De.2 Brief Description of Measure: Percentage of short term home health episodes of care during which patient/caregiver was instructed on how to monitor the effectiveness of drug therapy, how to recognize potential adverse effects, and how and when to report problems.	
2a1.1 Numerator Statement: Number of home health episodes of care during which patient/caregiver was instructed on how to monitor the effectiveness of drug therapy, how to recognize potential adverse effects, and how and when to report problems.	
2a1.4 Denominator Statement: Number of home health episodes of care ending during the reporting period, other than those covered by generic or measure-specific exclusions.	
2a1.8 Denominator Exclusions: - Episodes in which the patient was not on any medications since the last OASIS assessment. - Episodes ending in patient death. Note: The information needed to calculate this measure is not collected if the home health episode ends in death. The measure cannot be calculated in excluded cases due to data limitations. - Long-term episodes (as indicated by the presence of a follow-up assessment between admission and transfer or discharge). Note: This exclusion was added at the request of NQF reviewers during initial consideration of the measure in 2008. To avoid excessive burden to agencies related to reviewing records longer than 60 days, this implementation measure reports on care provided since the last OASIS assessment. However, restricting the measure to care since the most recent OASIS assessment raised concerns among NQF Steering Committee members that measures might not accurately reflect care for longer-stay patients, as some interventions may have been implemented prior to the most recent OASIS assessment. In response, measure specifications were changed so that home care episodes that require a recertification are not included in publicly-reported measures on implementation of evidence-based practices. The reports that CMS provides for agency use in quality improvement activities include separate break-outs for short-term episodes and long-term episodes, as well as a combined "all episodes" measure.	
1.1 Measure Type: Process	
2a1. 25-26 Data Source: Electronic Clinical Data	
2a1.33 Level of Analysis: Facility	
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): 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 (check De.5):
 5. Similar/related [endorsed](#) or submitted measures (check 5.1):
 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, Patient and Family Engagement, 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):

[Drug education is a national priority for safe and effective patient care and has been identified as such by the Joint Commission International and the Institute for Safe Medication Practices \(ISMP\) for all settings of care.](#)

[There are four published reports within the past 7 years specific to medication issues within home health care practice. Bao et al, using data from the 2007 National Home and Hospice Care Survey, studied 3,124 patients and identified that more than one-third of home health care patients \(38%\) were taking at least one potentially inappropriate medication using the Beers Criteria. Cannon et al, in a study of 768 home health care patients identified 39% of patients experiencing polypharmacy \(mean number of medications are 8.0\) with almost one third \(31%\) being identified as receiving potentially inappropriate medications using the Beers Criteria. Drug-drug interactions were identified in 10% of patients. Similarly, Atkinson and Frey, in a single rural agency, identified 201 patients \(from a total of 1000 screened\) as having potential medication-related problems. In a review by pharmacist experts, 83% were confirmed as medication-related problems and one third required further follow up. Mager and Madigan, in a small study of home health care patients and medication self-administration, identified that almost two thirds of patients \(64%\) reported a medication error \(omission, dose error, or timing error\) with omissions being the most frequent type of self-reported error.](#)

[There are two recent reports that identify the effectiveness of pharmacist-led \(Vink et al\) or nurse-pharmacist partnerships \(Setter et al\) in identifying and addressing medication-related problems and reducing medication discrepancies, respectively.](#)

[Thus there is evidence of quality of care problems, opportunity for improvement and reasons to measure and report drug education.](#)

1a.4 Citations for Evidence of High Impact cited in 1a.3: (1) [Atkinson WL, Frey D. Integration of a medication management model into outcome-based quality improvement: a pilot program in a rural propriety home healthcare agency. Home Health Care Serv Q 2005; 24\(1-2\):29-45.](#)

(2) [Bao Y, Shao H, Bishop TF, Schackman BR, Bruce ML. Inappropriate Medication in a National Sample of US Elderly Patients Receiving Home Health Care. J Gen Intern Med 2011.](#)

(3) [Cannon KT, Choi MM, Zuniga MA. Potentially inappropriate medication use in elderly patients receiving home health care: a retrospective data analysis. Am J Geriatr Pharmacother 2006; 4\(2\):134-143.](#)

(4) [Mager DD, Madigan EA. Medication use among older adults in a home care setting. Home Healthc Nurse 2010; 28\(1\):14-21.](#)

(5) [Setter SM, Corbett CF, Neumiller JJ, Gates BJ, Sclar DA, Sonnett TE. Effectiveness of a pharmacist-nurse intervention on resolving medication discrepancies for patients transitioning from hospital to home health care. Am J Health Syst](#)

Pharm 2009; 66(22):2027-2031.

(6) Vink J, Morton D, Ferreri S. Pharmacist identification of medication-related problems in the home care setting. Consult Pharm 2011; 26(7):477-484.

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:

Briefly explain the benefits (improvements in quality) envisioned by use of this measure

Continued reporting of this measure is important for home health care agencies to use to identify the rates at which they provide medication instruction on all medications. The related functional outcome 'Improvement in Management of Oral Medications' has shown improvement. This measure supports this important functional outcome and thus continued reporting may be helpful in improving the rates of medication instruction on all medications.

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.]

HHA Ave.	StDev	Min	10th	25th	50th	75th	90th	Max
86.98%	13.56	0%	70%	82%	91%	96%	99%	100%

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]

Date(s): 7/1/2010 – 6/30/2011 Data/Sample: Calculated measure as reported on Home Health Compare. Home Health Compare reports this measure for Medicare certified agencies with at least 20 quality episodes to which the measure applies that have submitted OASIS C assessments for at least 6 months of the 12 month reporting period. Of the 11,236 agencies that are listed on Home Health Compare, 9,092 agencies met the criteria for public reporting (20 episodes and 6 months of data). Information about downloading the Home Health Compare Database is available at: <http://www.medicare.gov/HomeHealthCompare/Resources/Download-Database.aspx>

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

National Rate (episodes level) = 87.19%

Age	<65	65-74	75-84	85-110
% Drug-Ed	87.31	87.86	87.38	86.21

Race	White	Black	Hispanic	Other
% Drug-Ed	86.99	87.21	88.50	88.57

Gender	Male	Female
% Drug-Ed	87.72	86.87

There do not appear to be any disparities for this measure based on age, race, or gender.

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]

Data date(s): 7/1/2010 – 6/30/2011

Data/Sample: OASIS-C data from Medicare certified agencies. The measure is calculated for 74.9% of all quality episodes (1.45 million episodes out of 5.78 million episodes did not meet the criteria for inclusion in the measure denominator or were missing data needed to calculate the measure). Outcomes for agencies with at least 20 quality episodes and 6 months of data in a 12-month period for a quality measure are publicly reported.

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 <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> I <input type="checkbox"/> Quality: H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> I <input type="checkbox"/> Consistency: H <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> I <input type="checkbox"/>			
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	
<p>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): Drug education should improve patient adherence to the prescribed regimen and lead to: a) reduced use of other health care services including hospital care, and ED use and b) improved quality of life.</p> <p>1c.2-3 Type of Evidence (Check all that apply): Selected individual studies (rather than entire body of evidence)</p> <p>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): There are two studies specific to home health care patients where the effectiveness of either a pharmacist-led (Vink et al) or nurse-physician partnership (Setter et al) have been identified as leading to fewer medication-related problems or reducing medication discrepancies, respectively. In both studies, the intervention groups had better resolution of the problems than the control groups. Vink et al used a retrospective design with 380 charts reviewed. Setter et al used a quasi-experimental design where intervention (n = 110) and control (n = 110) groups were decided by geographic location of residence. The intervention and control groups were similar on demographic and clinical factors prior to the intervention. Vink et al found that the prescribing providers reacted positively to the pharmacist recommendations while Setter et al there was “a trend” toward fewer hospitalizations and physician visits in the intervention group although not a statistically significant difference. There was no research that specifically identified whether medication instruction to home health care patients improves outcomes. The speculation for this lack of research is that because medication instruction is a standard of care, research on this issue has not been done.</p> <p>1c.5 Quantity of Studies in the Body of Evidence (Total number of studies, not articles): Two studies</p> <p>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): Although the Vink and Setter studies were conducted in single agencies, there were sufficient sample sizes to provide confidence that either a pharmacist-led or nurse-physician partnership are effective at reducing medication-related problems. These studies are specific to home health care patients.</p> <p>1c.7 Consistency of Results across Studies (Summarize the consistency of the magnitude and direction of the effect): The results are consistent across the two studies.</p> <p>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 do not identify the benefits of medication instruction on patient outcomes. This is a minor concern as there are national initiatives focused on the importance of medication instruction across sites of care (e.g. The Joint Commission; The Institute for</p>			

Safe Medication Practices) and medication instruction is considered a standard of care.

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: NA

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

1c.14 Summary of Controversy/Contradictory Evidence: No controversies or contradictory evidence identified.

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

Setter SM, Corbett CF, Neumiller JJ, Gates BJ, Sclar DA, Sonnett TE. Effectiveness of a pharmacist-nurse intervention on resolving medication discrepancies for patients transitioning from hospital to home health care. Am J Health Syst Pharm 2009; 66(22):2027-2031.

Vink J, Morton D, Ferreri S. Pharmacist identification of medication-related problems in the home care setting. Consult Pharm 2011; 26(7):477-484.

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

"• Patient/Caregiver Education. Provide patient and caregiver education using relevant nursing content and principles (Curry et al., 2005 [Level VI]) including assessment of factors that might affect adherence. Nurses are the primary source for providing education to patients at discharge; therefore, their role is key to preventing medication-related consequences after hospitalization, including rehospitalization. Discharge education and counseling includes:

- Education tailored to the age group and needs of the individual (Bergman-Evans, 2006)
- Educate the patient/caregiver about benefits and risks (Shekelle et al., 2001) and potential medication side effects (Rochon, 2006 [Level V]).
- Teach safe medication management (Curry et al., 2005 [Level VI]).
- Consider an interactive computer program (Personal Education Program [PEP]) designed for the learning styles and psychomotor skills of older adults to teach about potential drug interactions that can result from self-medication with OTC agents and alcohol (Neafsey et al., 2002 [Level II])."

1c.17 Clinical Practice Guideline Citation: Capezuti, E., Zwicker, D., Mezey, M. & Fulmer, T. (Eds). (2008) Evidence Based Geriatric Nursing Protocols for Best Practice, (3rd ed). New York: Springer Publishing Company.

1c.18 National Guideline Clearinghouse or other URL: http://consultgerim.org/topics/medication/want_to_know_more

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

1c.20 If guideline recommendation graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias: The guideline developers did the grading but the committee who did the grading was not identified; the primary authors were identified. Financial disclosures and conflicts of interest were not stated. Thus we are unable to determine the balance of representation and potential 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: Level I: Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews)

Level II: Single experimental study (randomized controlled trials [RCTs])

Level III: Quasi-experimental studies

Level IV: Non-experimental studies
 Level V: Care report/program evaluation/narrative literature reviews
 Level VI: Opinions of respected authorities/Consensus panels

1c.23 Grade Assigned to the Recommendation: **II, V, and VI**

1c.24 Rationale for Using this Guideline Over Others: **Specifically identifies medication instruction for older people across sites of care versus other guidelines which are more disease- and condition-specific.**

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: **Moderate** 1c.26 Quality: **High** 1c.27 Consistency: **High**

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? **Yes**

S.2 If yes, provide web page URL: **Check yes, enter:**

<https://www.cms.gov/HomeHealthQualityInits/Downloads/HHQITechnicalDocOfMeasures.pdf>

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*):

Number of home health episodes of care during which patient/caregiver was instructed on how to monitor the effectiveness of drug therapy, how to recognize potential adverse effects, and how and when to report problems.

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

Time Window: Current CMS systems report data on episodes that end within a rolling 12 month period, updated quarterly.

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*):

Number of home health patient episodes of care where at end of episode:

- (M2015) Patient/Caregiver Drug Education Intervention = 1 (yes)

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

Number of home health episodes of care ending during the reporting period, other than those covered by generic or measure-specific exclusions.

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):*

Time Window: Current CMS systems report data on episodes that end within a rolling 12 month period, updated quarterly.

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):*

Number of home health patient episodes of care, defined as:

A start/resumption of care assessment ((M0100) Reason for Assessment = 1 (Start of care) or 3 (Resumption of care)) paired with a corresponding discharge/transfer assessment ((M0100) Reason for Assessment = 6 (Transfer to inpatient facility – not discharged), 7 (Transfer to inpatient facility – discharged), 8 (Death at home), or 9 (Discharge from agency)), other than those covered by denominator exclusions.

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

- Episodes in which the patient was not on any medications since the last OASIS assessment.
- Episodes ending in patient death. Note: The information needed to calculate this measure is not collected if the home health episode ends in death. The measure cannot be calculated in excluded cases due to data limitations.
- Long-term episodes (as indicated by the presence of a follow-up assessment between admission and transfer or discharge). Note: This exclusion was added at the request of NQF reviewers during initial consideration of the measure in 2008. To avoid excessive burden to agencies related to reviewing records longer than 60 days, this implementation measure reports on care provided since the last OASIS assessment. However, restricting the measure to care since the most recent OASIS assessment raised concerns among NQF Steering Committee members that measures might not accurately reflect care for longer-stay patients, as some interventions may have been implemented prior to the most recent OASIS assessment. In response, measure specifications were changed so that home care episodes that require a recertification are not included in publicly-reported measures on implementation of evidence-based practices. The reports that CMS provides for agency use in quality improvement activities include separate break-outs for short-term episodes and long-term episodes, as well as a combined “all episodes” measure.

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):*

Measure Specific Exclusions:

Number of home health patient episodes of care where at end of episode:

- (M0100) Reason for Assessment = 8 (Death at home)

PLUS

Number of home health patient episodes of care where at end of episode:

- (M0100) Reason for Assessment = 6 or 7 (transfer to inpatient) or 9 (discharge) AND:

- (M2015) Patient/Caregiver Drug Education Intervention = NA (Patient not taking any drugs)

PLUS

Number of home health patient episodes of care where at least one assessment with (M0100) Reason for Assessment = 4 (Recertification follow-up reassessment) or 5 (Other follow-up) was completed between the start and end of the episode of care.

Generic Exclusions: Medicare-certified home health agencies are currently required to collect and submit OASIS data only for adult (aged 18 and over) non-maternity Medicare and Medicaid patients who are receiving skilled home health care. Therefore, maternity patients, patients less than 18 years of age, non-Medicare/Medicaid patients, and patients who are not receiving skilled home services are all excluded from the measure calculation. However, the OASIS items and related measures could potentially be used for other adult patients receiving services in a community setting, ideally with further testing. The publicly-reported data on CMS' Home Health Compare web site also repress cells with fewer than 20 observations, and reports for home health agencies in operation less than six months.

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 - measure not stratified.

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 - process measure - not risk adjusted](#)

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.):

[Calculation algorithm available in the Technical Specifications at:](#)

<https://www.cms.gov/HomeHealthQualityInits/Downloads/HHQITechnicalDocOfMeasures.pdf>

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

[URL](#)

<https://www.cms.gov/HomeHealthQualityInits/Downloads/HHQITechnicalDocOfMeasures.pdf>

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):

[Not applicable, completion of OASIS-C assessments is mandated by CMS and all completed assessments are used to calculate measure](#)

2a1.25 **Data Source** (Check all the sources for which the measure is specified and tested). If other, please describe:

[Electronic Clinical Data](#)

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.): [OASIS-C](#)

2a1.27-29 **Data Source/data Collection Instrument Reference Web Page URL or Attachment:** [URL](#)

<https://www.cms.gov/HomeHealthQualityInits/Downloads/HHQIOASISCAIITimePoint.pdf>

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

[URL](#)

<https://www.cms.gov/OASIS/Downloads/oasisp200.zip>

2a1.33 **Level of Analysis** (Check the levels of analysis for which the measure is specified and tested): [Facility](#)

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

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 agencies with at least 20 quality episodes beginning and ending between 1/1/2010 and 12/31/2010 were included in the reliability analysis, because only information for agencies with at least 20 episodes is publicly reported. Of these, 8,280 agencies met the threshold for the measure Drug Education Implemented during Short-term Episodes of Care. For the national analysis, a beta-binomial distribution was fitted using all agencies. For the HHR (hospital referral region) analysis described below, separate beta-binomials were fitted for each of 306 HHRs, using only those agencies in the HHR. It is worth noting that even the agencies that are in HRRs with only two agencies have high reliability scores, because these small HRR agencies tend to service many episodes relative to the rest of the country.

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

Based on guidance received from NQF in April 2011, we conducted additional reliability analysis of this measure using the beta-binomial method described in "The Reliability of Provider Profiling: A Tutorial" by John L. Adams. The beta-binomial method was developed for provider level measures reported as rates, and it allows one to calculate an agency level "reliability score," interpreted as the percent of variance due to the difference in measure score among providers. Thus, a reliability score of .80 signifies that 80% of the variance is due to differences among providers, and 20% of the variance is due to measurement error or sampling uncertainty. A high reliability score implies that performance on a measure is unlikely to be due to measurement error or insufficient sample size, but rather due to true differences between the agency and other agencies. Each agency receives an agency specific reliability score which depends on both agency size, agency performance on the measure, and measure variance for the relevant comparison group of agencies.

In addition to calculating reliability scores at the national level, we also calculated agency reliability scores at the level of hospital referral regions (HRRs), because the HRR grouping more adequately captures the types of comparisons health care consumers are likely to make. HRRs are region designations determined in the Dartmouth Atlas of Health Care study, and they represent regional health care markets for tertiary medical care that generally requires the service of a major referral center. They are aggregated hospital service areas (HSAs) and thus aggregated local health care markets. The HRRs are used to determine categories of sufficient size to make comparisons while still capturing the local set of HHA choices available to a beneficiary.

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

Distribution of Within National Reliability Scores

Mean	0.952
Min	0.622
10th	0.866
25th	0.939
50th	0.978
75th	0.993
90th	0.998
Max	1.00

The distribution of national reliability scores (percent of variance due to the difference in measure score among providers at the national level) shows that at least 75% of agencies have a reliability score greater than 0.939, implying that their performance can likely be distinguished from other agencies (i.e., performance on this measure is unlikely to be due to measurement error or insufficient sample size, but is instead due to true differences between the agency and other agencies as it substantially exceeds within agency variation).

Distribution of Within HHR Reliability Scores

Mean	0.940
Min	0.163
10th	0.838
25th	0.923
50th	0.971
75th	0.990
90th	0.997
Max	1.00

The distribution of HRR reliability scores (percent of variance due to the difference in measure score among providers at the HRR level) for this measure also shows that at least 75% of agencies have a reliability score greater than 0.923, suggesting that between agency variation substantially exceeds within agency variation.

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 focus is consistent with the evidence that drug education is effective at reducing medication-related problems. The target population and exclusions are based primarily on limitations related to data collection on the home health population.

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):

OASIS-C quality episodes from 1/1/2010 – 9/30/2010 for all beneficiaries at Medicare Certified agencies. A 20% sample (about 500,000 episodes), chosen at random, was used to identify patient characteristics correlated to outcomes. A different 20% sample was used to validate the predictive models.

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

Predictive Validity Assessment:

Two outcome measures thought to be clinically related to this measure were selected from measures that are currently calculated as part of the Outcome-based Quality Improvement and Potentially Avoidable Event home health reports. The selected measures were Improvement in Management of Oral Medications and Emergent Care for Improper Medication Administration/Side Effects. The first outcome may be related with the measure because drug education includes strategies to manage one's medications, including reminder systems and drug set-up devices. The second outcome may be related to the measure as drug education includes patient education on side effects and proper administration.

For each of these measures, preliminary prediction models using most the Agency Patient-Related Characteristic Report variables except race were developed. A bivariate relationship (95% confidence interval using logistic regression) and the relationship between the TLE PBOI measure and the preliminary risk adjusted target outcome measure (95% confidence interval using logistic regression) were computed.

Face validity assessment:

In December 2010, a Technical Expert Panel (TEP) was convened to review the analysis conducted on the home health measures that received NQF time limited endorsement, and asked to rate face validity.

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 predictive validity analysis did not demonstrate the expected relationship between this measure and the tested outcome and PAE measures. Members of the Technical Expert Panel convened to review the measures in December 2010 noted that outcomes collected via the OASIS assessment could not reasonably be expected to respond to superior agency performance on this measure due to the limited period of care home health patients typically receive.

When asked to rate face validity (the extent to which the measure reflects the quality of care for the specific topic and whether the measure focus is the most important aspect of quality for the specific topic), the majority of December 2010 TEP members that rated the measure (9 of 10) assessed it as partially or completely meeting the criteria.

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):

Data date(s): 7/1/2010 – 6/30/2011

Data/Sample: 5.78 million OASIS-C quality episodes from Medicare certified agencies ending during the 12-month observation period

Exclusion(s):

1. Episodes in which the patient was not taking any drugs are excluded as the intervention would not be appropriate for those

patients.

2. Long term episode exclusion: This exclusion was added by NQF reviewers during initial consideration of the measure in 2008. To avoid excessive burden to agencies related to reviewing records longer than 60 days, this implementation measure reports on care provided since the last OASIS assessment. However, restricting the measure to the last 60 days raised concerns among NQF Steering Committee members that measures might not accurately reflect care for longer-stay patients. In response, measure specifications were changed so that home care episodes that require a recertification are not included in publicly-reported measures on implementation of evidence-based practices. The reports that CMS provide to agencies for this measure includes separate break-outs for short-term episodes and long-term episodes, as well as a combined "all episodes" measure.

3. Death exclusion: The information needed to calculate this measure is not collected if the home health episode ends in death. The measure cannot be calculated in excluded cases due to data limitations.

4. Generic exclusions: As noted in the Denominator Exclusion Details (section 2a), OASIS data are only collected for particular types of patients. The exclusion of patients who are omitted from OASIS data collection (e.g., those who are non-Medicare/Medicaid, under 18, receiving maternity-related or non-skilled services only) is not based on research evidence but because the measure cannot be calculated due to data limitations.

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

Frequency of exclusions by type.

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

% of quality episodes excluded: 25.1%

total of quality episodes excluded: 1,452,060

By type:

1. Episodes in which the patient was not taking any drugs:

a. # of quality episodes excluded: 50,775

b. % of quality episodes that were excluded: 3.5%

c. % of all quality episodes: 0.9%

2. Long term episode exclusion:

a. # of quality episodes excluded: 1,365,600

b. % of quality episodes that were excluded: 94.0%

c. % of all quality episodes: 23.6%

3. Death exclusion:

a. # of quality episodes excluded: 35,685

b. % of quality episodes that were excluded: 2.5%

c. % of all quality episodes: 0.6%

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 - process measure

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 - process measure

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 - process measure

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

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*):

Date(s): 7/1/2010 – 6/30/2011 Data/Sample: Calculated measure as reported on Home Health Compare. Home Health compare reports this measure for Medicare certified agencies with at least 20 quality episodes to which the measure applies that have submit OASIS C assessments for at least 6 months of the 12 month reporting period. Of the 11,236 agencies that are listed on Home Health Compare, 9,092 agencies met the criteria for public reporting (20 episodes and 6 months of data). Information about downloading the Home Health Compare Database is available at:
<http://www.medicare.gov/HomeHealthCompare/Resources/Download-Database.aspx>

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

Percentile data based on agency level data were analyzed to determine the inter-quartile range and the 90th vs. 10th percentile differences.

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

HHA Ave.	StDev	Min	10th	25th	50th	75th	90th	Max
86.98%	13.56	0%	70%	82%	91%	96%	99%	100%

Inter-quartile range (75th – 25th) = 96 – 82 = 14%

90th – 10th percentile = 99 – 70 = 29%

There is a disparity in performance between the highest vs. lowest performing agencies.

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*):

N/A - Single data source used (OASIS).

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

N/A - Single data source used (OASIS).

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*):

N/A - Single data source used (OASIS).

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*): N/A - no need for stratification identified

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

N/A - no need for stratification identified

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 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)

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.]

Public Reporting: Medicare Home Health Compare

<http://www.medicare.gov/HomeHealthCompare/search.aspx>

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: The CMS Center for Medicare contracted with L&M Policy Research (L&M) to help ensure that measures on the Home Health Compare (HHC) website are easy to understand and meet the needs of consumers.

L&M possesses extensive knowledge of public health care issues and is experienced in qualitative and quantitative research methods and health services management and operations, including health communications. L & M also has plain language experts that are skilled in crafting straightforward language that allows CMS to provide beneficiaries, caregivers, health care professionals, and information intermediaries a better understanding of information on choice tools, such as HHC, which allows for more informed decisions on health related issues.

L&M's work during 2009-2010 with CMS includes an environmental scan of home health public reporting initiatives and a literature review of published and unpublished research relating to consumers' comprehension and use of home health quality measures. L&M independently convened its external advisory workgroup, comprised of representatives of consumer advocacy organizations, professional associations, quality improvement professionals, and experts in public reporting, to provide guidance on the organization, content, and usability of the home health measures website.

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):

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].

Quality Improvement: Home Health Quality Initiatives

https://www.cms.gov/HomeHealthQualityInits/01_Overview.asp#TopOfPage

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:
 Data contained in the Home Health OBQI reports on the proportion of care episodes in which drug education were implemented provides agencies with a tool to evaluate the quality of their care and investigate how changes to processes of care related to medication education impact patient outcomes.

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

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): ALL data elements are in a combination of 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:

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:
 Inaccuracies may result either due to confusion on the part of the clinician completing the OASIS or intentionally, to manipulate scores on quality measures. CMS has created and disseminated manuals and training materials to maximize accurate reporting of this data. Data accuracy could be audited through a review of medical records for evidence of relevant orders and implementation.

All home health agencies serving adult, non-maternity Medicare and/or Medicaid patients must submit their OASIS assessment data to their respective state OASIS repository in a standard format. The repository software passes each incoming OASIS assessment record through an extensive set of quality edits. These include internal range and logic checks that assure that assessment items include only allowable values and that they are consistent with each other. When there are significant errors in an assessment, it is not accepted by the repository and the erroneous data are not available to be included in any published quality information. Data accuracy is also supported by the state survey process. Surveyors use OASIS to characterize each agency's caseload and to select sample patients to be interviewed. They also review and assess the accuracy of the agency's OASIS assessments. In addition, CMS payment contractors assess the accuracy of a sample of the OASIS assessments as part of their medical review processes. We are unable to provide results of these audit activities as we do not currently have access to the findings of the CMS surveyors, the data repository or CMS contractors regarding OASIS data accuracy.

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

A.2 Please check if either of the following apply (regarding proprietary measures):
 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):
 OASIS data are collected by the home health agency during the care episode as part of the Conditions of Participation, and transmitted electronically to the state and CMS national OASIS repository. No issues regarding availability of data, missing data, timing or frequency of data collection, patient confidentiality, time or cost of data collection, feasibility or implementation have become apparent since OASIS-C was implemented 1/1/2010.

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*):

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner): [Centers for Medicare & Medicaid Services, 7500 Security Boulevard , Mail Stop S3-01-02, Baltimore, Maryland, 21244-1850](#)

Co.2 Point of Contact: [Robin, Dowell, BSN, robin.dowell@cms.hhs.gov, 410-786-0060-](#)

Co.3 Measure Developer if different from Measure Steward: [Centers for Medicare & Medicaid Services, 7500 Security Boulevard, Baltimore, Maryland, 21244](#)

Co.4 Point of Contact: [Robin, Dowell, Robin.Dowell@CMS.hhs.gov, 410-786-6738-](#)

Co.5 Submitter: [Keziah, Cook, kcook@acumenllc.com, 410-786-6738-](#), [Centers for Medicare & Medicaid Services](#)

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

[Abt Associates, Inc.](#)

[Case Western Reserve University](#)

[University of Colorado at Denver, Division of Health Care Policy and Research](#)

Co.7 Public Contact: [Robin, Dowell, BSN, robin.dowell@cms.hhs.gov, 410-786-0060-](#), [Centers for Medicare & Medicaid Services](#)

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.

In December 2010, a Technical Expert Panel (TEP) was convened to review the analysis conducted on the home health measures that received NQF time limited endorsement (including Drug Education on All Medications Provided to Patient/Caregiver During Short Term Episodes of Care). The TEP was comprised of individuals selected by CMS for their expertise and perspectives related to the panel objectives, from a pool of individuals who were nominated in response to the September 2010 Call for TEP notice.

2010 HH TLE Measure Review TEP Members:

- Mary Carr RN, MPH - Associate Director for Regulatory Affairs, National Association of Home Care and Hospice
- Rick Fortinsky, PhD- Professor of Medicine, Physicians Health Services Endowed Chair in Geriatrics and Gerontology, UConn Center for Health Services Research
- Barbara Gage, PhD - Deputy Director of Aging, Disability, and Long-term Care, Post-Acute Care Research Lead, Research Triangle Institute
- Margherita Labson, R.N., Executive Director for the Home Care Program at The Joint Commission
- Steve Landers MD, MPH - Director, Center for Home Care and Community Rehabilitation, Cleveland Clinic
- Bruce Leff, MD – Associate Director, Elder House Call Program,
- Barbara McCann, MSW - Chief Industry Officer, Interim Health Care
- Jennifer S. Mensik PhD, RN, NEA-BC, FACHE - Director, Clinical Practices and Research, Banner Health, Arizona and Western Regions
- Dana Mukamel, Professor, Department of Medicine, Division of General Internal Medicine & Primary Care, University of California, Irvine & Senior Fellow, Health Policy Research Institute, Irvine, California
- Robert J. Rosati Ph.D - Vice President, Clinical Informatics, Visiting Nurse Service of New York, Center for Home Care Policy and Research
- Judy Sangl Sc.D. – Health Scientist Administrator, Agency for Healthcare Research and Quality (AHRQ), Center for Patient Safety and Quality Improvement (CQuIPS), Rockville, MD

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: 03, 2009
- Ad.5 What is your frequency for review/update of this measure? Annual
- Ad.6 When is the next scheduled review/update for this measure? 09, 2012

Ad.7 Copyright statement:

Ad.8 Disclaimers:

Ad.9 Additional Information/Comments:

Date of Submission (MM/DD/YY): 01/13/2012