Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to sub criterion 1b).

Brief Measure Information

NQF #: 0174
Corresponding Measures:
De.2. **Measure Title:** Improvement in bathing
Co.1.1. **Measure Steward:** Centers for Medicare & Medicaid Services
De.3. **Brief Description of Measure:** Percentage of home health episodes of care during which the patient got better at bathing self.
1b.1. **Developer Rationale:** Patients need certain physical abilities and capacities to bathe themselves in the bath or shower. Many patients who receive home health care are recovering from an injury or illness and may have difficulty performing the tasks of bathing and/or may need help from
another person or special equipment to accomplish this activity. The required physical abilities for bathing can be developed or maintained by patient teaching or through rehabilitative services. Home health care staff can encourage patients to be as independent
as possible, can evaluate patients´ needs, and can teach them how to use special devices or equipment and increase their ability to perform some activities without the assistance of another person. Improving patients´ ability to bathe themselves contributes to patient
comfort, hygiene, skin integrity, quality of life and can allow them to live as long as possible in their own environment. Getting better at bathing may be a sign that they are meeting the goals of their care plan or that their health status is improving. Recovering independence in bathing is often a rehabilitative goal for home health patients, making it a reasonable evaluation indicator of effective and high-value home health care.

S.4. **Numerator Statement:** Number of home health episodes of care where the value recorded on the discharge assessment indicates less impairment in bathing at discharge than at start (or resumption) of care.
S.6. **Denominator Statement:** All home health episodes of care (except those defined in the denominator exclusions) in which the patient was eligible to improve in bathing (i.e., were not at the optimal level of health status according to the "Bathing" OASIS-C2 item M1830).
S.8. **Denominator Exclusions:** All home health episodes where at the start (or resumption) of care assessment the patient had minimal or no impairment, or the patient is non-responsive, or the episode of care ended in transfer to inpatient facility or death at home, or was covered by the generic exclusions.

De.1. **Measure Type:** Outcome
S.17. **Data Source:** Electronic Health Data
S.20. **Level of Analysis:** Facility

IF Endorsement Maintenance – Original Endorsement Date: Mar 31, 2009 **Most Recent Endorsement Date:** Jun 10, 2019

IF this measure is included in a composite, NQF Composite#/title:

IF this measure is paired/grouped, NQF#/title:

De.4. **IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results?** Not Applicable

1. Evidence, Performance Gap, Priority – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. ***Measures must be judged to meet all sub criteria to pass this criterion and be evaluated against the remaining criteria.***

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form
nqf_evidence_attachment_7.1--BATHE-jsr.docx
1a.1 For Maintenance of Endorsement: Is there new evidence about the measure since the last update/submission?
Do not remove any existing information. If there have been any changes to evidence, the Committee will consider the new evidence. Please use the most current version of the evidence attachment (v7.1). Please use red font to indicate updated evidence.
Yes

1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- Disparities in care across population groups.

1b.1. **Briefly explain the rationale for this measure** *(e.g., how the measure will improve the quality of care, the benefits or improvements in quality envisioned by use of this measure)*
If a COMPOSITE (e.g., combination of component measure scores, all-or-none, any-or-none), SKIP this question and answer the composite questions.
Patients need certain physical abilities and capacities to bathe themselves in the bath or shower. Many patients who receive home health care are recovering from an injury or illness and may have difficulty performing the tasks of bathing and/or may need help from
another person or special equipment to accomplish this activity. The required physical abilities for bathing can be developed or maintained by patient teaching or through rehabilitative services. Home health care staff can encourage patients to be as independent
as possible, can evaluate patients´ needs, and can teach them how to use special devices or equipment and increase their ability to perform some activities without the assistance of another person. Improving patients´ ability to bathe themselves contributes to patient
comfort, hygiene, skin integrity, quality of life and can allow them to live as long as possible in their own environment. Getting better at bathing may be a sign that they are meeting the goals of their care plan or that their health status is improving. Recovering independence in bathing is often a rehabilitative goal for home health patients, making it a reasonable evaluation indicator of effective and high-value home health care.

1b.2. **Provide performance scores on the measure as specified (current and over time) at the specified level of analysis**. *(This is required for maintenance of endorsement. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*
Tables 1 and 2, below, and in the "Importance to Report" attachment show observed and predicted measure performance, respectively, for calendar years 2010 through 2016, including the number of HHAs and the average number of episodes for HHAs. For each table, the top panel shows this information for all HHAs with at least one episode for which the measure is available. The bottom panel shows this information for HHAs with at least 20 episode for which the measure is available.

Table 1.Observed HHA-level Performance on Improvement in Bathing by Calendar Year

Calendar Year	Number of HHAs	Average Episodes per HHA	HHA Average	Std. Dev.	Minimum	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Maximum	IQR*
HHAs with >=1 Valid Episode												
2010	10,861	294	55.9%	20.7%	0.0%	27.1%	45.4%	59.4%	69.3%	77.9%	100.0%	23.9%
2011	11,529	341	56.6%	20.4%	0.0%	28.6%	46.2%	59.9%	70.0%	78.9%	100.0%	23.8%
2012	11,791	332	57.4%	20.9%	0.0%	28.6%	46.3%	60.9%	71.4%	80.0%	100.0%	25.2%
2013	11,938	341	58.2%	21.6%	0.0%	27.3%	46.7%	61.8%	72.6%	82.2%	100.0%	25.9%
2014	11,877	359	57.8%	22.2%	0.0%	25.0%	45.8%	62.0%	73.1%	82.4%	100.0%	27.2%
2015	11,601	397	59.6%	23.1%	0.0%	25.5%	47.8%	64.0%	75.8%	85.1%	100.0%	28.1%
2016	11,221	404	62.6%	23.9%	0.0%	25.5%	50.0%	68.2%	79.7%	88.0%	100.0%	29.7%
HHAs with >=20 Valid Episode												

2010	8,649	367	59.0%	15.9%	0.0%	37.5%	50.1%	61.1%	69.9%	77.0%	100.0%	19.7%
2011	9,605	408	59.3%	16.5%	0.0%	36.7%	50.0%	61.4%	70.4%	78.2%	100.0%	20.4%
2012	9,816	397	60.3%	17.0%	0.0%	36.8%	50.7%	62.5%	71.9%	79.6%	100.0%	21.2%
2013	9,921	409	61.1%	17.7%	0.0%	37.2%	51.2%	63.6%	73.0%	81.5%	100.0%	21.8%
2014	9,748	436	61.4%	18.1%	0.0%	36.3%	51.0%	64.1%	73.8%	82.1%	100.0%	22.9%
2015	9,571	480	63.5%	18.6%	0.0%	37.5%	53.5%	66.3%	76.5%	84.6%	100.0%	23.1%
2016	9,146	494	67.1%	18.8%	0.0%	41.2%	57.3%	70.6%	80.4%	87.7%	100.0%	23.1%

*The IQR (interquartile range) is a measure of variability. It is calculated by subtracting the 25th percentile value from the 75th percentile value.

Table 2. Risk Adjusted HHA-level Performance on Improvement in Bathing by Calendar Year

Calendar Year	Number of HHAs	Average Episodes per HHA	HHA Average	Std. Dev.	Minimum	10th Percentile	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Maximum	IQR*
HHAs with >=1 Valid Episode												
2010	10,861	294	59.6%	17.1%	0.0%	36.7%	51.6%	61.9%	69.5%	77.4%	100.0%	17.9%
2011	11,529	341	60.5%	16.8%	0.0%	38.4%	52.5%	62.6%	70.3%	78.5%	100.0%	17.8%
2012	11,791	332	61.4%	17.0%	0.0%	38.7%	53.2%	63.7%	71.6%	79.9%	100.0%	18.4%
2013	11,938	341	62.2%	17.5%	0.0%	38.2%	53.6%	64.7%	72.7%	81.6%	100.0%	19.1%
2014	11,877	359	62.2%	18.0%	0.0%	37.5%	53.3%	65.0%	73.4%	82.0%	100.0%	20.0%
2015	11,601	397	64.2%	18.5%	0.0%	38.4%	55.5%	67.4%	75.8%	84.2%	100.0%	20.3%
2016	11,221	404	67.6%	19.2%	0.0%	39.9%	59.0%	71.4%	79.9%	88.2%	100.0%	20.8%
HHAs with >=20 Valid Episode												
2010	8,649	367	61.7%	13.1%	0.0%	45.2%	55.2%	62.9%	69.5%	76.0%	100.0%	14.3%
2011	9,605	408	62.2%	13.7%	0.0%	44.8%	55.3%	63.5%	70.3%	77.4%	100.0%	15.0%
2012	9,816	397	63.3%	13.9%	0.0%	45.5%	56.3%	64.5%	71.7%	79.0%	100.0%	15.3%
2013	9,921	409	64.1%	14.5%	0.0%	45.4%	56.8%	65.7%	72.8%	80.5%	100.0%	16.0%
2014	9,748	436	64.5%	14.7%	0.6%	45.3%	56.9%	66.3%	73.6%	81.0%	100.0%	16.7%
2015	9,571	480	66.8%	15.1%	0.0%	47.1%	59.4%	68.7%	76.1%	83.5%	100.0%	16.7%
2016	9,146	494	70.6%	15.3%	0.0%	51.2%	63.5%	72.7%	80.2%	87.5%	100.0%	16.6%

*The IQR (interquartile range) is a measure of variability. It is calculated by subtracting the 25th percentile value from the 75th percentile value.

Table 3 provides characteristics of all home health patients in 2016 for which this measure could be calculated.

Table 3. Patients Characteristics - All Patients in Measure Calculation, 2016

Population Group		# of Patients	% of Patients
Total	4,536,567	100.0%	
Gender	Male	1,705,116	37.6%
	Female	2,831,451	62.4%
Race	White	3,491,480	77.0%
	Black	585,995	12.9%
	Hispanic	331,269	7.3%
	Other	127,823	2.8%
Age	Under 65	740,203	16.3%
	65-74	1,218,525	26.9%
	75-84	1,376,248	30.3%
	85 and Over	1,201,591	26.5%
Disability Status	No	3,573,242	78.8%
	Yes	963,325	21.2%
Dual Enrollment in Medicare and Medicaid	No	3,501,162	77.2%
	Yes	1,035,405	22.8%

1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the

literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.
See attachment, "Importance to Report" for a tabular presentation of these data.

1b.4. **Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability.** *(This is required for maintenance of endorsement. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included.) For measures that show high levels of performance, i.e., "topped out", disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*
Tables 4 and 5 in the "Importance to Report" attachment, as well as below, show observed and predicted measure performance for population groups, respectively. Measure performance improved from 2013 to 2016 for all population groups. For some population groups, performance gaps between subgroups also diminished over time.

For example, for gender the difference between observed measure performance for males and females in 2013 was 1.1 percentage points. This difference slightly decreased to 0.6 percentage points in 2016. The difference in measure performance between those aged 65 to 74 and the 85+ and under 65 age groups also decreased over time.

For some population groups, disparities did increase. For example, the difference in measure performance between white and Hispanic patients increased from 2.5 in 2013 percentage points to 7.2 percentage points in 2016. The difference in performance between small and large agencies also widened over time.

Table 4. Observed Episode-Level Measure Performance by Population Group

Population Group		2013	2014	2015	2016			
All Episodes	67.0%	68.0%	70.5%	74.5%				
Gender	Male	67.7%	68.6%	71.0%	74.8%			
	Female	66.6%	67.6%	70.2%	74.3%			
Race	White	67.9%	68.8%	71.5%	75.6%			
	Black	63.8%	65.2%	67.9%	72.0%			
	Hispanic	65.4%	65.3%	65.7%	68.4%			
	Other	64.6%	65.3%	66.9%	70.5%			
Age	Under 65		67.8%	69.1%	71.4%	75.1%		
	65-74	74.2%	75.1%	76.9%	80.3%			
	75-84	68.0%	69.0%	71.6%	75.5%			
	85 and Over		58.4%	59.0%	62.2%	66.9%		
Disability Status	No	67.2%	68.2%	70.9%	74.8%			
	Yes	66.6%	67.3%	69.1%	73.2%			
Dual Enrollment in Medicare and Medicaid	No	68.6%	69.5%	72.1%	75.9%			
	Yes	62.7%	63.4%	65.3%	69.5%			
Agency Size	Small	49.6%	48.5%	48.8%	51.3%			
	Medium	63.4%	63.5%	65.5%	68.9%			
	Large	68.3%	69.4%	71.9%	75.9%			
Census Region	Northeast		67.2%	68.5%	71.2%	75.0%		
	Midwest	67.4%	68.1%	70.6%	73.7%			
	South	67.7%	68.7%	71.3%	76.0%			
	West	64.7%	65.5%	67.8%	71.5%			

Table 5. Predicted Episode-Level Measure Performance by Population Group

Population Group		2013	2014	2015	2016
All Episodes	65.8%	66.3%	64.5%	65.5%	
Gender	Male	66.6%	67.1%	65.4%	66.3%
	Female	65.3%	65.8%	64.0%	64.9%
Race	White	66.3%	66.8%	65.1%	66.1%

	Black	64.9%	65.6%	63.7%	64.6%				
	Hispanic	63.1%	63.2%	60.6%	61.2%				
	Other	63.7%	63.8%	61.4%	62.4%				
Age	Under 65		66.7%	67.3%	65.7%	66.7%			
	65-74	73.2%	73.7%	72.2%	73.1%				
	75-84	66.7%	67.2%	65.5%	66.4%				
	85 and Over		56.8%	57.1%	54.9%	55.8%			
Disability Status	No		65.5%	66.0%	64.3%	65.2%			
	Yes	66.7%	67.2%	65.3%	66.2%				
Dual Enrollment in Medicare and Medicaid					No	66.6%	67.1%	65.3%	66.3%
	Yes	63.4%	63.9%	61.8%	62.6%				
Agency Size	Small		58.8%	58.5%	56.1%	56.3%			
	Medium	63.3%	63.5%	61.4%	62.2%				
	Large	66.6%	67.1%	65.3%	66.2%				
Census Region	Northeast			67.2%	67.7%	66.1%	67.2%		
	Midwest	66.5%	66.7%	64.9%	65.9%				
	South	65.8%	66.5%	64.6%	65.4%				
	West	63.1%	63.6%	61.9%	63.0%				

1b.5. **If no or limited data on disparities from the measure as specified is reported in 1b.4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in 1b.4**

See 1.b4

2. Reliability and 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. ***Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.***

2a.1. Specifications The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

De.5. **Subject/Topic Area** *(check all the areas that apply):*

De.6. **Non-Condition Specific***(check all the areas that apply):*

Health and Functional Status : Change

De.7. **Target Population Category** *(Check all the populations for which the measure is specified and tested if any):*

Elderly, Populations at Risk : Individuals with multiple chronic conditions

S.1. **Measure-specific Web Page** *(Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)*

https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/Home-Health-Quality-Measures.html

S.2a. **If this is an eMeasure**, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

This is not an eMeasure **Attachment:**

S.2b. **Data Dictionary, Code Table, or Value Sets** *(and risk model codes and coefficients when applicable) must be attached. (Excel or*

csv file in the suggested format preferred - if not, contact staff)
Attachment **Attachment:** isc_mstr_-V2.21.1-_FINAL_08-15-2017_-_combined_worksheets-636686551475687631-637169500551724431.xlsx

S.2c. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.
Attachment **Attachment:** OASIS-C2-AllItems-10-2016-636686552762843350-637169500554380933.pdf

S.2d. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.
Clinician

S.3.1. **For maintenance of endorsement:** Are there changes to the specifications since the last updates/submission. If yes, update the specifications for S1-2 and S4-22 and explain reasons for the changes in S3.2.
No

S.3.2. **For maintenance of endorsement,** please briefly describe any important changes to the measure specifications since last measure update and explain the reasons.
Not Applicable

S.4. **Numerator Statement** *(Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome) DO NOT include the rationale for the measure.*
IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).
Number of home health episodes of care where the value recorded on the discharge assessment indicates less impairment in bathing at discharge than at start (or resumption) of care.

S.5. **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, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)*
IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).
Number of home health episodes from the denominator in which the value recorded for the OASIS-C2 item M1830 ("Bathing") on the discharge assessment is numerically less than the value recorded on the start (or resumption) of care assessment, indicating less impairment at discharge compared to start of care.

S.6. **Denominator Statement** *(Brief, narrative description of the target population being measured)*
All home health episodes of care (except those defined in the denominator exclusions) in which the patient was eligible to improve in bathing (i.e., were not at the optimal level of health status according to the "Bathing" OASIS-C2 item M1830).

S.7. **Denominator Details** *(All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*
IF an OUTCOME MEASURE, describe how the target population is identified. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).
All home health episodes of care (except those defined in the denominator exclusions) in which the patient was eligible to improve in bathing (i.e., were not at the optimal level of health status according to the "Bathing" OASIS-C item M1830).

S.8. **Denominator Exclusions** *(Brief narrative description of exclusions from the target population)*
All home health episodes where at the start (or resumption) of care assessment the patient had minimal or no impairment, or the patient is non-responsive, or the episode of care ended in transfer to inpatient facility or death at home, or was covered by the generic exclusions.

S.9. **Denominator Exclusion Details** *(All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*
Home health episodes of care for which [1] at start/resumption of care OASIS item M1830 = 0, indicating the patient was able to bathe self independently; OR (2) at start/resumption of care, OASIS item M1700 "Cognitive Functioning" is 4, or M1710 "When Confused" is NA, or M1720 "When Anxious" is NA, indicating the patient is non-responsive; OR (3) The patient did not have a discharge assessment because the episode of care ended in transfer to inpatient facility or death at home; OR (4) All episodes covered by the generic exclusions:
a. Pediatric home health patients - less than 18 years of age as data are not collected for these patients.
b. Home health patients receiving maternity care only.
c. Home health clients receiving non-skilled care only.
d. Home health patients for which neither Medicare nor Medicaid are a payment source.
e. The episode of care does not end during the reporting period.
f. If the agency sample includes fewer than 20 episodes after all other patient-level exclusions are applied, or if the agency has been in operation less than six months, then the data is suppressed from public reporting on Home Health Compare.

S.10. **Stratification Information** *(Provide all information required to stratify the measure results, if necessary, including the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b.)*
Not applicable

S.11. **Risk Adjustment Type** (Select type. Provide specifications for risk stratification in measure testing attachment)
Statistical risk model
If other:

S.12. **Type of score:**
Rate/proportion
If other:

S.13. **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

S.14. **Calculation Algorithm/Measure Logic** (*Diagram or 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; time period for data, aggregating data; risk adjustment; etc.)*
1. Define an episode of care (the unit of analysis): Data from matched pairs of OASIS assessments for each episode of care (start or resumption of care paired with a discharge or transfer to inpatient facility) are used to calculate individual patient outcome measures.

2. Identify target population: All episodes of care ending during a specified time interval (usually a period of twelve months), subject to generic and measure-specific exclusions.
Generic exclusions: Episodes of care ending in discharge due to death (M0100_ASSMT_REASON[2] = 08).
Measure specific exclusions: Episodes of care ending in transfer to inpatient facility (M0100_ASSMT_REASON[2] IN (06,07), patients who are comatose or non-responsive at start/resumption of care (M1700_COG_FUNCTION[1] = 04 OR M1710_WHEN_CONFUSED[1] = NA OR M1720_WHEN_ANXIOUS[1] = NA), and patients independent in bathing at start/resumption of care (M1830_CRNT_BATHG[1] = 00).

Cases meeting the target outcome are those where the patient is more independent in bathing at discharge than at start/resumption of care:
M1830_CRNT_BATHG[2] < M1830_CRNT_BATHG[1].

3. Aggregate the Data: The observed outcome measure value for each HHA is calculated as the percentage of cases meeting the target population (denominator) criteria that meet the target outcome (numerator) criteria.

4. Risk Adjustment: The expected probability for a patient is calculated using the following formula:
P(x)=1/(1+e^(-(a+?¦?b_i x_i ?)))
Where:
P(x) = predicted probability of achieving outcome x
a = constant parameter listed in the model documentation
bi = coefficient for risk factor i in the model documentation
xi = value of risk factor i for this patient. See the attached zipped risk adjustment file for detailed lists and specifications of risk factors.

Predicted probabilities for all patients included in the measure denominator are then averaged to derive an expected outcome value for the agency. This expected value is then used, together with the observed (unadjusted) outcome value and the expected value for the national population of home health agency patients for the same data collection period, to calculate a risk-adjusted outcome value for the home health agency. The formula for the adjusted value of the outcome measure is as follows:

X(A_ra)= X(A_obs)+ X(N_exp)-X(A_exp)
Where:
X(Ara) = Agency risk-adjusted outcome measure value
X(Aobs) = Agency observed outcome measure value
X(Aexp) = Agency expected outcome measure value
X(Nexp) = National expected outcome measure value

If the result of this calculation is a value greater than 100%, the adjusted value is set to 100%. Similarly, if the result is a negative number the adjusted value is set to zero.

S.15. **Sampling** *(If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)*
IF an instrument-based performance measure (e.g., PRO-PM), identify whether (and how) proxy responses are allowed.
Not Applicable

S.16. **Survey/Patient-reported data** *(If measure is based on a survey or instrument, provide instructions for data collection and guidance on minimum response rate.)*
Specify calculation of response rates to be reported with performance measure results.
Not Applicable

S.17. **Data Source** *(Check ONLY the sources for which the measure is SPECIFIED AND TESTED).*
If other, please describe in S.18.
Electronic Health Data

S.18. **Data Source or Collection Instrument** *(Identify the specific data source/data collection instrument (e.g. name of database, clinical registry, collection instrument, etc., and describe how data are collected.)*
IF instrument-based, identify the specific instrument(s) and standard methods, modes, and languages of administration.
The measure is calculated based on the data obtained from the Home Health Outcome and Assessment Information Set (OASIS-C2), which is a statutorily required core standard assessment instrument that home health agencies integrate into their own patient-specific, comprehensive assessment to identify each patient's need for home care. The instrument is used to collect valid and reliable information for patient assessment, care planning, and service delivery in the home health setting, as well as for the home health quality assessment and performance improvement program. Home health agencies are required to collect OASIS data on all non-maternity Medicare/Medicaid patients, 18 or over, receiving skilled services. Data are collected at specific time points (admission, resumption of care after inpatient stay, recertification every 60 days that the patient remains in care, transfer, and at discharge). HH agencies are required to encode and transmit patient OASIS data to the OASIS repositories. Each HHA has on-line access to outcome and process measure reports based on their own OASIS data to the OASIS repositories. Each HHA has on-line access to outcome and process measure reports based on their own OASIS data submissions, as well as comparative state and national aggregate reports, case mix reports, and potentially avoidable event reports. CMS regularly collects OASIS data for storage

in the national OASIS repository, and makes measures based on these data (including the Improvement in Bathing measure) available to consumers and to the general public through the Medicare Home Health Compare website.

S.19. **Data Source or Collection Instrument** *(available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)*
Available at measure-specific web page URL identified in S.1

S.20. **Level of Analysis** *(Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)*
Facility

S.21. **Care Setting** *(Check ONLY the settings for which the measure is SPECIFIED AND TESTED)*
Home Care
If other:

S.22. **COMPOSITE Performance Measure** - Additional Specifications *(Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)*
Not Applicable

2. Validity – See attached Measure Testing Submission Form
Testing_Form_Bathing_20180730.docx,RiskAdjustmentModel-636686559531201856.zip

2.1 For maintenance of endorsement
Reliability testing: If testing of reliability of the measure score was not presented in prior submission(s), has reliability testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.
Yes

2.2 For maintenance of endorsement
Has additional empirical validity testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.
Yes

2.3 For maintenance of endorsement
Risk adjustment: For outcome, resource use, cost, and some process measures, risk-adjustment that includes social risk factors is not prohibited at present. Please update sections 1.8, 2a2, 2b1,2b4.3 and 2b5 in the Testing attachment and S.140 and S.11 in the online submission form. NOTE: These sections must be updated even if social risk factors are not included in the risk-adjustment strategy. You MUST use the most current version of the Testing Attachment (v7.1) -- older versions of the form will not have all required questions.
Yes - Updated information is included

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

3a.1. **Data Elements Generated as Byproduct of Care Processes.**
Generated or collected by and used by healthcare personnel during the provision of care (e.g., blood pressure, lab value, diagnosis, depression score)
If other:

3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

3b.1. **To what extent are the specified data elements available electronically in defined fields** (*i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields*) Update this field for **maintenance of endorsement**.

ALL data elements are in defined fields in electronic clinical data (e.g., clinical registry, nursing home MDS, home health OASIS)

3b.2. **If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources.** For **maintenance of endorsement**, if this measure is not an eMeasure (eCQM), please describe any efforts to develop an eMeasure (eCQM).

3b.3. **If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL. Please also complete and attach the NQF Feasibility Score Card.**
Attachment:

3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

3c.1. **Required for maintenance of endorsement. Describe difficulties (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.**
IF instrument-based, consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

OASIS data collection and transmission is a requirement for the Medicare Home Health Conditions of Participation. Information on bathing status used to calculate this measure is recorded in the relevant OASIS items embedded in the agency's clinical assessment as part of normal clinical practice. OASIS data are collected by the home health agency during the care episode and transmitted electronically to the 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.

3c.2. **Describe any fees, licensing, or other requirements to use any aspect of the measure as specified** *(e.g., value/code set, risk model, programming code, algorithm)*.

Not Applicable

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

4.1. **Current and Planned Use**

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Specific Plan for Use	Current Use (for current use provide URL)
	Public Reporting Home Health Compare http://www.cms.gov/HomeHealthCompare/search.asp Home Health Compare http://www.cms.gov/HomeHealthCompare/search.asp Quality Improvement (Internal to the specific organization) Home Health Star Ratings https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/HHQIHomeHealthStarRatings.html

4a1.1 **For each CURRENT use, checked above (update for maintenance of endorsement), provide:**

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included
- Level of measurement and setting

The Home Health Compare website is federal government website managed by the Centers for Medicare & Medicaid Services (CMS). It provides information to consumers about the quality of care provided by Medicare-certified home health agencies throughout the nation. The measures reported on Home Health Compare includes all Medicare-certified agencies with at least 20 home health quality episodes.

In the 12-month period ending December 31, 2016, there were 9,146 such agencies (81.5 percent of the 11,221 agencies with at least one quality episode) that met the measure denominator criteria for reporting of Improvement in Bathing. This included 4,519,611 episodes of care nationally.

CMS's Home Health Quality Initiative "Outcome Quality Measure Report" provides all Medicare-certified home health agencies with opportunities to use outcome measures for outcome-based quality improvement. The report allows agencies to benchmark their performance against other agencies across the state and nationally, as well as their own performance from prior time periods. All Medicare-certified home health agencies can access their Outcome Quality Measure Reports via CMS's online CASPER system.

4a1.2. **If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons?** (*e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?*)
Not Applicable

4a1.3. **If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement.** (*Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.*)
Not Applicable

4a2.1.1. **Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.**
How many and which types of measured entities and/or others were included? If only a sample of measured entities were included, describe the full population and how the sample was selected.
All home health agencies with at least 20 qualifying episodes receive quarterly measure reports on all of their publicly-reported measures. In addition, providers can run on-demand, confidential reports showing individual measure results and national averages, through CMS' CASPER system. There is an email box that HHAs may submit questions to as well as a website on which the latest measure updates are posted.

4a2.1.2. **Describe the process(es) involved, including when/how often results were provided, what data were provided, what**

educational/explanatory efforts were made, etc.
All home health agencies with at least 20 qualifying episodes receive quarterly measure reports on all of their publicly-reported measures. In addition, providers can run on-demand, confidential reports showing individual measure results and national averages, through CMS' CASPER system. There is an email box that HHAs may submit questions to as well as a website on which the latest measure updates are posted. The OASIS Guidance Manual describes the OASIS-based reports that are available as well as the sources of information for the reports. Instructions on using the reports for quality monitoring are provided, illustrated with sample reports from a hypothetical home care agency. It is designed to help home health agencies make use of the reports for monitoring and improving quality of care. Additionally, home health quality reporting program training was held in 2017.

4a2.2.1. **Summarize the feedback on measure performance and implementation from the measured entities and others described in 4d.1.**
Describe how feedback was obtained.
Home health agencies receive quarterly measure reports on all of their measures. There is an email box that HHAs may submit questions to as well as a website on which the latest measure updates are posted. Because of the changes made to the OASIS in OASIS D (effectively January 1, 2019), risk models for publically reported outcome measures have been updated. CMS will makes available information about risk models and covariates on the website and the updated models will be available soon.

4a2.2.2. **Summarize the feedback obtained from those being measured.**
There is an email box that HHAs may submit regarding quality measures; all questions and responses are captured in an Access database for analysis and CMS receives quarterly reports on questions submitted. Thematic issues arising from the mailbox inform guidance to providers. As in 4a2.2.1.

4a2.2.3. **Summarize the feedback obtained from other users**
There haven't been any requests for measure modification, nor any modifications made.

4a2.3. **Describe how the feedback described in 4a2.2.1 has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.**
Not applicable for this time period.

Improvement
Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4b1. **Refer to data provided in 1b but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities and patients included.)**
If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.
Tables 4 and 5 in the "Importance to Report" attachment show observed and predicted measure performance for population groups, respectively. For all population groups, measure performance has improved over time. The greatest improvement in measure performance between 2013 and 2016 for each population subgroup was for:

- Females (66.9 percent in 2013 to 74.0 percent in 2016)
- Whites (67.1 percent in 2013 to 74.8 percent in 2016)
- Under 65 (62.5 percent in 2013 to 69.5 percent in 2016)
- Disabled (63.2 percent in 2013 to 70.3 percent in 2016 – similar to not disabled)
- Not dual (68.0 percent in 2013 to 75.2 percent in 2016 – similar to dual)
- Large HHAs (53.2 percent in 2013 to 63.4 percent in 2016)
- HHAs in the South (66.2 percent in 2013 to 74.5 percent in 2016)

The subgroup with the smallest improvement in performance during this time period was for patients served by small HHAs (bottom 25th percentile in size). Performance for this subgroup only improved from 55.0 percent in 2013 to 56.2 percent in 2016. Note that

the number of episodes for small HHAs was only 31,332 during 2016 (or 0.81 percent of episodes for which this measure is available).

There was generally fairly large improvement in measure performance during the 2013 to 2016 period. Overall, improvement was 6.9 percentage points and most population subgroups saw this level of improvement. The largest improvement occurred from 2015 to 2016 – more than half (4.4 percentage points) of the 2013-2016 improvement occurred between 2015 and 2016. We expect to see a similar phenomenon between 2016 and later years. This is likely due to the introduction of several initiatives that incorporate this measure – the Quality of Patient Care (QoPC) Star Ratings, a composite of this measure and several others that has been publicly reported on Home Health Compare since July 2015 and Home Health Value Based Purchasing (HHVBP). HHVBP began in 2016 and involves nine states. Several participating states encompass a large number of HHAs and providers in other states may be anticipating the expansion of this model.

4b2. Unintended Consequences

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

4b2.1. **Please explain any unexpected findings (positive or negative) during implementation of this measure including unintended impacts on patients.**

Recent improvement in this measure has been relatively large compared to historical trends. We believe these large improvements are due to the implementation of two initiatives that involve this measure – the QoPC Star Ratings and HHVBP – beginning in 2015 and 2016.

4b2.2. **Please explain any unexpected benefits from implementation of this measure.**

We do not report any unexpected benefits from implementation of this measure at this time.

5. Comparison to Related or 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.

5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.

Yes

5.1a. **List of related or competing measures (selected from NQF-endorsed measures)**

0430 : Change in Daily Activity Function as Measured by the AM-PAC:
2613 : CARE: Improvement in Self Care

5.1b. **If related or competing measures are not NQF endorsed please indicate measure title and steward.**

5a. Harmonization of Related Measures

The measure specifications are harmonized with related measures;

OR

The differences in specifications are justified

5a.1. **If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):**

Are the measure specifications harmonized to the extent possible?

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.

5b. Competing Measures

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);

OR

Multiple measures are justified.

5b.1. **If this measure conceptually addresses 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.)

A search using the NQF QPS indicated there are no other endorsed measures that report on rates of improvement in bathing in the home health population. Change in Daily Activity Function as Measured by the AM-PAC (NQF #0430) is a measure of reported changes in patient functioning in the areas of feeding, meal preparation, hygiene, grooming, and dressing as measured by the Activity Measure for Post-Acute Care (AM-PAC), a functional status assessment instrument developed specifically for use in facility and community dwelling post-acute care (PAC) patients. However, the AM-PAC measure is focused on overall functioning (not just bathing), and is calculated using data that are not currently collected in the home health setting.

CARE: Improvement in Self Care (NQF# 2613) is a measure of self-care based on the subscale of the Continuity Assessment and Record Evaluation (CARE) Tool and information from the admission MDS 3.0 assessment. The measure specifications and exclusions don't currently apply to home health.

Appendix

A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

Attachment **Attachment:** 0174_Bath_Importance_to_Report_Tables.docx

Contact Information

Co.1 **Measure Steward (Intellectual Property Owner):** Centers for Medicare & Medicaid Services

Co.2 **Point of Contact:** Joan, Proctor, Joan.Proctor2@cms.hhs.gov, 443-526-6938-

Co.3 **Measure Developer if different from Measure Steward:** Centers for Medicare & Medicaid Services

Co.4 **Point of Contact:** Joan, Proctor, Joan.Proctor2@cms.hhs.gov, 443-526-6938-

Additional Information

Ad.1 **Workgroup/Expert Panel involved in measure development**

Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

Not Applicable

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 **Year the measure was first released:** 2004

Ad.3 **Month and Year of most recent revision:** 11, 2011

Ad.4 **What is your frequency for review/update of this measure?** Annual

Ad.5 **When is the next scheduled review/update for this measure?** 09, 2015

Ad.6 **Copyright statement:** NA

Ad.7 **Disclaimers:** NA

Ad.8 **Additional Information/Comments:** NA