



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 #: 0686

Corresponding Measures:

De.2. Measure Title: Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)

Co.1.1. Measure Steward: Centers for Medicare & Medicaid Services

De.3. Brief Description of Measure: This measure reports the percentage of low risk, long-stay residents who have had an indwelling catheter in the last seven days prior to the assessment reference date on the target assessment. In this case, low-risk refers to residents who do not have preexisting conditions, such as neurogenic bladder or obstructive uropathy, which predispose catheter use. This measure is based on data from the Minimum Data Set (MDS) 3.0 OBRA, PPS, and/or discharge assessments during the selected quarter. Long-stay nursing home residents are identified as those who have had 101 or more cumulative days of nursing home care.

1b.1. Developer Rationale: Significance to residents:

Catheter use is important to address because of its impact on residents. A study by Hu et al. (2014) found that inappropriate catheter use was associated with corollary outcomes of longer hospital stays, increased rate of catheterization at the time of discharge, higher incidence of UTI, and decrease in ADL function (Hu et al., 2014). Hollingsworth et al. (2013) identified additional corollary outcomes of indwelling catheterization. In a meta-analysis of 37 studies involving 2,868 adults, the authors found increased risk of urine leakage in both short- (10.6%) and long-term (52.1%) catheterization. The authors also identified a high risk of urethral strictures (3.4%) among individuals with short-term catheters. Among individuals with spinal cord injuries, gross hematuria (13.5%) and bladder cancer (1.0%) were associated with indwelling catheter use. Although this meta-analysis includes a range of patient types, not limited only to nursing home residents, the findings show that limiting catheter use may be important for preventing a host of serious health issues (Hollingsworth et al., 2013).

Gaps in performance in nursing homes:

Several studies have found that structural characteristics of nursing homes can have an impact on catheter use. Castle and Anderson (2011) found that improvements of structural characteristics, such as increasing RN staffing levels and decreasing RN turnover, significantly decreased catheter use, thus improving resident outcomes. Nursing homes with more educated staff, including a Director of Nurses with at least a bachelor's degree, were found to have lower catheterization rates than those with less educated staff (Damkoehler, 2014). Furthermore, providers with more committed staff through a stronger culture, more experienced staff, and proper staff to resident/patient ratios have also been presented as characteristics that may be linked to adherence with infection control guidelines/practices and appropriate catheter use (Flodgren et al., 2013).

Clifton et al. (2018) studied a quality improvement initiative across Veterans Administration (VA) hospitals and found that use of best practices for catheter insertion, indication, and assessments were correlated with an improved catheter-associated urinary tract infection (CAUTI) outcome (Clifton et al., 2018). Additional processes such as a thorough and informed assessment of the resident, and evaluation of the medical need for a catheter, can sometimes decrease or prevent the use of catheters and the risks associated with their use.

Gaps in performance among specific groups of nursing home residents:

A few studies found an empirical association between social risk factors that could be measured by items available in the MDS 3.0 and catheter use, but did not offer a conceptual basis for understanding how the inherent characteristics of the social risk factor (gender, age, Medicaid coverage, and race/ethnicity) would affect catheter use.

One older study (Rogers et al., 2008) discusses a conceptual basis for using gender as a clinical risk adjuster. However, it is possible that the association between gender and catheter use is reflecting other gender-specific conditions for which facilities should be held accountable when providing care. Similarly, studies looked at the association between age and risk of catheterization and found that older adults are more likely to be catheterized due to a higher likelihood of experiencing adverse health outcomes when being transferred from the acute care setting to SNFs (Burke et al., 2018).

We examined the percentage of long-stay residents with each social risk factor identified in the literature as having an empirical association with catheter use, compared to those without that social risk factor, and used Chi-Squared tests to determine whether these differences were statistically significant.

While all differences were statistically significant and absolute percentages are small, the differences across most subpopulations are relatively large. Among residents who are eligible for Medicaid, 2.0% have/had a catheter inserted and left in their bladder and, among those ineligible for Medicaid, 3.0% have/had a catheter inserted ($\chi^2(1) = 472.3, p < 0.001$). For residents aged 85 years or older, 1.8% have/had a catheter inserted and left in their bladder, compared to 2.4% of younger residents ($\chi^2(1) = 474.8, p < 0.001$). Whereas 3.3% of the male residents have/had a catheter inserted and left in their bladder, 1.6% of the female residents have/had a catheter inserted ($\chi^2(1) = 3,200, p < 0.001$). Alternatively, the difference across race/ethnicity subpopulations is relatively small. Among residents who are non-Hispanic white, 2.1% have/had a catheter inserted and left in their bladder and, among those who are non-white, 2.3% have/had a catheter inserted ($\chi^2(1) = 33.7, p < 0.001$).

Importance to stakeholders:

On May 23, 2019, RTI International convened a web-based technical expert panel (TEP) meeting to obtain expert input on future directions for measure development and maintenance of quality measures for nursing homes based on the Minimum Data Set 3.0. In the pre-TEP survey, 6 out of 10 TEP members rated this measure as “very important” (scoring it a 4 or 5 out of a scale from 1–5), according to the following criteria: is an established priority area (National Quality Strategy); addresses a demonstrated high-impact aspect of health care (e.g., affects large numbers); has external evidence of importance, such as consensus standards; and has evidence of disparities for the quality domain. The majority of TEP members explicitly affirmed the face validity of NQF #0686.

Most TEP members viewed the measure as important because it kept attention on removing catheters and reducing catheter use where possible, given the relationship between catheterization and adverse health outcomes and reduced quality of life. TEP members concurred that measuring catheterization is important and that the measure encourages facilities to focus on continence care. Several TEP members acknowledged that this measure supports quality improvement, with one TEP member noting that this QM encourages facilities to focus on reducing catheterization that is done for convenience or without clinical justification (RTI International, 2019).

Castle, N. G., Anderson, R. A. (2011). Caregiver staffing in nursing homes and their influence on quality of care: using dynamic panel estimation methods. *Medical Care*, 49(6), 545-552

Clifton, M., Kralovic, S. M., Simbartl, L. A., Minor, L., Hasselbeck, R., Martin, T., & Roselle, G. A. (2018). Achieving balance between implementing effective infection prevention and control practices and maintaining a home-like setting in US Department of Veterans Affairs nursing homes. *American journal of infection control*, 46(11), 1307-1310.

Damkoehler, G. Using a nurse-led protocol to reduce infections. McKnight's. Oct. 15, 2014. Available from: <http://www.mcknights.com/marketplace/using-a-nurse-led-protocol-to-reduce-infections/article/377448/>

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RTI International. (2019, June). Technical Expert Panel Summary Report: Maintenance of Nursing Home Quality Measures Prepared

under CMS Contract No. HHSM-500-2013-130151.

RTI analysis of Q3, 2018 MDS 3.0 Data (programming reference: LJC67/LJC09_request_686_31_32_rev.log)

S.4. Numerator Statement: The numerator is the number of long-stay nursing home residents in the denominator sample with an episode during the selected quarter with a target assessment that indicates the use of indwelling catheters within the last seven days.

S.6. Denominator Statement: The denominator includes all long-stay residents in the nursing home who have an episode during the selected quarter with a qualifying target assessment (OBRA, PPS, or discharge assessment) and who do not meet the exclusion criteria.

S.8. Denominator Exclusions: The denominator exclusion criteria for this quality measure are as follows: 1) The target assessment is an admission assessment, a PPS 5-day assessment or a PPS readmission/return assessment; 2) The target assessment indicates that indwelling catheter status is missing; 3) The target assessment indicates neurogenic bladder or neurogenic bladder status is missing; or 4) The target assessment indicates obstructive uropathy or obstructive uropathy status is missing.

De.1. Measure Type: Outcome

S.17. Data Source: Assessment Data

S.20. Level of Analysis: Facility

IF Endorsement Maintenance – Original Endorsement Date: Mar 03, 2011 **Most Recent Endorsement Date:** Mar 03, 2011

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? This is not applicable; this measure is not paired/grouped.

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_0686_Catheter_Evidence_Form_Final_10-31-19_508-637081412439300840.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.

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RTI analysis of Q3, 2018 MDS 3.0 Data (programming reference: LJC67/LJC09_request_686_31_32_rev.log)

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.*

Current Measure Performance:

Below we present the distribution of facility-level scores on this quality measure in Quarter 3, 2018. Overall, 1,041,783 long-stay residents in 14,374 nursing homes are included in the analysis. The national facility-level mean score for this measure in Quarter 3, 2018 was 2.2% and the median score was 1.7%, suggesting a slight positive skew. The interquartile range for this measure was 3.4% and 35.2% of facilities had a perfect score of 0.0%. This analysis was restricted to facilities with at least 20 residents in the denominator, the minimum denominator threshold for public reporting.

In Quarter 3, 2018:

k (facilities) 14,374

n (residents) 1,041,783

mean 2.2%

standard deviation (SD) 2.6%

min 0.0%

max 28.5%

Interquartile Range 3.4%

10th percentile 0.0%

20th percentile 0.0%

30th percentile 0.0%

40th percentile 1.1%

50th percentile 1.7%

60th percentile 2.3%
70th percentile 3.0%
80th percentile 3.9%
90th percentile 5.5%

SOURCE: RTI analysis of Q3, 2018 MDS 3.0 data (programming reference: rn27_47\ac362_request_q3132_686.log)

Performance Over Time:

For comparison over time, we also present the distribution of facility-level scores on this quality measure un Quarter 4, 2017. During this time period, 1,033,746 long-stay residents in 14,390 nursing homes are included in the analysis. The national facility-level mean score for this measure in Quarter 4, 2017 was 2.4% and the median score was 1.8%, indicating a slight positive skew. The interquartile range for this measure was 3.6% and 34.3% of facilities had a perfect score of 0.0%. This analysis was restricted to facilities with at least 20 residents in the denominator, the minimum denominator threshold for public reporting at the time of analysis. Note, the Nursing Home Compare site changed their public reporting restrictions from 30 qualifying residents to 20 qualifying residents for long-stay measures, effective July 2016; when the minimum denominator threshold was larger, fewer facilities had publicly reportable scores.

In Quarter 4, 2017:

k (facilities) 14,390
n (residents) 1,033,746
mean 2.4%
standard deviation (SD) 2.7%
min 0.0%
max 28.2%
Interquartile Range 3.6%
10th percentile 0.0%
20th percentile 0.0%
30th percentile 0.0%
40th percentile 1.2%
50th percentile 1.8%
60th percentile 2.4%
70th percentile 3.2%
80th percentile 4.2%
90th percentile 5.9%

SOURCE: RTI analysis of Q4, 2017 MDS 3.0 data (programming reference: ac04\ac362_request_q2829_686.log)

National facility-level mean and median scores for all available quarters (i.e., Quarter 1, 2011, to Quarter 3, 2018) are presented in the response to 2b1.3. in the Testing Attachment (refer to Figure 1). Since Quarter 1, 2011 the national facility-level mean and median scores have trended steadily downward since the adoption of the MDS 3.0, both decreasing almost monotonically, indicating an overall improvement in performance among providers over time. The mean score for this measure was 4.4% in Quarter 1, 2011, and the median score was 3.7%. In Quarter 3, 2018, the mean and median scores were 2.2% and 1.7%, respectively.

SOURCE: RTI analysis of Q1, 2011 – Q3, 2018 MDS 3.0 data (programming reference: RN27_47\RN18_request_686_add_31_32.log, RN18\RN18_request_686.log)

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.

This is not applicable. The data are not estimates based on samples; rather, the data include all long-stay nursing home residents nationally who do not meet exclusion criteria.

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.

Current Measure Performance:

We used national Minimum Data Set (MDS) 3.0 data to create the long-stay nursing home resident episode file for Quarter 3, 2018, to examine whether there may be disparities in care for population groups related to this measure. Disparities for certain population groups would indicate gaps in care and opportunities for improvement. In Quarter 3, 2018 there were 15,241 eligible facilities containing 1,118,025 residents eligible for inclusion in the measure (before applying sample size restrictions and without excluding residents that do not have a prior and target assessment); 14,374 facilities (94.3%) containing 1,041,783 residents (93.2%) had sufficient sample sizes (20 or more long-stay residents included in the denominator) to report on this measure after applying all measure exclusion criteria and facility sample size restrictions.

We address the issue of disparities for this measure by examining whether there are differences in catheter use rates for population groups that may reflect disparities in care, such as for population groups with social risk factors. At the resident-level, we examined potential sex (male versus female), race/ethnic (non-Hispanic white versus non-white), insurance status (Medicaid versus non-Medicaid), and age (85 or above versus less than 85) disparities at the resident level by identifying the frequency and proportion of residents across each disparities category who have/had a catheter inserted and left in their bladder.

Referring to the table below, differences in triggering the numerator for NQF #0686 across each disparities category were statistically significant ($p < 0.001$). While the absolute percentages of triggering the numerator are small among each resident characteristic, the differences between most subpopulations within a disparities category are relatively large. For residents aged 85 years or older, 1.8% have/had a catheter inserted and left in their bladder, compared to 2.4% of younger residents ($\chi^2(1) = 474.8$, $p < 0.001$). Whereas 3.3% of the male residents have/had a catheter inserted and left in their bladder, 1.6% of the female residents have/had a catheter inserted ($\chi^2(1) = 3,200$, $p < 0.001$). Among residents who are eligible for Medicaid, 2.0% have/had a catheter inserted and left in their bladder and, among those ineligible for Medicaid, 3.0% have/had a catheter inserted ($\chi^2(1) = 472.3$, $p < 0.001$). Alternatively, the difference across race/ethnicity subpopulations is relatively small. Among residents who are non-Hispanic white, 2.1% have/had a catheter inserted and left in their bladder and, among residents who are non-white, 2.3% have/had a catheter inserted ($\chi^2(1) = 33.7$, $p < 0.001$).

The table below presents frequencies and percentages by disparity group. Residents who were younger, male, non-Medicaid eligible, and identified as non-white were more likely to have a catheter inserted and left in their bladder when compared against their counterparts. For males, this finding was expected.

NQF #0686 Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay) by Social Risk Factors
Resident characteristic (% of all long stay residents) Frequency of residents who have/had a catheter inserted and left in their bladder Percentage of residents who have/had a catheter inserted and left in their bladder Pearson chi2 P-value

Age (1,033,727)

= 85 (39.93%) 7,383 1.8% <0.001

< 85 (60.07%) 15,066 2.4%

Gender (1,033,727)

Male (34.10%) 11,601 3.3% <0.001

Female (65.90%) 10,848 1.6%

Medicaid (947,084)

Medicaid (88.31%) 16,378 2.0% <0.001

Non-Medicaid (11.69%) 3,265 3.0%

Race/ethnicity (1,033,727)

Non-Hispanic white (73.67%) 16,160 2.1% <0.001

Non-white (26.33%) 6,289 2.3%

Source: RTI analysis of Q3, 2018 MDS 3.0 Data (programming reference: LIC67/LIC09_request_686_31_32_rev.log)

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

This is not applicable; performance data provided in 1b.4.

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):

Genitourinary (GU)

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

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

Elderly, Populations at Risk, 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.)

<http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIQualityMeasures.html>;

please see “MDS 3.0 QM User’s Manual” in the “User’s Manuals” zipped folder in the Downloads section at the bottom of the page

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)

No data dictionary Attachment:

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.

No, this is not an instrument-based measure Attachment:

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.

Not an instrument-based measure

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.

This is not applicable; no changes have been made to the measure specifications since the last submission.

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).

The numerator is the number of long-stay nursing home residents in the denominator sample with an episode during the selected quarter with a target assessment that indicates the use of indwelling catheters within the last seven days.

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).

The numerator is the number of long-stay nursing home residents in the denominator sample with an episode during the selected quarter with a target assessment that indicates the use of indwelling catheters within the last seven days (H0100A = [1]). For every calendar quarter (3-month period), the Centers for Medicare & Medicaid Services (CMS) select episodes for long-stay residents during that quarter from each nursing home and use the target assessment from that episode to calculate the measure. For any resident with multiple episodes of care during the quarter, only the latest episode will be counted. A target assessment is defined as the latest assessment that meets the following criteria: (a) it is contained within the resident's selected episode, (b) it has a qualifying reason for assessment, and (c) its target date is no more than 120 days before the end of the episode.

Residents are counted in the numerator if they are long-stay residents, defined as residents who have had 101 or more cumulative days of nursing home care. Residents who return to the nursing home following a hospital discharge will not have their cumulative days in facility reset to zero.

The target population includes all long-stay residents with a target assessment (assessments may be an OBRA admission, quarterly, annual or significant change/correction assessment (A0310A = [01, 02, 03, 04, 05, 06]); or PPS 5-, 14-, 30-, 60-, 90-day assessments (A0310B = [01, 02, 03, 04, 05]); or discharge assessment with or without anticipated return (A0310F = [10, 11])), except those with exclusions (specified in S.8 and S.9).

An episode is defined as a period of time spanning one or more stays. An episode begins with an admission and ends with either (a) a discharge, or (b) the end of the target period, whichever comes first. Data are publicly reported on the Nursing Home Compare website and are weighted on an average of four target periods.

S.6. Denominator Statement (Brief, narrative description of the target population being measured)

The denominator includes all long-stay residents in the nursing home who have an episode during the selected quarter with a qualifying target assessment (OBRA, PPS, or discharge assessment) and who do not meet the exclusion criteria.

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).

Residents are counted in the denominator if they are long-stay residents, defined as residents who have had 101 or more cumulative days of nursing home care. Residents who return to the nursing home after a hospital discharge will not have their cumulative days in facility reset to zero. The target population includes all long-stay residents with a target assessment during the selected quarter (assessments may be an OBRA admission, quarterly, annual or significant change/correction assessment (A0310A = 01, 02, 03, 04, 05, 06); or PPS 5-, 14-, 30-, 60-, 90-day assessments (A0310B = 01, 02, 03, 04, 05); or discharge assessment with or without anticipated return (A0310F = 10, 11)), except for those who meet the exclusion criteria (specified in S.8 and S.9).

A description of the time period for the data included in this measure is provided in S.5 above.

S.8. Denominator Exclusions (Brief narrative description of exclusions from the target population)

The denominator exclusion criteria for this quality measure are as follows: 1) The target assessment is an admission assessment, a PPS 5-day assessment or a PPS readmission/return assessment; 2) The target assessment indicates that indwelling catheter status is missing; 3) The target assessment indicates neurogenic bladder or neurogenic bladder status is missing; or 4) The target assessment indicates obstructive uropathy or obstructive uropathy status is missing.

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.)

If the target assessment is an admission assessment (A0310A = [01]), PPS 5-day assessment (A0310B = [01]) or PPS readmission/return anticipated assessment (A0310B = [06]), the resident is excluded.

A resident is also excluded if any of the following conditions are true:

- 1) Target assessment indicates that indwelling catheter status is missing (H0100A = [-]).
- 2) Target assessment indicates neurogenic bladder (I1550 = [1]) or neurogenic bladder status is missing (I1550 = [-]).
- 3) Target assessment indicates obstructive uropathy (I1650 = [1]) or obstructive uropathy status is missing (I1650 = [-]).

If the facility sample includes fewer than 20 residents after all other resident-level exclusions are applied, then the facility is suppressed from public reporting because of small sample size.

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.)

This is not applicable; this measure is not stratified.

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 = Lower 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.)

This measure is risk-adjusted for bowel incontinence and pressure ulcers at Stage II, III, or IV using a logistic regression. The measure is calculated as follows:

Step 1: Identify the total number of long-stay residents who do not meet the exclusion criteria, with a selected target assessment (OBRA, PPS, or discharge) during the quarter.

Step 2: Calculate the facility-level observed score (steps 2a through 2b below).

Step 2a: Starting with the set of residents identified in Step 1, determine the total number of long-stay residents with a selected target assessment that meets the numerator inclusion criteria (H0100A = [1]).

Step 2b: Calculate the facility observed score by dividing the results of step 2a by the results of step 1

Step 3: Calculate the national observed score by averaging the scores derived in step 2b across all facilities.

Step 4: Calculate the expected resident score for each resident (steps 4a and 4b below)

Step 4a: Assign covariate values, either '0' for covariate condition not present or '1' for covariate condition present, for the residents included in the denominator for each of the two covariates (bowel incontinence and presence of pressure ulcers) based on the resident's prior assessment and run the logistic regression model.

Specifically, the covariates are calculated as follows:

For the variable identifying frequent bowel incontinence on prior assessment (H0400 = [2, 3]):

1. Covariate = [1] if H0400 = [2, 3];

2. Covariate = [0] if H0400 = [0, 1, 9, -]

For the variable identifying pressure ulcers at stage II, III, or IV on prior assessment:

1. Covariate = [1] if any of the following are true:

a. M0300B1 = [1, 2, 3, 4, 5, 6, 7, 8, 9], or

b. M0300C1 = [1, 2, 3, 4, 5, 6, 7, 8, 9], or

c. M0300D1 = [1, 2, 3, 4, 5, 6, 7, 8, 9].

2. Covariate = [0] if the following is true:

a. M0300B1 = [0, -, ^] and

b. M0300C1 = [0, -, ^] and

c. M0300D1 = [0, -, ^].

*All covariates are missing if no prior assessment is available.

The logistic regression model is of the form:

[Equation 1] QM triggered (yes=1, no=0) = $B_0 + B_1 \cdot COVA + B_2 \cdot COVB$

Where:

B0 is the logistic regression constant ($B_0 = -4.054929$),

B1 is the logistic regression coefficient for the first covariate, bowel incontinence ($B_1 = 0.503225$),

COVA is the resident-level score for the first covariate (0 or 1),

B2 is the logistic regression coefficient for the second covariate, pressure ulcers at stage II, III, or IV ($B_2 = 2.200337$, and

COVB is the resident-level score for the second covariate (0 or 1)

Step 4b: Calculate the expected resident score for each resident with the following formula:

[Equation 2] Resident-level expected QM score = $1 / [1 + e^{-x}]$

Where e is the base of natural logarithms and x is a linear combination of the constant and the logistic regression coefficients times the covariate scores (from Equation [1], above). A covariate score will be 1 if the covariate is triggered for that resident, and 0 if the covariate is not triggered.

Step 5: Calculate the facility-level expected QM score by averaging all resident-level expected scores derived in step 4b.

Step 6. Calculate the facility-level adjusted score based on the:

- facility-level observed QM score (step 2b),
- facility-level expected QM score (step 5), and
- national average observed QM score (step 3).

The calculation of the adjusted score uses the following equation:

[Equation 3] Adj = $1 / [1 + e^{-y}]$

where

Adj is the facility-level adjusted QM score, and

$$y = (\ln(\text{Obs}/(1-\text{Obs}) - \ln(\text{Exp}/(1-\text{Exp}) + \ln(\text{Nat}/(1-\text{Nat})))$$

Obs is the facility-level observed QM rate,

Exp is the facility-level expected QM rate,

Nat is the national observed QM rate (Nat = 0.028926), and

Ln indicates a natural logarithm.

e is the base of natural logarithms

RTI International. (2019). Analysis of Q3, 2018 MDS 3.0 data (programming reference: rn27_47\JC10_request_q2829_686.log)

Reference: The Centers for Medicare & Medicaid Services (CMS) (January 2019). MDS 3.0 Quality Measures User's Manual. RTI International, Waltham, MA. Accessed at:

<http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQQualityMeasures.html>;

please see "MDS 3.0 QM User's Manual" in the "User's Manuals" zipped folder in the Downloads section at the bottom of the page.

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.

This is not applicable. The data are not estimates based on samples; rather, the data include all long-stay nursing home residents nationally who do not meet exclusion criteria.

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.

This is not applicable; this measure is not based on survey/patient-reported data.

S.17. Data Source (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.18.

Assessment 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 data source is the Minimum Data Set (MDS) 3.0, and the collection instrument is the Resident Assessment Instrument (RAI) version 1.15.

For MDS 3.0 item sets used to calculate the quality measure, refer to: <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIMDS30TechnicalInformation.html>

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)

Post-Acute 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.)

This is not applicable; this is not a composite performance measure.

2. Validity – See attached Measure Testing Submission Form

0686_MeasureTesting_MS5.0_Data.doc,NQF_0686_Catheter_Testing_Form_Final_7-22-19-636997438877755033.docx

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).

This is not applicable; all data elements used to calculate the measure are in defined fields in electronic clinical data. There are no current efforts to develop this measure as an eMeasure.

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.

The general data collection method for the MDS 3.0 is currently operational and mandatory for all Medicare/Medicaid certified nursing homes; no issues are anticipated.

CMS provides coding directions for bowel and bladder items in the MDS 3.0 via the RAI Manual and other mediums, such as this YouTube video explaining the MDS 3.0 coding of Section H.

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).

This is 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) |
|-----------------------|---|
| | |

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

? Public Reporting:

? Program and sponsor: Nursing Home Compare/CMS

? Purpose: Consumer information on performance

? Geographic area and number and percentages of accountable entities and residents included: All United States

Medicare/Medicaid-certified nursing homes with eligible long-stay residents. In Quarter 3, 2018 there were 15,241 eligible facilities containing 1,118,025 residents eligible for inclusion in the measure (before applying sample size restrictions and without excluding residents that do not have a prior and target assessment); 14,374 facilities (94.3%) containing 1,041,783 residents (93.2%) had sufficient sample sizes (20 or more long-stay residents included in the denominator) to report on this measure after applying all measure exclusion criteria and facility sample size restrictions.

? Quality Improvement with Benchmarking (external benchmarking to multiple organizations):

? Program and sponsor: CASPER/CMS
? Purpose: Quality improvement
? Geographic area and number and percentages of accountable entities and residents included: All United States Medicare/Medicaid certified nursing homes with eligible long-stay residents. In Quarter 3, 2018 there were 15,241 eligible facilities containing 1,118,025 residents eligible for inclusion in the measure (before applying sample size restrictions and without excluding residents that do not have a prior and target assessment).

? Quality Improvement (Internal to the specific organization):

? Program and sponsor: CASPER /CMS
? Purpose: Quality improvement
? Geographic area and number and percentages of accountable entities and residents included: All United States Medicare/Medicaid certified nursing homes with eligible long-stay residents. In Quarter 3, 2018 there were 15,241 eligible facilities containing 1,118,025 residents eligible for inclusion in the measure.

SOURCE: RTI analysis of Q3, 2018 MDS 3.0 data (programming reference: ljc67\ljc09_request_686_31-32_rev.log; rn27_47\ac362_request_q3132_686.log)

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?)

This is not applicable; this measure is publicly reported.

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.)

This is not applicable; this measure is publicly reported.

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.

This quality measure (NQF #0686, Percent of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay)) is part of the Nursing Home Quality Initiative (NHQI). Information on this measure is available to both nursing home providers and to the public.

All United States Medicare and/or Medicaid certified nursing home providers may view their performance results for this and other NHQI measures via the Certification and Survey Provider Enhanced Reports (CASPER) system. These CASPER MDS 3.0 QM reports are intended to provide nursing home providers with feedback on their quality measure scores, helping them to improve the quality of care delivered to their residents. CASPER MDS 3.0 reports also include Resident-Level Quality Measure Reports, which allow providers to identify the residents that trigger a particular quality measure (by scanning a column of interest and looking for the residents with an "X") and to identify residents who trigger multiple quality measures. Providers can use this information to target residents for quality improvement activities. Quality measure reports are also available to state surveyors and facility staff through the CASPER reporting system.

Consumers, including current and prospective nursing home residents and their families/caregivers, may access nursing home performance scores on this quality measure via the Nursing Home Compare website (<https://www.medicare.gov/NursingHomeCompare/About/nhcinformation.html>).

CMS also publishes composite quality ratings on Nursing Home Compare via the Five-Star Rating System.

Further, providers have an opportunity to review their performance prior to public reporting on the Nursing Home Compare website via Provider Preview Reports, also available through the CASPER system. These reports allow providers to view their quality measure scores for each NHQI measure, along with state and national averages for comparison, to identify potential errors in data

submission or other information and request an update. These reports also allow providers to view their Five-Star rating. Detailed instructions on how to view and interpret reports, including an explanation of differences between the quality measure reports and publicly reported information, are provided in the CASPER Reporting MDS Provider Users Guide, Section 11, which can be found at the following website: https://qtso.cms.gov/system/files/qtso/cspr_sec11_mds_prvdr_0.pdf

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.

The CASPER reports are available to providers on-demand with quality measure data updated monthly. Nursing Home Compare reports the rolling average of four quarters for the quality measure, comparing each nursing home's score to both the state and national average; providers can preview this information before it is publicly reported.

Detailed instructions on how to view and interpret reports, including an explanation of differences between the quality measure reports and publicly reported information, are provided in the CASPER Reporting MDS Provider Users Guide, Section 11, at the following website: https://qtso.cms.gov/system/files/qtso/cspr_sec11_mds_prvdr_0.pdf

CMS provides technical users' guides (<https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/Downloads/usersguide.pdf>) on how the quality measures are used in the 5-star rating system, as well as a Help Line, which is accessible by telephone and email, to answer provider questions about the NHQI quality measures and reporting requirements.

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.

CMS is committed to receiving ongoing feedback on measures implemented as part of the NHQI. CMS takes into consideration feedback and input on measure performance and implementation through the appropriate sub-regulatory communication channels, including but not limited to: NQF public comment periods held as part of endorsement processes; feedback from providers on the Nursing Home Compare Help Desk and feedback from the provider community on Open Door Forums (ODFs).

To ensure the continued value and efficacy of the measure, RTI convened a Technical Expert Panel (TEP) to obtain input from providers, residents, and caregivers on the importance, validity, and use of two nursing home quality measures: (1) Percentage of Residents with a Urinary Tract Infection (Long Stay) (NQF #0684); and (2) Percentage of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay) (NQF #0686). The following paragraph outlines how TEP members were recruited and supporting documentation they received to facilitate discussion during the web-based TEP meeting.

On February 12, 2019, RTI posted a Call for TEP Nominations and a TEP Nomination Form on the CMS website to initiate recruitment of TEP members. At the close of the nomination period, RTI finalized the TEP composition by selecting 11 nominees who offered a diverse range of experience, including genitourinary health and care in older adults and nursing homes, consumer perspectives, health care disparities, performance measurement, quality improvement, and purchaser perspective. Before the TEP meeting, the TEP members received materials to review and complete to prepare for the discussion. Included in these materials was a pre-TEP survey and supplementary materials to assess the TEP members' initial thoughts on the two measures. The pre-TEP survey asked for TEP members' input on focus areas, including the importance, validity, and current use of the two measures. Responses from all TEP members were received before the TEP meeting. De-identified feedback from the TEP members was presented during the TEP meeting on May 23, 2019 and used to inform discussion topics for the TEP meeting.

SOURCE: RTI International. (2019, June). Technical Expert Panel Summary Report: Maintenance of Nursing Home Quality Measures Prepared under CMS Contract No. HHSM-500-2013-13015I.

4a2.2.2. Summarize the feedback obtained from those being measured.

In a pre-TEP survey, TEP members were asked to rate the importance of NQF #0686 on a scale from 1-5 (higher scores are better) based on the following criteria: is an established priority area (National Quality Strategy); addresses a demonstrated high-impact aspect of health care (e.g., affects large numbers); has external evidence of importance, such as consensus standards; and has evidence of disparities for the quality domain. 6 out of 10 TEP members rated this measure as "very important" (rating it a 4 or 5), noting that this measure is important to facilitate quality improvements in nursing homes by bringing continued attention to catheterization rates and working towards timely removal of catheters and reducing catheter use where possible. This measure was

also described as tracking a critical health outcome and noted the importance of having this measure for educational opportunities so that nursing homes can take actionable improvements in the care offered to residents.

Other TEP members also noted that they use this QM to track facility performance and this measure serves as an opportunity to educate clinical staff about the impact catheter use has on residents' health outcomes and quality of life. This measure also encourages providers to focus on continence care and reduce catheterization for convenience or without clinical justification. TEP members expressed concerns that removing the measure from Nursing Home Compare would lead to an increase in unnecessary catheterizations as nursing homes would be more likely to focus their attention on other care domains that are publically reported.

RTI also sought input on the measure's validity (i.e., that the measure "produces credible (valid) results about the quality of care when implemented"), including feedback on potential measure modifications and whether risk adjustment for social risk factors would be appropriate, in the context of maintaining or improving the validity of this quality measure, in addition to the current risk adjustment applied to this QM for clinical risk factors via exclusions and a statistical model using certain items as covariates. In particular, RTI asked about gender, age, Medicaid coverage, and race/ethnicity as social risk factors for indwelling catheter placement among low-risk nursing home residents.

TEP members affirmed clear support for this measure's validity and there was broad support for maintaining the current risk adjustment model to avoid making the risk adjustment model too complex. The TEP members also reached consensus that there was no evidence for including any of the social risk factors in the risk adjustment model and the current exclusions are appropriate. In addition, other TEP members explained that additional risk-adjustment could obscure areas for performance improvement in this quality domain.

Other TEP members inquired about the rates of missing data to determine if that may reduce the validity of the measure. However, missing data on any of the items used to calculate this measure are rare and the average facility missing rate of 0.037% demonstrates that missing data do not present a threat to the measure's validity. Last, one TEP member expressed concerns that the measure "...could be construed as somewhat burdensome" because facilities might not modify an MDS assessment for a long-stay resident when a catheter is removed. Although data element validity warrants continued monitoring and this may be an opportunity for provider training, there was no evidence of this found during the MDS 3.0 pilot testing of these items. Other TEP members also pointed out that this should not be an issue given the way the measure is constructed. For example, when a long-stay resident's catheter is removed, if the episode is ongoing, this will be captured on the next quarterly assessment and the resident will no longer be triggering the numerator criteria.

SOURCE: RTI International. (2019, June). Technical Expert Panel Summary Report: Maintenance of Nursing Home Quality Measures Prepared under CMS Contract No. HHSM-500-2013-13015I.

4a2.2.3. Summarize the feedback obtained from other users

This is not applicable; additional feedback was not received from other users.

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.

Feedback described in 4a2.2.2. demonstrates that TEP members viewed the measure favorably with respect to importance, usability and use, and validity. Based on our synthesis of the literature, empirical testing using MDS 3.0 data, and TEP feedback, we assert that changes to the specifications or use of this measure are not warranted at this time. We will continue to monitor stakeholder feedback and conduct environmental scans to support comprehensive review and evaluation of the measure. We will also continue to monitor catheter-associated guidelines to determine if updates or changes affect the measure's performance from one quarter to the next. CMS will continue to take all feedback into account for future measure refinement.

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.

Progress (trends in performance results, number and percentage of people receiving high-quality healthcare)

? Figure A1 in the appendix presents trend of the national mean and median for this measure across all available quarters (Q1 2011 – Q3 2018). The national facility-level mean and median scores have trended steadily downward since Q1 2011, indicating a general improvement in performance over time. The mean score for this measure was 4.39% in Quarter 1 of 2011 and the median score was 3.74%, demonstrating a positively skewed distribution from many high performing facilities. In Quarter 3 of 2018, the mean and median were 2.24% and 1.66%, respectively.

Geographic area and number and percentages of accountable entities and patients included:

? United States Medicare/Medicaid certified nursing homes with eligible long-stay residents. In Quarter 3, 2018 there were 15,241 eligible facilities containing 1,118,025 residents eligible for inclusion in the measure (before applying sample size restrictions and without excluding residents that do not have a prior and target assessment); 14,374 facilities (94.3%) containing 1,041,783 residents (93.2%) had sufficient sample sizes (20 or more long-stay residents included in the denominator) to report on this measure after applying all measure exclusion criteria and facility sample size restrictions.

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.

There were no unexpected findings during the testing process of NQF #0686.

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

There were no unexpected benefits during the testing process of NQF #0686.

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.

No

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

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.

N/A

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.)

N/A – there are no competing measures for NQF #0686.

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.

No appendix Attachment:

Contact Information

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

Co.2 Point of Contact: Carol, Schwartz, Carol.Schwartz@cms.hhs.gov, 410-786-0576-

Co.3 Measure Developer if different from Measure Steward: Acumen LLC

Co.4 Point of Contact: Michael, Collier, mcollier@sphereinstitute.org, 650-558-8882-1268

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.

Barbara Anglin, RN

Program Services Consultant

American Association of Nurse Assessment Coordinators (AANAC)

Bonnie Burak-Danielson, MSM, EXP, LPTA

Rehab Manager of Reimbursement

Spaulding Rehab Network

Sarah Burger, MPH, RN, Senior Advisor and Coordinator

Coalition of Geriatric Nursing Organizations

The John A. Hartford Institute for Geriatric Nursing

Diane Carter, MSN, RN, CS

President

AANAC

Kate Dennison, RN, RAC-MT
Minimum Data Set (MDS) Coordinator
The Cedars

Mary Ellard, RN, MPA/H, RAC-CT
Clinical Assessment Specialist
Five Star Quality Care, Inc.

Sandy Fitzler, RN
Senior Director of Clinical Services
American Health Care Association

David F. Hittle, PhD
Assistant Professor, Division of Health Care Policy and Research
University of Colorado Denver, School of Medicine

Steve Levenson, MD, CMD
Multi-Facility Medical Director, Baltimore, MD

Carol Maher, RN-BC, RAC-CT
Director of Clinical Reimbursement
Ensign Facilities Services

Barbara Manard, PhD
Vice President, Long Term Care/Health Strategies
American Association of Homes and Services for the Aging

Debra Saliba, MD, MPH
Anna and Harry Borun Chair in Geriatrics and Gerontology at UCLA
Research Physician VA GLAHS GRECC
Director of UCLA/JHA Borun Center for Gerontological Research
Senior Natural Scientist RAND Health
University of California, Los Angeles (UCLA), Veterans Affairs (VA), RAND Corporation

Eric Tangalos, MD
Professor of Medicine
Mayo Clinic

Jacqueline Vance, RNC, CDONA/LTC
Director of Clinical Affairs
American Medical Directors Association (AMDA)

Mary Van de Kamp, MS/CCC-SLP
Vice President, Clinical Rehabilitation
Peoplefirst Rehabilitation

Charlene Harrington, PhD, RN, FAAN*
Professor Emeritus
University of California, San Francisco
Fellow in the American Academy of Nursing

This technical expert panel met over two days in January 2009 to review an environmental scan of the current quality measures and to make recommendations regarding their transition from MDS 2.0 to MDS 3.0 and to assess measure reliability and validity.

In addition, to ensure the continued value and efficacy of the measure, RTI convened a Technical Expert Panel (TEP) on May 23, 2019, to obtain input from providers, residents, and caregivers on the importance, validity, and use of two nursing home quality measures: (1) Percentage of Residents with a Urinary Tract Infection (Long Stay) (NQF #0684); and (2) Percentage of Residents Who Have/Had a Catheter Inserted and Left in Their Bladder (Long Stay) (NQF #0686). The TEP report, including TEP member biographies, is available online at <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/TEP-Current-Panels.html>.

RTI International (2009). Transition of Publicly Reported Nursing Home Measures to MDS 3.0 Draft Technical Expert Panel Report.

RTI International. (2019, June). Technical Expert Panel Summary Report: Maintenance of Nursing Home Quality Measures Prepared under CMS Contract No. HHSM-500-2013-13015I. Available at <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/TEP-Current-Panels.html>.

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released: 2011

Ad.3 Month and Year of most recent revision: 04, 2016

Ad.4 What is your frequency for review/update of this measure? Endorsement maintenance every 3 years; annual maintenance every year.

Ad.5 When is the next scheduled review/update for this measure? 08, 2020

Ad.6 Copyright statement: This is not applicable.

Ad.7 Disclaimers: This is not applicable.

Ad.8 Additional Information/Comments: This is not applicable. No changes have been made to the measure specifications since the last endorsement.