

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).

Mollie Rebecca Cummins. 2018. "Predicting Pressure Injury in Critical Care Patients: A Machine-Learning Model." *American Journal of Critical Care* 27 (6): 461–68. <https://doi.org/10.4037/ajcc2018525>.

Refer to footnote 1

Bauer, Karen, Kathryn Rock, Munier Nazzal, Olivia Jones, and Weikai Qu. 2016. "Pressure Ulcers in the United States' Inpatient Population from 2008 to 2012: Results of a Retrospective Nationwide Study." *Ostomy Wound Management* 62 (11): 30–38.

Chen, Hong-Lin, Ying-Juan Cao, Wang-Qin Shen, and Bin Zhu. 2017. "Construct Validity of the Braden Scale for Pressure Ulcer Assessment in Acute Care: A Structural Equation Modeling Approach." *Ostomy Wound Management* 63 (2): 38–41.

Demarre, Liesbet, Sofie Verhaeghe, Ann Van Hecke, Els Clays, Maria Grypdonck, and Dimitri Beeckman. 2015. "Factors Predicting the Development of Pressure Ulcers in an At-Risk Population Who Receive Standardized Preventive Care: Secondary Analyses of a Multicentre Randomised Controlled Trial." *Journal of Advanced Nursing* 71 (2): 391–403. <https://doi.org/10.1111/jan.12497>.

Jaul, Efraim, Jeremy Barron, Joshua P. Rosenzweig, and Jacob Menczel. 2018. "An Overview of Co-Morbidities and the Development of Pressure Ulcers among Older Adults." *BMC Geriatrics* 18 (1): 305. <https://doi.org/10.1186/s12877-018-0997-7>.

Kwok, Alvin C., Andrew M. Simpson, James Willcockson, Daniel P. Donato, Isak A. Goodwin, and Jayant P. Agarwal. 2018. "Complications and Their Associations Following the Surgical Repair of Pressure Ulcers." *American Journal of Surgery* 216 (6): 1177–81. <https://doi.org/10.1016/j.amjsurg.2018.01.012>.

Sprigle, Stephen, Douglas McNair, and Sharon Sonenblum. 2020. "Pressure Ulcer Risk Factors in Persons with Mobility-Related Disabilities." *Advances in Skin and Wound Care* 33 (3): 146–54. <https://doi.org/10.1097/01.ASW.0000653152.36482.7d>.

S.4. Numerator Statement: The numerator is the number of long-stay residents identified as high-risk with a selected MDS 3.0 target assessment (OBRA quarterly, annual or significant change/correction assessments or discharge assessment with or without return anticipated) in an episode during the selected target quarter reporting one or more Stage II-IV or unstageable pressure ulcer(s) at the time of assessment. . High-risk residents are those who are comatose (B0100 = [1]), or impaired in bed mobility (G0110A1 = [3, 4, 7, 8]) or transfer (G0110B1 = [3, 4, 7, 8]), or either experiencing malnutrition or at risk for malnutrition (I5600 = [1]). Unstageable pressure ulcers are pressure ulcers that are known to be present but are defined as unstageable due to either a non-removable dressing/device (M0300E1 = [1, 2, 3, 4, 5, 6, 7, 8, or 9]), slough or eschar (M0300F1 = [1, 2, 3, 4, 5, 6, 7, 8, or 9]), or a suspected deep tissue injury (M0300G1 = [1, 2, 3, 4, 5, 6, 7, 8, or 9]).

S.6. Denominator Statement: The denominator includes all long-stay nursing home residents who had a target assessment (OBRA, PPS, or discharge) during the selected quarter who were identified as high risk for pressure ulcer, and who do not meet the exclusion criteria.

S.8. Denominator Exclusions: A resident is excluded from the denominator if:

1. The target MDS assessment is an OBRA admission assessment or a PPS 5-day assessment or a PPS readmission/return assessment.
2. The resident did not meet the pressure ulcer conditions for the numerator and any Stage II, III, IV, or unstageable item is missing (M0300B1 = [-] or M0300C1 = [-] or M0300D1 = [-] or M0300E1 = [-] or M0300F1 = [-] or M0300G1 = [-]).

If the facility sample includes fewer than 20 residents, then the facility is excluded from public reporting because of small sample size.

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:** Dec 09, 2015

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 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**

of Pressure Ulcers among Older Adults.” BMC Geriatrics 18 (1): 305. <https://doi.org/10.1186/s12877-018-0997-7>.

Kwok, Alvin C., Andrew M. Simpson, James Willcockson, Daniel P. Donato, Isak A. Goodwin, and Jayant P. Agarwal. 2018. “Complications and Their Associations Following the Surgical Repair of Pressure Ulcers.” American Journal of Surgery 216 (6): 1177–81. <https://doi.org/10.1016/j.amjsurg.2018.01.012>.

Sprigle, Stephen, Douglas McNair, and Sharon Sonenblum. 2020. “Pressure Ulcer Risk Factors in Persons with Mobility-Related Disabilities.” Advances in Skin and Wound Care 33 (3): 146–54. <https://doi.org/10.1097/01.ASW.0000653152.36482.7d>.

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 performance: Table 7 of the NQF Testing Form describes the national facility score distribution for Percent of High Risk Residents with Pressure Ulcers. The facility-level mean score for this measure in Quarter 4 (Q4) of 2019 was 7.5% and the median score was 6.8%. The standard deviation was 5.1%, the minimum was 0%, and score at the 90th percentile was 14.0%. The interquartile range for this measure was 6.4%, indicating room for improvement on this measure. Of the facilities with adequate sample size to report, 8.0% had perfect scores of 0. This analysis is restricted to facilities that had at least 20 residents in the denominator, the minimum denominator threshold for public reporting. In Q4 2019, there were 13,219 facilities (87.5%) and 749,950 residents (97.0%) that met the denominator inclusion criteria.

n (Facilities): 13,219

k (Residents): 749,950

Mean score: 7.5%

Std dev.: 5.1%

10th percentile: 1.7%

25th percentile: 3.8%

50th percentile: 6.8%

75th percentile: 10.3%

90th percentile: 14.0%

Interquartile range: 6.4%.

% of facilities with “perfect scores”: 8.0%

Performance Over Time: The national facility-level mean and median scores for the Percent of High Risk Residents with Pressure Ulcers demonstrate slight seasonal variation, with mean and median scores being higher in Quarter 1 and lower in Quarter 4 each year (Figure 1 of NQF Testing Form). Overall, the national facility-level mean and median scores have decreased marginally and indicate a slight improvement in performance over time. The mean score for this measure was 7.53% in quarter 4 of 2017 and the median score was 6.90%. In Q4 2019, the mean and median were 7.45% and 6.82%, respectively. (Data Source: Data are drawn from all United States Nursing Homes with Medicare certified beds and a minimum of 20 long-stay residents in their denominator.)

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 (data are available and described in 1b.2).

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.

Age

To examine whether facilities with higher percentages of residents age 85 or older have different performance scores for LS PUs, analyses were completed comparing the performance of facilities based on their percentage of residents aged 85 or older and residents below the age of 85. First, the percentage of high-risk residents with pressure ulcers was stratified by age. Residents below the age of 85 represented the highest mean (8.4%) followed by residents aged 85 or older (6.3%). Next, a 2-way chi-squared test for

statistical dependence was run that assessed the association between quality measure score and age. The results were significant ($p < .0001$) indicating that there is a statistically significant relationship between age and QM score for the measure. The results suggested that residents below the age of 85 are at higher risk for experiencing pressure ulcers than residents aged 85 years or older.

Race

To examine whether facilities with higher percentages of non-White residents have different performance scores for LS PUs, analyses were completed comparing the performance of facilities based on their percentage of White only and non-White residents. First, the percentage of high-risk residents with pressure ulcers was stratified by racial identification. Black or African American residents represented the highest mean (9.92%), followed by Hispanic or Latino residents (7.44%), and White residents (6.99%). Next a 2-way chi-squared test for statistical dependence was run that assessed the association between quality measure score and race/ethnicity. The results were significant ($p < .0001$) indicating that there is a statistically significant relationship between racial composition and QM score. The results suggested that the non-White population (9.0%) is at higher risk for experiencing pressure ulcers than the White only population (7.0%).

Socioeconomic status

To examine whether facilities with higher percentages of Medicaid-enrolled residents have different performance scores for LS PUs, analyses were completed comparing the performance of facilities based on their percentage of Medicaid-enrolled residents and residents not enrolled in Medicaid. First, the percentage of high-risk residents with pressure ulcers was stratified by Medicaid enrollment. Residents not enrolled in Medicaid represented the highest mean (8.48%), followed by Medicaid-enrolled residents (7.20%), indicating there are more high-risk residents not enrolled in Medicaid who experience pressure ulcers than Medicaid-enrolled high-risk residents. Next a 2-way chi-squared test for statistical dependence was run that assessed the association between quality measure score and Medicaid enrollment. The results were significant ($p < .0001$) indicating that there is a statistically significant relationship between Medicaid enrollment and QM score for this measure. The results suggested that the non-Medicaid population (8.2%) is at higher risk for experiencing pressure ulcers than the Medicaid population (7.4%), indicating there is a relationship between socioeconomic status and prevalence of pressure ulcers among high risk long-stay residents.

SOURCE: Acumen analysis of Q4 2019 MDS 3.0 data

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.

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):

Primary Prevention, Safety, Safety : Complications

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-v14.0.pdf" in the "Users-Manuals-Updated-10-19-2020.zip" zipped folder in the Downloads

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.

Attachment Attachment: [mds-3.0-rai-manual-v1.17.1_october_2019-637453804297029010.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.

There have been no changes to the measure specifications since the last measure update.

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 residents identified as high-risk with a selected MDS 3.0 target assessment (OBRA quarterly, annual or significant change/correction assessments or discharge assessment with or without return anticipated) in an episode during the selected target quarter reporting one or more Stage II-IV or unstageable pressure ulcer(s) at the time of assessment. . High-risk residents are those who are comatose (B0100 = [1]), or impaired in bed mobility (G0110A1 = [3, 4, 7, 8]) or transfer (G0110B1 = [3, 4, 7, 8]), or either experiencing malnutrition or at risk for malnutrition (I5600 = [1]). Unstageable pressure ulcers are pressure ulcers that are known to be present but are defined as unstageable due to either a non-removable dressing/device (M0300E1 = [1, 2, 3, 4, 5, 6, 7, 8, or 9]), slough or eschar (M0300F1 = [1, 2, 3, 4, 5, 6, 7, 8, or 9]), or a suspected deep tissue injury (M0300G1 = [1, 2, 3, 4, 5, 6, 7, 8, or 9]).

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).

Residents are counted in the numerator if they are long-stay residents, defined as residents whose length of stay is 101 days or more, and identified as at high risk for pressure ulcer(s). Residents who return to the nursing home following a hospital discharge may not have their length of stay within the episode of care reset to zero. The numerator is the number of long-stay residents with a selected target assessment (OBRA quarterly, annual or significant change/correction assessments or discharge assessment with or

without return anticipated) that meets both of the following conditions:

1. There is a high risk for pressure ulcers, where high-risk is defined in the denominator definition below.
2. Stage II-IV or unstageable pressure ulcers are present, as indicated by any of the following six conditions:
 - 2.1 Current number of unhealed Stage II ulcers (M0300B1) = [1, 2, 3, 4, 5, 6, 7, 8, 9, or more] or
 - 2.2 Current number of unhealed Stage III ulcers (M0300C1) = [1, 2, 3, 4, 5, 6, 7, 8, 9, or more] or
 - 2.3 Current number of unhealed Stage IV ulcers (M0300D1) = [1, 2, 3, 4, 5, 6, 7, 8, 9, or more] or
 - 2.4 Current number of unstageable ulcers due to non-removable dressing/device (M0300E1) = [1, 2, 3, 4, 5, 6, 7, 8, 9, or more] or
 - 2.5 Current number of unstageable ulcers due to wound bed being covered by slough and/or eschar (M0300F1) = [1, 2, 3, 4, 5, 6, 7, 8, 9, or more] or
 - 2.6 Current number of unstageable ulcers presenting as deep tissue injury (M0300G1) = [1, 2, 3, 4, 5, 6, 7, 8, 9, or more]

Stage 1 pressure ulcers are not included in this measure because studies have identified difficulties in objectively measuring them across different populations (Lynn et al., 2007).

Stage 2 pressure ulcer: Partial thickness loss or dermis presenting as shallow open ulcer with red or pink wound bed, without slough. May also present as an intact or open/ruptured blister.

Stage 3 pressure ulcer: Full thickness tissue loss. Subcutaneous fat may be visible but bone, tendon, or muscle is not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining or tunneling.

Stage 4 pressure ulcer: Full thickness tissue loss with exposed bone or tendon, or muscle. Slough or eschar may be present on some parts of the wound bed. Often includes undermining or tunneling.

Non-removable dressing/device: Includes, for example, a primary surgical dressing that cannot be removed, an orthopedic device, or cast.

Slough tissue: Non-viable yellow, tan, gray, green or brown tissue; usually moist, can be soft, stringy and mucinous in texture. Slough may be adherent to the base of the wound or present in clumps throughout the wound bed.

Eschar tissue: Dead or devitalized tissue that is hard or soft in texture; usually black, brown, or tan in color, and may appear scab-like. Necrotic tissue and eschar are usually firmly adherent to the base of the wound and often the sides/ edges of the wound.

Suspected deep tissue injury: Purple or maroon area of discolored intact skin due to damage of underlying soft tissue. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue.

(Target assessments may be OBRA quarterly, annual or significant change/correction assessments (A0310A = 02, 03, 04, 05, 06) or discharge assessment with or without return anticipated (A0310F = 10, 11)).

Reference

1. Lynn J, West J, Hausmann S, Gifford D, Nelson R, McGann P, Bergstrom N, Ryan JA (2007). Collaborative clinical quality improvement for pressure ulcers in nursing homes. *Journal of the American Geriatrics Society*, 55(10), 1663-9.

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

The denominator includes all long-stay nursing home residents who had a target assessment (ORBA, PPS, or discharge) during the selected quarter who were identified as high risk for pressure ulcer, 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 whose length of stay is 101 days or more. Residents who return to the nursing home following a hospital discharge may not have their length of stay within the episode

of care reset to zero. The denominator is the number of long-stay residents with a selected target assessment (assessment types include: a quarterly, annual, significant change/correction admission OBRA assessment (A0310A = 02, 03, 04, 05, 06); or discharge with or without return anticipated (A0310F = 10, 11)) during the selected quarter, except those with exclusions. Residents must be high risk for pressure ulcer where high risk is defined by meeting one of the following criteria on the selected target assessment:

1. Impaired bed mobility or transfer:
 - 1.1 This is indicated by a level of assistance reported on either item G0110A1, Bed mobility (self-performance) or G0110B1 Transfer (self-performance) at the level of: extensive assistance (3), total dependence (4), activity occurred only once or twice (7) OR activity or any part of the ADL was not performed by resident or staff at all over the entire 7 day period (8), or
2. Comatose (B0100 = [1] (yes)), or
3. Malnutrition [protein or calorie] or at risk for malnutrition (I5600 = [1])

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

A resident is excluded from the denominator if:

1. The target MDS assessment is an OBRA admission assessment or a PPS 5-day assessment or a PPS readmission/return assessment.
2. The resident did not meet the pressure ulcer conditions for the numerator and any Stage II, III, IV, or unstageable item is missing (M0300B1 = [-] or M0300C1 = [-] or M0300D1 = [-] or M0300E1 = [-] or M0300F1 = [-] or M0300G1 = [-]).

If the facility sample includes fewer than 20 residents, then the facility is excluded from public reporting because of small sample size.

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.)*

A long-stay resident is excluded from the denominator if the MDS assessment in the current quarter is an OBRA admission assessment or a PPS 5-day assessment:

1. OBRA admission assessment (A0310A = [01]), or
2. 5-Day PPS assessment (A0310B = [01]), or

In addition, a resident is excluded if the resident did not meet the pressure ulcer conditions for the numerator AND any of the following conditions are true:

1. M0300B1 (Current number of unhealed Stage II ulcers) = [-] (missing)
2. M0300C1 (Current number of unhealed Stage III ulcers) = [-] (missing)
3. M0300D1 (Current number of unhealed Stage IV ulcers) = [-] (missing)
4. M0300E1 (Current number of unstageable ulcers due to non-removable dressing/device) = [-] (missing)
5. M0300F1 (Current number of unstageable ulcers due to coverage of wound bed by slough or eschar) = [-] (missing)
6. M0300G1 (Current number of unstageable ulcers with suspected deep tissue injury in evolution) = [-] (missing)

Nursing homes are excluded from public reporting because of small sample size if their sample includes fewer than 20 residents.

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 measure is not stratified.

S.11. Risk Adjustment Type (Select type. Provide specifications for risk stratification in measure testing attachment)

Other

If other: Other: Sample restriction - this measure is restricted to residents who are at high risk for pressure ulcers. Residents are identified as high risk if they meet any of the following three criteria: 1. Impaired in bed mobility or transfer, or 2.

Comatose, or 3. Active diagnosis of malnutrition [protein or calorie] identified, or resident is at risk for malnutrition. (See denominator details for more information) This measure was originally developed as one of a pair of stratified pressure ulcer measures – one low-risk and one high-risk. The low-risk measure is no longer reported or maintained.

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.)

Step 1: For each facility, identify the total number (sum) of high risk long-stay residents with a target assessment meeting the denominator criteria.

Step 2: Starting with the set of residents identified in Step 1, determine the number of high-risk long-stay residents in the numerator (i.e. the total number with stage II, III, IV, or unstageable ulcers at target assessment).

Step 3: Divide the result of Step 2 by the result of Step 1.

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 because the data are not estimated based on samples. Rather, the data include all nursing home residents nationally who do not meet the 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 because 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). For MDS 3.0 item sets used to calculate the quality measure, please see "MDS3.0_Final_Item_Sets_v1.17.2 for October 1 2020 zip (ZIP)" under the "Downloads" section of the following webpage:

<https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/NHQIMDS30TechnicalInformation>

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 because this is not a composite performance measure.

2. Validity – See attached Measure Testing Submission Form

[NQF-0679-Testing-20210408-508.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.

No - This measure is not risk-adjusted

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.

The general data collection method for the MDS 3.0 is currently in operational use and mandatory for all Medicare/Medicaid certified nursing facilities.

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)
	Public Reporting Care Compare https://www.medicare.gov/care-compare/ Provider Data Catalog https://data.cms.gov/provider-data/ Care Compare https://www.medicare.gov/care-compare/ Provider Data Catalog https://data.cms.gov/provider-data/ Quality Improvement (external benchmarking to organizations) Certification And Survey Provider Enhanced Reports (CASPER) https://www.qtso.com/providernh.html Quality Improvement (Internal to the specific organization) Certification And Survey Provider Enhanced Reports (CASPER) https://www.qtso.com/providernh.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

Public Reporting:

- Program and sponsor: Care Compare and Provider Data Catalog/Centers for Medicare and Medicaid
- Purpose: Consumer information
- Geographic area and number and percentage of accountable entities and patients included: All United States Nursing Homes with Medicare-eligible long-stay residents. In quarter 4 of 2019 there were 15,104 eligible facilities and 773,332 residents with target assessments, and 13,219 facilities (87.5%) had sufficient sample size (20 or more long-stay residents included in the denominator) to report on this measure, and 749,950 residents (97.0%) were included in the calculation of this measure. Four individual quarter scores are publicly reported on Provider Data Catalog. To enhance measurement stability and reliability beyond a one-quarter measure, a four-quarter average version of the measure is publicly reported as part of the Five-Star Quality Rating System through Care Compare and Provider Data Catalog. Five-Star is a rating system CMS created to help consumers, families and care givers compare nursing homes more easily.

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

- Program and sponsor: Certification and Survey Provider Enhanced Reports (CASPER)/Centers for Medicare and Medicaid
- Purpose: Quality improvement
- Geographic area and number and percentage of accountable entities and patients included: All United States Medicare/Medicaid certified Nursing Homes with eligible long-stay residents regardless of denominator sample size. In quarter 4 of 2019 there were 15,104 eligible facilities and 773,332 residents with target assessments.

Quality Improvement (internal to the specific organization):

- Program and sponsor: Certification and Survey Provider Enhanced Reports (CASPER)/Centers for Medicare and Medicaid
- Purpose: Quality improvement
- Geographic area and number and percentage of accountable entities and patients included: All United States Medicare/Medicaid certified Nursing Homes with eligible long-stay residents regardless of denominator sample size. In quarter 4 of 2019 there were 15,104 eligible facilities and 773,332 residents with target assessments.

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 #0679, Percent of High-Risk Residents with Pressure Ulcers (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 Care Compare website (<https://www.medicare.gov/care-compare/?providerType=NursingHome>) or the Provider Data Catalog (<https://data.cms.gov/provider-data/>). The Care Compare site reports the four-quarter average, while the Provider Data Catalog site reports the one-quarter version of the measure alongside the four-quarter average.

CMS also publishes composite quality ratings on Care Compare via the Five-Star Rating System. Five-Star features an overall quality rating of one to five stars based on nursing home performance on three domains, each of which has its own rating. The four-quarter version of this quality measure (NQF #0679, Percent of High-Risk Residents with Pressure Ulcers (Long Stay)) is one of the clinical measures that contribute to the rating of the Quality Measures domain of Five-Star. The Five-Star program requires the measure denominator to include at least 20 residents' assessments across four quarters of data.

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. Care 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 submitted to the CMS quality measure support inboxes; and feedback from the provider community on Open Door Forums (ODFs).

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

Upon review of all inquiries submitted to the quality measure support inbox between 10/2019 and 02/2021, those being measured raised no concerns regarding the performance and implementation of NQF 0679.

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

Upon review of all inquiries submitted to the quality measure support inbox between 10/2019 and 02/2021, other users raised no concerns regarding the performance and implementation of the LS PU measure.

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.

This is not applicable.

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)

- The national facility-level mean and median scores for the Percent of High Risk Residents with Pressure Ulcers demonstrate slight seasonal variation, with mean and median scores being higher in Quarter 1 and lower in Quarter 4 each year (See Figure 1 of NQF Testing Form). Overall, the national facility-level mean and median scores have decreased marginally and indicate a slight improvement in performance over time. The mean score for this measure was 7.53% in quarter 4 of 2017 and the median score was 6.90%. In Q4 2019, the mean and median were 7.45% and 6.82%, respectively.

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

- All United States Nursing Homes with Medicare-eligible long-stay residents. In quarter 4 of 2019 there were 15,104 eligible facilities and 773,332 residents with target assessments, and 13,219 facilities (87.5%) had sufficient sample size (20 or more long-stay residents included in the denominator) to report on this measure, and 749,950 residents (97.0%) were included in the calculation of this measure.

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.

During the testing process for NQF #0679, the results of the risk-adjustment model using age as a risk factor demonstrated that the odds of developing pressure ulcers is almost 27% lower for residents over the age of 85 compared to younger residents (see Section 2b3.4a. of the Testing Form). This observation was not in the expected direction, as it was anticipated that advanced aged residents would be at higher risk for pressure ulcers than younger residents.

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

This is not applicable; there are no unexpected benefits from the implementation of NQF #0679.

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)

[0201 : Pressure ulcer prevalence \(hospital acquired\)](#)

[0337 : Pressure Ulcer Rate \(PDI 2\)](#)

[0538 : Pressure Ulcer Prevention and Care](#)

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

[n/a](#)

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.

[# 0201 Pressure ulcer prevalence \(hospital acquired\)](#). This measure has a similar focus but a different target population (hospital) and data source in addition to only capturing new or worsened pressure ulcers. [# 0538 Pressure Ulcer Prevention and Care](#). This measure has a similar focus, but a different target population (home health patients) in addition to being a process measure focusing on pressure ulcer risk assessment, plan of care development, and prevention implementation. [# 0337 Pressure Ulcer Rate \(PDI 2\)](#). This measure has a similar focus, but a different target population (hospital). The measure only captures stage three and four ulcers and is claims based.

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.)

[Not applicable. There are no competing measures.](#)

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: NQF_0679_Measure_Submission_Appendix_20210402_Upload.docx](#)

Contact Information

Co.1 Measure Steward (Intellectual Property Owner): [Center for Medicare & Medicaid Services](#)

Co.2 Point of Contact: [Rebekah, Natanov, Rebekah.Natanov@cms.hhs.gov, 202-205-2913-](#)

Co.3 Measure Developer if different from Measure Steward: [Acumen LLC](#)

Co.4 Point of Contact: [Aathira, Santhosh, asanthosh@sphereinstitute.org, 650-558-8882-1256](#)

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.

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This technical expert panel met during 2 days in January 2009 to review the environmental scan of the current quality measures and make recommendations regarding their transition from MDS 2.0 to MDS 3.0.

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released: 2002

Ad.3 Month and Year of most recent revision: 04, 2015

Ad.4 What is your frequency for review/update of this measure? Every 3 years

Ad.5 When is the next scheduled review/update for this measure? 04, 2021

Ad.6 Copyright statement: n/a

Ad.7 Disclaimers: n/a

Ad.8 Additional Information/Comments: n/a