



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 #: 0678

Corresponding Measures:

De.2. Measure Title: Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)

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

De.3. Brief Description of Measure: This quality measure reports the percent of patients or short-stay residents with Stage 2-4 pressure ulcer(s) that are new or worsened since admission. The measure is based on data from the Minimum Data Set (MDS) 3.0 assessments of

Skilled Nursing Facility (SNF) / nursing home (NH) residents, the Long-Term Care Hospital (LTCH) Continuity Assessment Record & Evaluation (CARE) Data Set for LTCH patients and the Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF-PAI) for Inpatient Rehabilitation Facility (IRF) patients. Data are collected separately in each of the three settings using standardized items that have been harmonized across the MDS, LTCH CARE Data Set, and IRF-PAI. For residents in a SNF/NH, the measure is calculated by examining all assessments during an episode of care for reports of Stage 2-4 pressure ulcer(s) that were not present or were at a lesser stage since admission. For patients in LTCHs and IRFs, this measure reports the percent of patients with reports of Stage 2-4 pressure ulcer(s) that were not present or were at a lesser stage on admission.

Of note, data collection and measure calculation for this measure is conducted and reported separately for each of the three provider settings and will not be combined across settings.

For SNF/NH residents, this measure is restricted to the short-stay population defined as those who have accumulated 100 or fewer days in the SNF/NH as of the end of the measure time window. In IRFs, this measure is restricted to IRF Medicare (Part A and Medicare Advantage) patients. In LTCHs, this measure includes all patients.

1b.1. Developer Rationale: This measure is intended to encourage nursing homes, inpatient rehabilitation facilities and long term care hospitals to focus on this important clinical issue in order to prevent pressure ulcers and to closely monitor and promote healing of existing pressure ulcers. For this measure, new or worsened pressure ulcers are included in the numerator. If a pressure ulcer is present on admission and worsened during the stay, it would be included in the numerator. If the pressure ulcer is present on admission, and did not worsen during the stay, it would be not be included in the numerator.

S.4. Numerator Statement: SNF/NH Numerator: The numerator is the number of short-stay residents with an MDS assessment during the selected time window who have one or more Stage 2-4 pressure ulcer(s), that are new or worsened, based on examination of all assessments in a resident's episode for reports of Stage 2-4 pressure ulcer(s) that were not present or were at a lesser stage on prior assessment.

LTCH Numerator: The numerator is the number of stays for which the discharge assessment indicates one or more new or worsened Stage 2-4 pressure ulcer(s) compared to admission.

IRF Numerator: The numerator is the number of stays for which the IRF-PAI indicates one or more Stage 2-4 pressure ulcer(s) that are new or worsened at discharge compared to admission.

S.6. Denominator Statement: SNF/NH Denominator: The denominator is the number of short-stay residents with one or more MDS assessments that are eligible for a look-back scan (except those with exclusions).

Assessment types include: an admission, quarterly, annual, significant change/correction OBRA assessment; or a PPS 5-, 14-, 30-, 60-, or 90-day, or discharge with or without return anticipated; or SNF PPS Part A Discharge Assessment.

LTCH Denominator: The denominator is the number of patient stays with both an admission and discharge LTCH CARE Data Set assessment, except those who meet the exclusion criteria.

IRF Denominator: The denominator is the number of Medicare patient stays* (Part A and Medicare Advantage) with an IRF-PAI assessment, except those who meet the exclusion criteria.

*IRF-PAI data are submitted for Medicare patients (Part A and Medicare Advantage) only.

S.8. Denominator Exclusions: SNF/NH Denominator Exclusions:

1. Short-stay residents are excluded if none of the assessments that are included in the look-back scan has a usable response for items indicating the presence of new or worsened Stage 2, 3, or 4 pressure ulcer(s) since the prior assessment.
2. Death in facility tracking records are excluded from measure calculations.

LTCH Denominator Exclusions:

1. Patient stay is excluded if data on new or worsened Stage 2, 3, and 4 pressure ulcer(s) are missing on the planned or unplanned discharge assessment.
2. Patient stay is excluded if the patient died during the LTCH stay.

IRF Denominator Exclusions:

1. Patient stay is excluded if data on new or worsened Stage 2, 3, and 4 pressure ulcer(s) are missing at discharge.
2. Patient stay is excluded if the patient died during the IRF stay.

De.1. Measure Type: Outcome

S.17. Data Source: Other

S.20. Level of Analysis: Facility, Other

IF Endorsement Maintenance – Original Endorsement Date: Mar 03, 2011 **Most Recent Endorsement Date:** Nov 27, 2012

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?

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
0678_Evidence_MSF5.0_Data.doc

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.

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.

This measure is intended to encourage nursing homes, inpatient rehabilitation facilities and long term care hospitals to focus on this important clinical issue in order to prevent pressure ulcers and to closely monitor and promote healing of existing pressure ulcers. For this measure, new or worsened pressure ulcers are included in the numerator. If a pressure ulcer is present on admission and worsened during the stay, it would be included in the numerator. If the pressure ulcer is present on admission, and did not worsen during the stay, it would be not be included in the numerator.

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.*

The short-stay pressure ulcer measure is one of the CMS publicly reported quality measures for nursing homes and Five-Star Quality Rating System. In its analysis of the quality measure using MDS 2.0 data from 2006, the University of Colorado found variability across facilities in the rates of pressure ulcers for short-stay residents, suggesting that it is possible for facilities to improve.(1) As presented in the table below, the national overall nursing home mean was 17.1% and the standard deviation was 9.3%. The short-stay pressure ulcer quality measure demonstrated significant variability across facilities; from 7.0% at the 10th percentile to 28.7% at the 90th percentile with only 1.1% of facilities reporting short-stay residents with no pressure ulcers.

The most recent state and national averages for the current MDS 2.0 pressure ulcer quality measure are reported on CMS's Nursing Home Compare Web site for the target quarter ending in June 2009.(2) The data continue to demonstrate the ongoing gap in facility performance; the national average was 16.9%, and state averages ranged from a low of 11.3% to a high of 25.6%.(2)

The Advancing Excellence Campaign in America's Nursing Homes is a national effort begun in 2006 to encourage, assist, and empower nursing homes to improve the quality of care and life for residents. The coalition comprises long-term care providers, medical professionals, consumers, employees, and state and federal agencies and is the largest and first coalition of its kind to measure quality by setting clinical and organizational goals for nursing homes. As of October, 2009, the Advancing Excellence Campaign has recruited over 7,600 nursing homes —47% of all nursing homes in the United States. Of the eight goals set by the effort, the fourth goal is for nursing home residents to receive appropriate care to prevent and appropriately treat pressure ulcers when they occur. Although the current focus of the campaign is on high risk, long-stay residents, the goals and results support the evidence of high impact and clinical significance.(3) As stated in the Implementation Guide, for this goal, the following objectives have been set for December 31, 2011 as part of Phase 2 efforts:

- A. The national average for pressure ulcers will be at or below 9%.
- B. 30% of nursing homes will report rates of pressure ulcers at or below 6%.
- C. The average of the scores of the nursing homes exceeding the 2009 Q1 90th percentile (n = 1147) will be reduced from 25% to 18%.
- D. Compared with June 2006, there will be 3,000 fewer residents with pressure ulcers per 100,000 nursing home residents. Applying this to the current pressure ulcer denominator of approximately 750,000 results in 22,500 fewer residents with pressure ulcers.
- E. Each state will attain an average facility-level improvement of 1 decile.
- F. Nursing homes will set a specific target to improve the prevalence of pressure ulcers by 1 decile rank over the next 24-month period.

To date, progress has been steady but incremental in meeting these goals as demonstrated by campaign objective graphs: http://www.nhqualitycampaign.org/files/reports/results/q2-2009/Goal1_NationalObjectives_2009Q2_1page.pdf (4). As previously stated, although the initial focus of this campaign is long-stay residents, the improvements in the nursing homes involved in this campaign should benefit the all residents in the facility and demonstrates the capability of facilities to improve on this quality

Although no studies have been conducted specific to the performance gap in IRFs and LTCHs, the similarities between their patient populations and that in other healthcare post-acute settings, such as nursing homes (which have been studied) indicate that the measure is applicable in LTCH and IRF settings, and the opportunity for improvement exists in LTCHs and IRFs.

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.

1. Brega A, Hittle D, Goodrich G, Kramer A, Conway K, Levy C. Empirical review of publicly reported nursing home quality measures. Denver: Division of Health Care Policy and Research University of Colorado at Denver; Abt Associates, Inc, 2007.
2. CMS. MDS quality measure/indicator report. 2008. Available from http://www.cms.hhs.gov/MDSPubQlandResRep/02_qmreport.asp#TopOfPage.
3. Advancing Excellence in America's Nursing Homes. Goal 4: reducing pressure ulcers, implementation guide 2006. Available from http://www.nhqualitycampaign.org/files/impguides/4_PressureUlcer_TAW_Guide_FINAL_Oct_15.pdf.
4. Advancing Excellence in America's Nursing Homes. Goal 1: Nursing home residents receive appropriate care to prevent and minimize pressure ulcers. Available from http://www.nhqualitycampaign.org/files/reports/results/q2-2009/Goal1_NationalObjectives_2009Q2_4pages.pdf.

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.

Research suggests racial disparities in quality of care in nursing homes between African Americans and Caucasians (1, 2, 3, 4, 5) and between Hispanics and Caucasians.(6) In 1999, Lapane and colleagues found African American residents, compared with Caucasian residents, had a lower prevalence of early-stage pressure ulcers but a higher prevalence of later stage pressure ulcers (even when controlling for other patient sociodemographic and clinical variables).(5) However, in 2009, CDC reported in their key findings from the 2004 National Nursing Home Survey that there was no significant difference between white and nonwhite populations with respect to having pressure ulcers.(7) No research has been conducted on other types of disparities (e.g., ethnicity, rural/urban, or income) specifically for this measure.

According to the 2011 MedPAC report examining Medicare beneficiaries' use of LTCHs in 2009, LTCHs have a slight over-representation of minority patients, particularly African American patients, compared the Medicare population as a whole. Across all Medicare beneficiaries in 2009, 17% were minorities (10% African American, 3% Hispanic, and 4% other). In the same year LTCHs consisted of approximately 26% minority patients (19% African American, 4% Hispanic, and 4% other) (8). Minority rates in IRFs ranged from 15% to 20%, depending on the payer. Between May and June 2010 approximately 10-13% of IRF patients were African American and 5-7% were Hispanic (9). Although no studies have been conducted specific to racial disparities in quality of care in IRFs or LTCHs, the similarities between the racial demographics in all three post-acute settings, indicate that data for pressure ulcer disparities would likely be similar across the three settings.

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

1. Smith D, Feng Z, Fennell M, Zinn J, Mor V. Separate and unequal: racial segregation and disparities in quality across U.S. nursing homes. *Health Aff (Millwood)*. 2007;26(5):1448-558.
2. Howard D, Sloane P, Zimmerman S, Eckert J, Walsh J, Buie V, Taylor P, Koch G. Distribution of African Americans in residential care/assisted living and nursing homes: more evidence of racial disparity? *Am J Public Health*. 2002;92(8):1272-7.
3. Grabowski D. The admission of blacks to high-deficiency nursing homes. *Med Care*. 2004;42(5):456-64.
4. Mor V, Zinn J, Angelelli J, Teno J, Miller S. Driven to tiers: socioeconomic and racial disparities in the quality of nursing home care. *Milbank Q*. 2004;82(2):227-56.
5. Miller SC, Papandonatos G, Fennell M, Mor V. Facility and county effects on racial differences in nursing home quality indicators. *Soc Sci Med*. 2006;63(12):3046-59.
6. Fennell ML, Feng Z, Clark MA, Mor V. Elderly Hispanics more likely to reside in poor quality nursing homes. *Health Aff (Millwood)*. 2010;29(1):65-73.
7. Park-Lee E, Caffrey C. Pressure ulcers among nursing home residents: United States, 2004 (NCHS Data Brief No. 14). Hyattsville, MD: National Center for Health Statistics, 2009. Available from <http://www.cdc.gov/nchs/data/databriefs/db14.htm>.
8. Medicare Payment Advisory Commission (MedPAC). (2011, March). Chapter 10: Long -term care hospital services. In Report to the Congress: Medicare payment policy (pp. 231–256). Washington, DC: Author. Retrieved from http://medpac.gov/documents/Mar11_EntireReport.pdf

9. Medicare Payment Advisory Commission (MedPAC). (2011, March). Chapter 9: Inpatient rehabilitation facility services. In Report to the Congress: Medicare payment policy (pp. 203–227). Washington, DC: Author. Retrieved from http://medpac.gov/documents/Mar11_EntireReport.pdf

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):

[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 : Dual eligible beneficiaries, 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.)

[See Release Notes](#)

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:

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.

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.

[Yes](#)

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 are no significant changes to the measure specifications.](#)

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).

SNF/NH Numerator: The numerator is the number of short-stay residents with an MDS assessment during the selected time window who have one or more Stage 2-4 pressure ulcer(s), that are new or worsened, based on examination of all assessments in a resident's episode for reports of Stage 2-4 pressure ulcer(s) that were not present or were at a lesser stage on prior assessment.

LTCH Numerator: The numerator is the number of stays for which the discharge assessment indicates one or more new or worsened Stage 2-4 pressure ulcer(s) compared to admission.

IRF Numerator: The numerator is the number of stays for which the IRF-PAI indicates one or more Stage 2-4 pressure ulcer(s) that are new or worsened at discharge compared to admission.

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).

SNF/NH Numerator Details: The numerator is the number of short-stay residents with an MDS assessment during the selected time window who have one or more Stage 2-4 pressure ulcer(s), that are new or worsened, based on examination of all assessments in a resident's episode for reports of Stage 2-4 pressure ulcer(s) that were not present or were at a lesser stage on prior assessment.

- 1) Stage 2 (M0800A) > 0, OR
- 2) Stage 3 (M0800B) > 0, OR
- 3) Stage 4 (M0800C) > 0

Time period for data: The measure is calculated quarterly using a rolling 6 months of data. Public reporting data reflect the weighted average of three rolling 6-month periods. For SNF/NH residents with multiple episodes of care during the 6 months, only the latest episode will be counted. For SNF/NH residents, the numerator is determined based on a look back across all assessments included in a resident episode, so may extend into the prior measurement period (i.e., look back may be as many as 100 days). Assessments may be discharge, PPS 5-, 14-, 30-, 60-, 90-day, SNF PPS Part A Discharge Assessment or OBRA admission, quarterly, annual or significant change assessments.

LTCH Numerator Details: The numerator is the number of stays for which the discharge assessment indicates one or more new or worsened Stage 2-4 pressure ulcer(s) compared to the admission assessment.

- 1) Stage 2 (M0800A) > 0, OR
- 2) Stage 3 (M0800B) > 0, OR
- 3) Stage 4 (M0800C) > 0

Time period for data: The measure will be calculated quarterly using a rolling 12 months of data. For public reporting, the quality measure score reported for each quarter is calculated using a rolling 12 months of data inclusive of the reporting quarter and the three quarters prior. All LTCH stays, except those that meet the exclusion criteria, during the 12 months are included in the denominator and are eligible for inclusion in the numerator. For patients with multiple stays during the 12-month time window, each stay is eligible for inclusion in the measure.

IRF Numerator Details: The numerator is the number of stays for which the IRF-PAI indicates one or more Stage 2-4 pressure ulcer(s) that are new or worsened at discharge compared to admission.

2014 IRF-PAI (Version 1.2) items used to determine presence of new or worsened Stage 2-4 pressure ulcer(s) at discharge:

- 1) Stage 2 (M0300B4) > 0, OR
- 2) Stage 3 (M0300C4) > 0, OR
- 3) Stage 4 (M0300D4) > 0

2016 IRF-PAI (Version 1.4) items used to determine presence of new or worsened Stage 2-4 pressure ulcer(s) at discharge:

- 1) Stage 2 (M0800A) > 0, OR
- 2) Stage 3 (M0800B) > 0, OR
- 3) Stage 4 (M0800C) > 0

Time period for data: The measure will be calculated quarterly using rolling 12 months of data. For public reporting, the quality measure score reported for each quarter is calculated using a rolling 12 months of data inclusive of the reporting quarter and the three quarters prior. All IRF records, except those that meet the exclusion criteria, during the 12 months will be included in the denominator and are eligible for inclusion in the numerator. For patients with multiple records during the 12-month time window, each record is eligible for inclusion in the measure calculation.

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

SNF/NH Denominator: The denominator is the number of short-stay residents with one or more MDS assessments that are eligible for a look-back scan (except those with exclusions).

Assessment types include: an admission, quarterly, annual, significant change/correction OBRA assessment; or a PPS 5-, 14-, 30-, 60-, or 90-day, or discharge with or without return anticipated; or SNF PPS Part A Discharge Assessment.

LTCH Denominator: The denominator is the number of patient stays with both an admission and discharge LTCH CARE Data Set assessment, except those who meet the exclusion criteria.

IRF Denominator: The denominator is the number of Medicare patient stays* (Part A and Medicare Advantage) with an IRF-PAI assessment, except those who meet the exclusion criteria.

*IRF-PAI data are submitted for Medicare patients (Part A and Medicare Advantage) only.

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).

SNF/NH Denominator Details: The denominator is the number of short-stay residents with one or more MDS assessments that are eligible for a look-back scan (except those with exclusions). A look-back scan is a review of all qualifying assessments within the resident's current episode to determine whether events occurred during the lookback period. All assessments with target dates within the episode are examined to determine whether the event or condition of interest occurred at any time during the episode. Assessment types include: an admission, quarterly, annual, significant change/correction OBRA assessment (A0310A = 01, 02, 03, 04, 05, 06); or a PPS 5-, 14-, 30-, 60-, or 90 day, (A0310B = 01, 02, 03, 04, 05) or discharge with or without return anticipated (A0310F = 10, 11); or SNF PPS Part A Discharge Assessment (A0310H = 1). The time period for data is described in S.5, Numerator Details.

LTCH Denominator Details: The denominator is the number of patient stays with both an admission (A0250=01) and discharge (A0250=10, 11) LTCH CARE Data Set assessment, except those that meet the exclusion criteria. The time period for data is described in S.5, Numerator Details.

IRF Denominator Details: The denominator is the number of Medicare patient stays* (Part A and Medicare Advantage) with an IRF-PAI assessment, except those that meet the exclusion criteria. The time period for data is described in S.5, Numerator Details.

*IRF-PAI data are submitted for Medicare patients (Part A and Medicare Advantage) only.

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

SNF/NH Denominator Exclusions:

1. Short-stay residents are excluded if none of the assessments that are included in the look-back scan has a usable response for items indicating the presence of new or worsened Stage 2, 3, or 4 pressure ulcer(s) since the prior assessment.

2. Death in facility tracking records are excluded from measure calculations.

LTCH Denominator Exclusions:

1. Patient stay is excluded if data on new or worsened Stage 2, 3, and 4 pressure ulcer(s) are missing on the planned or unplanned

discharge assessment.

2. Patient stay is excluded if the patient died during the LTCH stay.

IRF Denominator Exclusions:

1. Patient stay is excluded if data on new or worsened Stage 2, 3, and 4 pressure ulcer(s) are missing at discharge.

2. Patient stay is excluded if the patient died during the IRF stay.

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.)

SNF/NH Denominator Exclusion Details:

1. Short-stay residents are excluded if none of the assessments that are included in the look-back scan has a usable response for items indicating the presence of new or worsened Stage 2, 3, or 4 pressure ulcer(s) since the prior assessment. This situation is identified as follows:

1.1. If data on new or worsened Stage 2, 3, and 4 pressure ulcer(s) is missing (M0800A = [-] and M0800B = [-] and M0800C = [-]), then the assessment is not usable and is discarded.

1.2. If all of the assessments that are eligible for the look-back scan are discarded and no usable assessment remains, then the resident is excluded from the numerator and the denominator.

2. Death in facility tracking records (A0310F = [12]) are excluded from measure calculations.

LTCH Denominator Exclusion Details:

1. Patient stay is excluded if data on new or worsened Stage 2, 3, and 4 pressure ulcer(s) are missing on the planned or unplanned discharge assessment; i.e., M0800A = [-] and M0800B = [-] and M0800C = [-].

2. Patient stay is excluded if the patient died during the LTCH stay; i.e., A0250 = [12].

IRF Denominator Exclusion Details:

1. Patient stay is excluded if data on new or worsened Stage 2, 3, and 4 pressure ulcer(s) are missing at discharge; i.e.,

1.1. Using 2014 IRF-PAI (Version 1.2): Patient stay is excluded if M0300B4 = [-] and M0300C4 = [-] and M0300D4 = [-].

1.2. Using 2016 IRF-PAI (Version 1.4): Patient stay is excluded if M0800A = [-] and M0800B = [-] and M0800C = [-].

2. Patient stay is excluded if the patient died during the IRF stay; i.e., Item 44C = [0].

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. Data will not be stratified. Additionally, data will not be combined across the three provider settings. Analysis will be conducted by provider setting.

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:

Ratio

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.)

The following steps are used to calculate the measure:

A. Calculate the facility observed score (steps 1 through 3)

Step 1. Calculate the denominator count:

In the SNF/NH setting, calculate the total number of short-stay residents with a selected target MDS assessment in the measure time window, who do not meet the exclusion criteria. The time period for data is described in S.5, Numerator Details.

In the LTCH setting, calculate the total number of stays with both an admission and discharge LTCH CARE Data Set assessment in the measure time window, that do not meet the exclusion criteria. The time period for data is described in S.5, Numerator Details.

In the IRF setting, calculate the total number of stays with an IRF-PAI assessment in the measure time window, that do not meet the exclusion criteria. The time period for data is described in S.5, Numerator Details.

Step 2. Calculate the numerator count:

In the SNF/NH setting, calculate the total number short-stay residents in the denominator with selected target or look-back assessment that indicates one or more new or worsened pressure ulcer(s).

In the LTCH setting, calculate the total number of stays whose discharge assessment indicates one or more new or worsened pressure ulcer(s) compared to admission.

In the IRF setting, calculate the total number of stays whose IRF-PAI assessment indicates one or more new or worsened pressure ulcer(s) at discharge compared to admission.

Step 3. Calculate the facility's observed score:

Divide the facility's numerator count by its denominator count to obtain the facility's observed score; that is, divide the result of step 2 by the result of step 1.

B. Calculate the expected score for each resident/patient (steps 4 and 5)

Step 4. Determine presence or absence of the pressure ulcer covariates for each resident/patient:

Resident- or patient-level covariate risk adjustment is performed. Resident- or patient-level covariates are used in a logistic regression model to calculate a resident- or patient-level expected quality measure (QM) score (the probability that the resident or patient will evidence the outcome, given the presence or absence of resident or patient characteristics measured by the covariates). Assign covariate values, either '0' for covariate condition not present or '1' for covariate condition present, for each resident or patient for each of the four covariates as reported on the initial assessment for the SNF/NH setting or the admission assessment for the LTCH and IRF settings.

Covariates are calculated as follows:

SNF/NH Covariates:

For each short-stay resident, covariate values are assigned, either '0' for covariate condition not present or '1' for covariate condition present, as reported on the initial assessment.

1. Indicator of requiring limited or more assistance in bed mobility self-performance dependence on the initial assessment:

Covariate = [1] (yes) if G0110A1 = [2, 3, 4, 7, 8] (2 – Limited assistance, 3 – Extensive assistance, 4 – Total dependence, 7 – Activity occurred only once or twice, 8 – Activity did not occur)

Covariate = [0] (no) if G0110A1 = [0, 1, -] (0 – Independent, 1 – Supervision, '-' – no response)

2. Indicator of bowel incontinence at least occasionally on the initial assessment:

Covariate = [1] (yes) if H0400 = [1, 2, 3] (1 – Occasionally incontinent, 2 – Frequently incontinent, 3 – Always incontinent) Covariate = [0] (no) if H0400 = [0, 9, -, ^] (0 – Always continent, 9 – Not rated, '-' – No response available, '^' – Valid skip)

3. Have diabetes or peripheral vascular disease on initial assessment:

Covariate = [1] (yes) if any of the following are true:

a. Active peripheral vascular disease (PVD) or peripheral arterial disease (PAD) in the last 7 days (I0900 = [1] (checked))

b. Active diabetes mellitus (DM) in the last 7 days (I2900 = [1] (checked))

Covariate = [0] (no) if I0900 = [0, -, "] AND I2900 = [0, -]

4. Indicator of Low Body Mass Index (BMI), based on Height (K0200A) and Weight (K0200B) on the initial assessment: Covariate = [1] (yes) if BMI \geq [12.0] AND \leq [19.0]
Covariate = [0] (no) if BMI > [19.0]
Covariate = [0] (no) if K0200A = [-] OR K0200B = [-] OR BMI < [12.0], ('-' = No response available)
Where: BMI = (weight * 703 / height²) = ((K0200B) * 703) / (K0200A²) and the resulting value is rounded to one decimal.

LTCH Covariates:

For each patient stay, covariate values are assigned, either '0' for covariate condition not present or '1' for covariate condition present, as reported on the admission assessment.

1. Indicator of supervision/touching assistance or more for the functional mobility item Lying to Sitting on Side of Bed on the admission assessment:

For stays with a target date prior to 4/1/2016: Covariate = [1] (yes) if GG0160C = [01,02,03,04,07,09,88] ([01] = Dependent, [02] = Substantial/maximal assistance, [03] = Partial/moderate assistance, [04] = Supervision or touching assistance, [07] = Patient refused, [09] = Not applicable, [88] = (activity) not attempted due to medical condition or safety concerns)

Covariate = [0] (no) if GG0160C = [05, 06, -, ^] ([05] = Set-up or clean-up assistance, [06] = Independent, [-] = No response available, [^] = Valid skip)

For stays with a target date on or after 4/1/2016: Covariate = [1] (yes) if GG0170C = [01,02,03,04,07,09,88] ([01] = Dependent, [02] = Substantial/maximal assistance, [03] = Partial/moderate assistance, [04] = Supervision or touching assistance, [07] = Patient refused, [09] = Not applicable, [88] = (activity) not attempted due to medical condition or safety concerns)

Covariate = [0] (no) if GG0170C = [05, 06, -, ^] ([05] = Setup or clean-up assistance, [06] = Independent, [-] = No response available, [^] = Valid skip)

2. Indicator of bowel incontinence at least occasionally on the admission assessment:

Covariate = [1] (yes) if H0400 = [1, 2, 3] ([1] = Occasionally incontinent, [2] = Frequently incontinent, [3] = Always incontinent)

Covariate = [0] (no) if H0400 = [0, 9, -, ^] ([0] = Always continent, [9] = Not rated, [-] = No response available, [^] = Valid skip)

3. Have diabetes or peripheral vascular disease on admission assessment: Covariate = [1] (yes) if any of the following are true:

a.I0900 = [1] (checked)

b.I2900 = [1] (checked)

Covariate = [0] (no) if I0900 = [0, -] AND I2900 = [0, -]

4. Indicator of Low Body Mass Index, based on Height (K0200A) and Weight (K0200B) on the admission assessment: Covariate = [1] (yes) if BMI = [12.0] AND = [19.0]

Covariate = [0] (no) if BMI > [19.0]

Covariate = [0] (no) if K0200A = [-] OR K0200B = [-] OR BMI < [12.0], ('-' = No response available)

Where: BMI = (weight * 703 / height²) = ((K0200B) * 703) / (K0200A²) and the resulting value is rounded to one decimal.

IRF Covariates:

For each patient stay, covariate values are assigned, either '0' for covariate condition not present or '1' for covariate condition present, as reported at admission.

1. For stays with a target date prior to 10/1/2019:

Indicator of requiring minimal or more assistance for the FIM® Item (39I) Transfers: Bed, Chair, and Wheelchair on admission:

Covariate = [1] (yes) if 39I FIM Levels = [0, 1, 2, 3, 4] (0 - Activity does not occur, 1 - Total Assistance (Subject less than 25%), 2 - Maximal Assistance (Subject = 25% or more), 3 - Moderate Assistance (Subject = 50% or more), 4 - Minimal Assistance (Subject = 75% or more))

Covariate = [0] (no) if 39I FIM Levels = [5, 6, 7, -, ^] (5 - Supervision (Subject = 100%), 6 - Modified Independence (Device), 7 - Complete Independence (Timely, Safely), '-' = No response available, '^' = Valid skip)

For stays with a target date on or after 10/1/2019:

Indicator of supervision/touching assistance or more for the functional mobility item Lying to Sitting on Side of Bed on the admission assessment: Covariate = [1] (yes) if GG0170C = [01,02,03,04,07,09,88] ([01] = Dependent, [02] = Substantial/maximal assistance, [03] = Partial/moderate assistance, [04] = Supervision or touching assistance, [07] = Patient refused, [09] = Not applicable, [88] =

(activity) not attempted due to medical condition or safety concerns)

Covariate = [0] (no) if GG0170C= [05, 06, -, ^] ([05] = Setup or clean-up assistance, [06] = Independent, [-] = No response available, [^] = Valid skip)

2. Indicator of bowel incontinence at least occasionally on admission:

Covariate = [1] (yes) if Item 32 = [1, 2, 3, 4, 5] (1 - Five or more accidents in the past 7 days, 2 - Four accidents in the past 7 days, 3 - Three accidents in the past 7 days, 4 - Two accidents in the past 7 days, 5 - One accident in the past 7 days)

Covariate = [0] (no) if Item 32 = [6, 7, -, ^] (6 - No accidents; uses device such as a ostomy, 7 - No accidents, '-' = No response available, '^' = Valid skip)

3. Have diabetes or peripheral vascular disease on assessment:

Using 2014 IRF-PAI (Version 1.2):

Covariate = [1] (yes) if any of the following are true:

a. I0900A = [1] (checked)

b. I0900B = [1] (checked)

c. I2900A = [1] (checked)

Covariate = [0] (no) if I0900A= [0, -] AND I0900B= [0, -] AND I2900A = [0, -]

Using 2016 IRF-PAI (Version 1.4):

Covariate = [1] (yes) if any of the following are true:

a. I0900 = [1] (checked)

b. I2900 = [1] (checked)

Covariate = [0] (no) if I0900 = [0, -] AND I2900= [0, -]

4. Indicator of Low Body Mass Index, based on Height (25A) and Weight (26A) on the assessment:

Covariate = [1] (yes) if BMI = [12.0] AND = [19.0]

Covariate = [0] (no) if BMI < [12.0] OR BMI > [19.0]

Covariate = [0] (no) if 25A = [-] OR 26A = [-] ('-' = No response available)

Where: BMI = (weight * 703 / height^2) = ([26A] * 703) / (25A^2) and the resulting value is rounded to one decimal.

Step 5. Calculate the expected score for each resident/patient with the following formula:

[1] Resident/patient-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 Formula [2], below). [2] QM triggered (yes=1, no=0) = $B_0 + B_1 * COVA + B_2 * COVB + \dots B_N * COVN$

Where B₀ is the logistic regression constant, B₁ is the logistic regression coefficient for the first covariate (where applicable), COVA is the resident or patient-level score for the first covariate, B₂ is the logistic regression coefficient for the second covariate, and COVB is the resident or patient level score for the second covariate (where applicable), etc. The regression constant and regression coefficients* are numbers obtained through statistical logistic regression analysis.

* Regression coefficients and constants are calculated separately for each facility type (SNF/NH, LTCH, and IRF) and will be updated annually for public reporting. More information is available at:

Nursing Home Quality Initiative: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/NursingHomeQualityInits/index.html>

LTCH Quality Reporting Program: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/LTCH-Quality-Reporting/index.html>

IRF Quality Reporting Program: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/index.html>

C. Calculate the facility-level expected score (step 6)

Step 6. Once an expected QM score has been calculated for all residents for the SNF/NH setting or all patient stays for the LTCH and IRF settings, calculate the facility-level expected QM score by averaging all resident/patient level expected scores.

D. Calculate national mean observed QM score (steps 7 through 9)

Step 7. Calculate the national denominator count:

Calculate the total number of residents/stays retained after exclusions and sum to derive national denominator count.

Step 8: Calculate the national numerator count:

Calculate the total number of residents/stays that triggered the QM and sum to derive national numerator count.

Step 9: Calculate national mean observed QM score:

Divide the numerator count by the denominator count to obtain the national mean observed score; that is, divide the result of step 8 by the result of step 7.

E. Calculate the facility-level adjusted score (step 10)

Step 10. Calculate the facility-level adjusted score based on the:

facility-level observed QM score (step 3), facility-level average expected QM score (step 6), and *national mean observed QM score (step 9).

*The national mean observed QM score is updated separately for each facility type (SNF/NH, LTCH, and IRF) for public reporting. The calculation of the adjusted score uses the following equation:

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

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 score,

Exp is the facility-level expected QM score,

Nat is the national mean observed QM score,

Ln indicates a natural logarithm, and

e is the base of natural logarithm.

Multiply the risk-adjusted score (Adj) by 100 and round the percent value to one decimal place. If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged. Drop all of the digits following the first decimal place.

Facility-level recoding instructions: If the facility-level observed score (step 3) equals 0, then the facility-level risk adjusted percent is set to 0.0. If the facility-level observed score (step 3) equals 1, then the facility-level risk-adjusted percent is set to 100.0.

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.

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.

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

If other, please describe in S.18.

Other

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.

Nursing Home MDS 3.0, Inpatient Rehabilitation Facility Patient Assessment Instrument, Long-Term Care Hospital Continuity Assessment Record & Evaluation Data Set

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)
[URL](#)

S.20. Level of Analysis (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)
[Facility, Other](#)

S.21. Care Setting (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)
[Inpatient/Hospital, 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.)

2. Validity – See attached Measure Testing Submission Form
[0678_MeasureTesting_MSF5.0_Data.zip](#)

2.1 For maintenance of endorsement

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

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.

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.

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 by and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition](#)
 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 a combination of electronic sources

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 data collection strategy, the MDS, is already in operation and has been for years. The data are collected as part of an existing, legally mandated process. There will be no additional costs to collect this information because it is already collected. However, the pressure ulcer items have changed substantially in the MDS 3.0 and require additional training for facility staff.

In the inpatient rehabilitation facility setting, additional items are being added to the IRF-PAI, which is already implemented in IRFs. There will be no additional cost for IRFs to collect this information.

Additional time and resources will be needed to implement the LTCH CARE Data Set in LTCHs; however, given its similarity to the MDS 3.0, CMS and RTI do not anticipate any major challenges with implementation.

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).

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 Quality Improvement (Internal to the specific organization)	

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

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?)

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.)

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.

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.

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.

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

4a2.2.3. Summarize the feedback obtained 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.

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.

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 will always be an exclusion/inclusion trade-off when specifying a stay length of short-stay versus long-stay. For example, if the 'short' length of stay is defined as any length of stay (LOS) <100 (e.g., =30 days) there is the compromise that potential short stay residents (e.g. >30 and <45 days) would be captured in the 'long stay' definition and be excluded from the short stay QM definition. The MDS 3.0 quality measure short stay/ long stay definitions are set at = 100 days (short stay) and > 100 days (long stay). This cut point coincides with the Medicare episode, with no evidence of distinct diagnostic differences across short stay residents (defined as = 100 LOS). A 2008 analysis of Medicare claims showed a median LOS of 18 days; 38% had stays =14 days; 70% had LOS =30 days; 83% had LOS =45 days and 99% LOS =100 days. The distribution of diagnosis codes did not change with LOS. Furthermore, residents approaching 100 days may have extensive rehabilitation needs whose characteristics are not appropriate for including in the long stay definition and whose characteristics would not be reflected in the short-stay QM if a shorter cut-off date were used.(1) The MDS 3.0 Quarter 3 data show that the majority of short-stay sample target assessments (75%) are discharge assessments; 11% are OBRA admission assessments. The mean cumulative days in facility is 30 days (median 22 days). The distribution is skewed, with the majority within the "typical" SS resident description, but there is a long tail up to 100 days. (2)

In response to the question from the NQF Nursing Home Steering Committee regarding the impact of changing the sample definitions for short stay and long stay measures, which is dependent on the number of days a resident accumulates in facility, RTI examined the short stay sample to compare the impact on measure calculations of including residents who were initially defined as short stay who eventually incurred stays longer than 100 and were reclassified as long stay in a subsequent quarter. Using data from Quarters 2 and 3 of 2011, RTI identified residents who were classified as short stay in Quarter 2 who were subsequently reclassified as long stay in Quarter 3 2011 because they had accumulated more than 100 days in facility.

We identified 147,782 long stay residents who were in the first 100 days of their stay during Quarter 2 2011, representing 11.3% of the short stay population counted in that quarter. Note that calculations are based on unadjusted scores and analyses focused on Quarter 2 2011 data since Quarter 3 data was used to observe whether a resident became long stay. While the resident and facility level incidence of new and worsened pressure ulcers were higher for the set of residents in their first 100 days of a long stay, the actual magnitude of the difference was very small (resident-level incidence: 2.2% versus 1.9% without accounting for facility; facility-level mean QM: 2.4% versus 2.2%) when looking at measures of central tendency. If long stay residents in their first 100 days were omitted from the short stay sample the mean facility QM score would only shift slightly, from 2.19% to 2.23%. These results indicate that including the early long stay resident in the short stay QM has little impact on the QM score. (3)

One concern raised about this measure was the suggestion that the MDS coding requirement, as used by CMS, conflicts with recommendations of relevant expert groups: Specifically, the CMS definition of a deep tissue injury (DTI) wound differs from the definition used by the National Pressure Ulcer Advisory Panel (NPUAP). In fact, CMS decided against strictly harmonizing with the NPUAP definition of Suspected Deep Tissue Injury for specific reasons. The NPUAP definition of Suspected Deep Tissue Injury is: "Purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue."

CMS, with the guidance of clinical experts, specifically wound experts, opted to provide additional information in the manual regarding any blister, whether it is found to be filled with serum, serosanguineous fluid, blood, etc. By providing specific guidance in the MDS manual, they have facilities take a holistic approach, focusing on the assessment of the skin, instead of having a blanket statement that every blood filled blister should be considered a suspected deep tissue injury. The focus on the assessment is to assure proper staging. For example, a resident with a pinched finger, with a resulting blood blister, should not be coded in Section M as an sDTI.

The MDS instructions reflect this direction. For example, in the MDS Manual (Page M-9 under Stage 2 PU), the instructions say: “3. Examine the area adjacent to or surrounding an intact blister for evidence of tissue damage. If other conditions are ruled out and the tissue adjacent to, or surrounding the blister demonstrates signs of tissue damage, (e.g., color change, tenderness, bogginess or firmness, warmth or coolness) these characteristics suggest a suspected deep tissue injury rather than a Stage 2 Pressure Ulcer.

4. Stage 2 pressure ulcers will generally lack the surrounding characteristics found with a deep tissue injury.”

Under Coding Tips, Page M-9, the tip reads:

“When a lesion that is related to pressure presents with an intact blister, examine the adjacent and surrounding area for signs of deep tissue injury. When a deep tissue injury is determined, do NOT code as a Stage 2.”

Under Steps for Assessment, Page M-18, under sDTI:

“3. Examine the area adjacent to, or surrounding, an intact blister for evidence of tissue damage. If the tissue adjacent to, or surrounding, the blister does not show signs of tissue damage (e.g., color change, tenderness, bogginess or firmness, warmth or coolness), do NOT code as a suspected Deep Tissue Injury.”

Under Coding Tips, Page M-19:

“When a lesion due to pressure presents with an intact blister AND the surrounding or adjacent soft tissue does NOT have the characteristics of Deep Tissue Injury, do NOT code here.” (4)

Additional concerns voiced during the initial submission of this measure included the lack of harmonization with measures in other settings, however, this submission includes an expansion to the Long Term Care Hospital.

The MDS 2.0 measure showed evidence of seasonal variation. There is insufficient data currently to fully evaluate the role of seasonal variation in the current specification of this measure. The measure is currently designed to look back over two quarters of data as currently specified which should smooth some potential variation from quarter to quarter.

Comments received during the initial review of this measure also included concerns over whether certain specific risk factors had been considered. These were the following: resident level of skin moisture, nutrition, and staff use of lifting devices and nurse staffing. Currently the MDS does not collect information on resident level of skin moisture and RTI has currently tested what MDS items are available that might potentially be proxy for nutritional status that might be suitable for risk adjustment (e.g. tube feeding can be associated with risk for poor nutrition, however using this as a risk adjuster would potentially introduce adverse incentives for facilities to increase tube feeding of residents). RTI has examined the impact of low BMI, which is a current risk adjuster, and RTI has also tested malnutrition. Use of lifting devices and level of nurse staffing are related to facility quality, and would not be appropriate for risk adjustment.

The proposed pressure ulcer measure has been harmonized across three post-acute settings. The LTCH and IRF measures conform to the measure specifications as identified by the NQF 0678 measure number for short-stay nursing home residents. The definition of a short stay is a resident whose length of stay is less than or equal to 100 days. The average length of stay for patients in LTCHs in 2009 was 26.4 days (5). In IRFs, the average length of stay in 2009 was 13.1 days. (6). In comparison, the mean length of stay for the short stay sample, as mentioned earlier in this section, is 30 days. Because the average length of stay in each of these facilities is well under the 100 -day maximum, and similar to the mean for short-stay nursing home residents, it is reasonable to use a short-stay measure to evaluate their performance.

Additionally, because the items for the pressure ulcer quality measure in the LTCH CARE Data Set are new, it is possible that there will be challenges in implementation, interpretation, reliability, or validity. However, given the similarities between the populations across all three post-acute settings in which the tools are used, RTI does not anticipate that many of these issues will arise.

1. CMS analysis of Medicare 2008 Medicare claims, unpublished (internal memorandum Feb 2009).
2. RTI Analysis of MDS 3.0 Data, unpublished (program: Is23_request.log).
3. RTI Analysis of MDS 3.0 Data, unpublished (program: quarter_3_4_complete\db101_request.xlsx).
4. MDS 3.0 RAI User's Manual
5. Medicare Payment Advisory Commission (MedPAC). (2011, March). Chapter 10: Long-term care hospital services. In Report to the Congress: Medicare payment policy (pp. 231–256). Washington, DC. Retrieved from http://medpac.gov/documents/Mar11_EntireReport.pdf
6. Medicare Payment Advisory Commission (MedPAC). (2011, March). Chapter 9: Inpatient rehabilitation facility services. In Report to the Congress: Medicare payment policy (pp. 203–227). Washington, DC. Retrieved from http://medpac.gov/documents/Mar11_EntireReport.pdf

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

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.

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

0181 : Increase in number of pressure ulcers

0201 : Pressure ulcer prevalence (hospital acquired)

0679 : Percent of High Risk Residents with Pressure Ulcers (Long Stay)

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.

Although there are related NQF endorsed measures focused on pressure ulcers, each is designed to address the needs of a population with significantly different needs, risk factors and treatment goals from the three post acute care populations targeted by this measure: #0679: Percent of High Risk Patients with Pressure Ulcers (Long Stay), targets the long stay nursing home population. #0201: Pressure Ulcer Prevalence (Hospital Acquired), targets patients in acute care hospitals. #0181: Increase in the Number of Pressure Ulcers, targets the home health population.

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.)

The proposed nursing home measure reports Stage 2-4 pressure ulcers based on new items on the MDS 3.0. As Saliba and Buchanan noted during the development of the MDS 3.0, whenever possible, they included items or language used in other health care settings in order to improve communication across settings and providers (e.g., the pressure ulcer items included in the National Pressure Ulcer Advisory Panel's PUSH tool are used to describe pressure ulcers in the MDS 3.0).(1) Therefore, the proposed measure based on the new MDS 3.0 pressure ulcer items better aligns the measure with accepted best practices. Additionally, Stage 1 ulcers are not included in this measure because recent studies identified difficulties in objectively measuring them across different populations (1). Further, this measure reports on new or worsened Stage 2-4 pressure ulcers. Thus, if a pressure ulcer is present on admission and worsened during the stay, it would be included in this measure. While the pressure ulcer that is present on admission, and did not worsen during the stay, would not be included.

The other NQF-endorsed pressure ulcer measures differ from the proposed measure because other measures only examine hospital acquired (nosocomial), Stage 2 or worse pressure ulcers, on the day of the prevalence study. Or other measures focus on the acute care hospital setting and report only on Stage 3-4 pressure ulcers that were not present on admission (which does not report Stage 2 pressure ulcers or new or worsening Stage 3-4 pressure ulcers. Or other measures focus on the home care setting and whether: (1) patients with assessed risk for pressure ulcers have a physician-ordered plan of care that includes prevention intervention(s), (2) patients with assessed risk for pressure ulcers have interventions for pressure ulcer prevention that were implemented during their episode of home care, or (3) patients were assessed for risk of pressure ulcers at start/resumption of home health care.

The current measure for nursing homes is expanded to two additional post-acute care settings (LTCHs and IRFs), as well as to additional data sources (MDS 3.0 will remain the data source of nursing homes, IRF-PAI will be data source for IRFs, and the LTCH CARE Data Set will be data source for LTCHs).The proposed measure is harmonized across three settings as recommended in the NQF voluntary consensus standards A Framework for Measuring Quality for Prevention and Management of Pressure Ulcers . The standards state that "to understand the impact of pressure ulcers across settings, quality measures addressing prevention, incidence, and prevalence of pressure ulcers must be harmonized and aligned" and that "it is critical that we harmonize these methods across settings (2).

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.

2. National Quality Forum. National voluntary consensus standards for developing a framework for measuring quality for prevention and management of pressure ulcers. April 2008. Available from http://www.qualityforum.org/Projects/Pressure_Ulcers.aspx.

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:

Contact Information

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Co.2 Point of Contact: Helen, Dollar-Maples, Helen.Dollar-Maples@cms.hhs.gov, 410-786-7214-

Co.3 Measure Developer if different from Measure Steward: RTI International

Co.4 Point of Contact: Karen, Reilly, kreilly@rti.org, 781-434-1791-

Additional Information

<p>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. See Table 4. Nursing Home Quality Measures Technical Expert Panel (January 2009) showing a list of workgroup or panel member names and organizations. 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.</p> <p>See attached Appendix D : Inpatient Rehabilitation Facilities and Long-Term Care Hospitals Quality Measures Technical Expert Panel (July 2011) for a list of technical panel member names and organizations. A TEP on LTCHs met on January 31, 2011, and July 7, 2011, to review proposed LTCH quality measures and provide feedback on the specifications, as well as to provide input on the feasibility of the measures, any unintended consequences, and suggestions for improving the measures. A TEP on inpatient rehabilitation facilities met on February 4, 2011, and July 6, 2011, to review proposed IRF quality measures and provide feedback on the specifications, as well as to provide input on the feasibility of the measures, any unintended consequences, and suggestions for improving the measure.</p>
<p>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: 02, 2010 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? 02, 2013</p>
<p>Ad.6 Copyright statement: Ad.7 Disclaimers:</p>
<p>Ad.8 Additional Information/Comments:</p>