



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 #: 3000

Corresponding Measures:

De.2. Measure Title: PACE-Acquired Pressure Ulcer/Injury Prevalence Rate

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

De.3. Brief Description of Measure: Prevalence of PACE-acquired pressure ulcers/injuries (Stages 3, 4, unstageable, and deep tissue injury) among PACE participants in a quarter, expressed as persons with 1 or more pressure ulcers/injuries divided by the number of participants on the PACE organization's census who resided in a home setting (home or assisted living facility) for at least one day during the quarter.

This is a rate-based measure of skin breakdown due to pressure or pressure combined with sheer. The rate will be calculated quarterly. The target population is participants on a PACE organization's census who are residing in a home setting for at least one day during a quarter.

1b.1. Developer Rationale: The measure was developed for a unique program—CMS-funded Projects for All-Inclusive Care of the Elderly (PACE). The goal of PACE is to provide healthcare and other services to keep PACE participants in their homes. PACE participants are age 55+, Medicare or Medicaid-eligible or dually eligible, and have been determined to be nursing home eligible as defined by their state.

Previous pressure ulcer/injury prevalence rates for the PACE program overall are not available. The expected range for pressure ulcer/injury rates would lie between the rates for nursing home residents and the rates for persons receiving home care. The incidence of pressure injuries ranges from 0.4 percent to 38 percent in acute care hospitals, from 2 percent to 24 percent in long-term care nursing facilities, and from 0 percent to 17 percent in home care settings (Cuddigan, Berlowitz, & Ayello, 2001).

Pressure ulcer/injury rates are an important safety concern in acute care and long-term care settings. There are an estimated 2.5 million pressure ulcers/injuries per year in acute care hospitals in the United States, with a cost of \$9.1 billion to \$11.6 billion (Reddy, Gill, & Ronchon, 2006; Shreve, Van Den Bos, Gray, Halford, Rustagi, & Ziemkiewicz, 2010; Institute for Healthcare Improvement, 2014). In addition to increasing health care resource consumption and costs, pressure ulcers also cause pain to the patient, prolong hospital stays, and place patients at risk for other adverse events (Gorecki et al., 2009; Lyder et al., 2012; National Pressure Ulcer Advisory Panel & European Pressure Ulcer Advisory Panel, 2009). The occurrence of pressure ulcers is considered a serious consequence of substandard quality of care.

The prevention of pressure ulcers/injuries has become the focus of national policy and patient safety initiatives. NQF (2008) considers HAPUs of stages III and IV "largely preventable, grave errors" (p. 1). On October 1, 2008, CMS stopped reimbursing hospitals for costs of treating stage III and IV HAPUs (CMS, 2007; Stone et al., 2010). Additionally, CMS is planning to implement the Hospital-Acquired Condition (HAC) Reduction Program in the near future, under which hospitals will be penalized for excess rates of HAPUs and other HACs (CMS, 2014). National health care stakeholders, including the National Quality Strategy and the CMS Partnership for Patients and HAC Reduction Program, have identified pressure ulcers as a patient safety concern.

Citation:

Center for Medicare & Medicaid Services. (2007). FY 2008 inpatient prospective payment system final rule. Retrieved from <http://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2007-Fact-sheets-items/2007-08-012.html>.

Center for Medicare & Medicaid Services. (2014). Fact sheets: CMS proposals to improve quality of care during hospital inpatient

stays. Retrieved August 24, 2014, from <http://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2014-Fact-sheets-items/2014-04-30-2.html>.

Cuddigan J, Berlowitz DR, Ayello EA. Pressure ulcers in America: prevalence, incidence, and implications for the future. Reston VA: National Pressure Ulcer Advisory Panel; 2001.

Gorecki, C., Brown, J. M., Nelson, E. A., Briggs, M., Schoonhoven, L., Dealey, C., ... Nixon, J. (2009). Impact of pressure ulcers on quality of life in older patients: A systematic review. *Journal of the American Geriatrics Society*. 57(7), 1175–1183.

Institute for Healthcare Improvement. (2014). Protecting 5 million lives from harm: Overview. Cambridge, MA. Retrieved September 27, 2014, from <http://www.ihl.org/engage/Initiatives/completed/5MillionLivesCampaign/Pages/default.aspx>.

Lyder, C. H., Wang, Y., Metersky, M., Curry, M., Kliman, R., Verzier, N. R., & Hunt, D. R. (2012). Hospital-acquired pressure ulcers: Results from the national Medicare Patient Safety Monitoring System Study. *Journal of the American Geriatrics Society*, 60(9), 1603–1608.

National Pressure Ulcer Advisory Panel (NPUAP)/EPUAP. (2009). Prevention and treatment of pressure ulcers: Clinical practice guideline. Washington, DC: NPUAP.

National Quality Forum. (2008). Serious reportable events. Retrieved from <https://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=57355>.

Reddy, M., Gill, S. S., & Rochon, P. (2006). Preventing pressure ulcers: A systematic review. *The Journal of the American Medical Association*, 296(8), 974–984.

Shreve, J., Van Den Bos, J., Gray, T., Halford, M., Rustagi, K., & Ziemkiewicz, E. (2010). The economic measurement of medical errors. Sponsored by Society of Actuaries' Health Section. Milliman Inc.

Stone, P. W., Glied, S. A., McNair, P. D., Matthes, N., Cohen, B., Landers, T. F., & Larson, E. L. (2010). CMS changes in reimbursement for HAIs. *Medical Care*, 48, 433–439. doi: 10.1097/MLR.0b013e3181d5fb3f.

S.4. Numerator Statement: The total number of participants enrolled during the quarter that have at least one documented PAPU/I (Stages 3, 4, unstageable, and deep tissue injury) acquired while a PACE participant.

S.6. Denominator Statement: Number of participants on a PACE organization's census during the quarter.

S.8. Denominator Exclusions: Exclude participants who lived outside their home/assisted living setting for every day of the quarter.

De.1. Measure Type: Outcome

S.17. Data Source: Electronic Health Records, Management Data, Paper Medical Records

S.20. Level of Analysis: Facility

IF Endorsement Maintenance – Original Endorsement Date: Jan 26, 2017 **Most Recent Endorsement Date:** Jan 26, 2017

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

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

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

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

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

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form

[PACE_PAPUI_NQF_Evidence_Attachment_Revised-636087536852122696.docx](#)

1a.1 For Maintenance of Endorsement: Is there new evidence about the measure since the last update/submission?

Do not remove any existing information. If there have been any changes to evidence, the Committee will consider the new evidence. Please use the most current version of the evidence attachment (v7.1). Please use red font to indicate updated evidence.

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.

The measure was developed for a unique program—CMS-funded Projects for All-Inclusive Care of the Elderly (PACE). The goal of PACE is to provide healthcare and other services to keep PACE participants in their homes. PACE participants are age 55+, Medicare or Medicaid-eligible or dually eligible, and have been determined to be nursing home eligible as defined by their state.

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Center for Medicare & Medicaid Services. (2014). Fact sheets: CMS proposals to improve quality of care during hospital inpatient stays. Retrieved August 24, 2014, from <http://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2014-Fact-sheets-items/2014-04-30-2.html>.

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Institute for Healthcare Improvement. (2014). Protecting 5 million lives from harm: Overview. Cambridge, MA. Retrieved September 27, 2014, from <http://www.ihl.org/engage/Initiatives/completed/5MillionLivesCampaign/Pages/default.aspx>.

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National Pressure Ulcer Advisory Panel (NPUAP)/EPUAP. (2009). Prevention and treatment of pressure ulcers: Clinical practice guideline. Washington, DC: NPUAP.

National Quality Forum. (2008). Serious reportable events. Retrieved from <https://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=57355>.

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Stone, P. W., Glied, S. A., McNair, P. D., Matthes, N., Cohen, B., Landers, T. F., & Larson, E. L. (2010). CMS changes in reimbursement for HAls. *Medical Care*, 48, 433–439. doi: 10.1097/MLR.0b013e3181d5fb3f.

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.

A sample of 50 organizations was randomly selected out of a total of 114 PACE organizations. Additionally, the oldest and two newest PACE organizations were included in the sample. A total of 29 of these organizations submitted data from January and February 2015 for pressure injury prevalence. One (1) of the organizations had only one (1) participant in January and February 2015 and this organization was excluded from the summary and analysis as it is an extreme outlier that cannot provide reliable pressure injury rates. The table below shows the organization-level descriptive statistics for PACE-Acquired Pressure Ulcer/Injury (PAPU/I) rates and stage 3 or above PACE-Acquired Pressure Ulcer/Injury (PAPU/I stage 3+) rates for the 28 organizations.

Pressure Injuries-Related Measures(n) Mean, Std. Dev., Median, Minimum, Maximum

Average participants reviewed for pressure injuries (n = 28) 198.80, 153.76, 152.75, 76, 852

Number of participants with PACE-acquired pressure injuries among every 100 participants (n = 28) 1.85, 1.40, 1.44, 0.31, 5.60

Number of participants with PACE-acquired stage 3 or above pressure injuries (n = 28) 0.81, 1.06, 0.38, 0, 3.47

Testing showed some evidence of variation in pressure injury rates by academic affiliation and with metropolitan status, however due to small sample size, none of these differences were statistically significant.

Descriptive Summary of All Pressure Ulcer/Injury Rates by Academic Affiliation and Location (n = 28)

Affiliated with Academic Medical Center

Yes/No	N	Mean	SD	Median	z-stat*	p-value
Yes	3	2.23	1.72	1.71	-0.56	0.58
No	25	1.80	1.39	1.32		

Location	N	Mean	SD	Median	Chi-squared**	p-value
Metropolitan	22	1.91	1.24	1.71	1.52	0.47
Micropolitan	2	1.11	0.64	1.11		
Non-metropol.	4	1.86	2.51	0.74		

* Wilcoxon-Mann-Whitney test was used to examine difference in all PAPU/I rates by academic affiliation.

** Kruskal Wallis test was used to examine difference in all PAPU/I rates by location.

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.

Pressure ulcer data across all PACE sites is not available, and the data presented for PACE above are the rates calculated during the testing of this measure. Thus, evidence currently available is primarily from hospital- or nursing home-based studies. It is estimated that there are approximately 2.5 million pressure ulcers in acute care hospitals in the United States (Sherve, 2010), or a nationwide hospital-associated pressure ulcer (HAPU) incidence rate of 4.5 percent (Lyder et al., 2012). In another study using data from a national quality indicators database, researchers observed variance in pressure ulcers by unit types (Bergquist-Beringer, Dong, He, & Dunton, 2013). Critical care units had the highest rates (8.1 percent) relative to step-down units (3.7 percent), medical units (3.1 percent), surgical units (2.4 percent), and medical-surgical combined units (2.6 percent). The researchers also reported that the frequency of interventions to prevent pressure ulcers also varied among at-risk patients. For example, the researchers reported that only 56.3 percent of at-risk patients received nutrition support. Other studies of pressure ulcers in U.S. acute care hospitals indicated that the occurrence of pressure ulcers during hospitalization was related to hospital characteristics (e.g., bed size, teaching status, and Magnet status), nursing resources, and work conditions (Park, Boyle, Bergquist-Beringer, Staggs, & Dunton, 2014; Choi, Bergquist-Beringer, & Staggs, 2013).

Researchers have also studied pressure ulcers among nursing home residents. Park-Lee and Caffrey (2009) report that about 11 percent of the 1.5 million U.S. nursing residents in 2004 developed at least one pressure ulcer. They also found that only 35 percent of residents with stage II or higher pressure ulcers received wound care by specially trained professionals or staff.

There are performance gaps in pressure ulcers. In 2004, pressure ulcer rates in U.S. nursing homes ranged from 2 percent to 28 percent (Park-Lee & Caffrey, 2009). In 2010, a study using data obtained from acute care hospital units found that HAPU rates differed by unit type (Bergquist-Beringer, Dong, He, & Dunton, 2013).

Citations:

Bergquist-Beringer, S., Dong, L., He, J., & Dunton, N. (2013). Pressure ulcers and prevention among acute care hospitals in the United States. *The Joint Commission Journal on Quality and Patient Safety*, 39, 404–414.

Choi, J., Bergquist-Beringer, S., & Staggs, V. S. (2013). Linking RN workgroup job satisfaction to pressure ulcers among older adults on acute care hospital units. *Research in Nursing & Health*, 36(2), 181–190.

Lyder, C. H., Wang, Y., Metersky, M., Curry, M., Kliman, R., Verzier, N. R., & Hunt, D. R. (2012). Hospital-acquired pressure ulcers: Results from the national Medicare Patient Safety Monitoring System study. *Journal of the American Geriatrics Society*, 60(9), 1603–1608.

Park, S. H., Boyle, D. K., Bergquist-Beringer, S., Staggs, V. S., & Dunton, N. E. (2014). Concurrent and lagged effects of registered nurse turnover and staffing on unit-acquired pressure ulcers. *Health Services Research*, 49(4), 1205–1225.

Park-Lee, E., & Caffrey, C. (2009) Pressure ulcers among nursing home residents: United States, 2004. NCHS Data Brief, 14. Retrieved from <http://www.cdc.gov/nchs/data/databriefs/db14.pdf>.

Shreve, J., Van Den Bos, J., Gray, T., Halford, M., Rustagi, K., & Ziemkiewicz, E. (2010). The economic measurement of medical errors. Sponsored by Society of Actuaries' Health Section. Milliman Inc.

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.

Not applicable.

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

In a study of the National Medicare Patient Safety Monitoring System, the researchers observed variance by patient characteristics and States across the nation (Lyder et al., 2012). Specifically, patients that were older, nonwhite, and with chronic conditions (e.g., congestive heart failure and cerebrovascular disease) were more likely to develop HAPU, and the highest HAPU incidence rates were observed in the Northeast and Missouri (4.6 percent and 5.9 percent, respectively).

Citation:

Lyder, C. H., Wang, Y., Metersky, M., Curry, M., Kliman, R., Verzier, N. R., & Hunt, D. R. (2012). Hospital-acquired pressure ulcers: Results from the national Medicare Patient Safety Monitoring System study. *Journal of the American Geriatrics Society*, 60(9), 1603–1608.

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

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

Elderly, 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.)

None at this time.

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

This is not an eMeasure Attachment:

S.2b. Data Dictionary, Code Table, or Value Sets (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)

Attachment Attachment: PAPUI_Data_Collection_Code_Sheet-636087551818946917-636558697126339897-637267045681078162.xlsx

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

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

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

Not an instrument-based measure

S.3.1. For maintenance of endorsement: Are there changes to the specifications since the last updates/submission. If yes, update the specifications for S1-2 and S4-22 and explain reasons for the changes in S3.2.

No

S.3.2. For maintenance of endorsement, please briefly describe any important changes to the measure specifications since last measure update and explain the reasons.

No changes.

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 total number of participants enrolled during the quarter that have at least one documented PAPU/I (Stages 3, 4, unstageable, and deep tissue injury) acquired while a PACE participant.

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).

Inclusion criteria for numerator*:

- Include participants living at home or in assisted living facilities.
- Include participants with pressure ulcers that were identified less than 24 hours after the participant was in an emergency room, or admitted to the hospital, nursing home, skilled nursing facility, hospice facility, or rehabilitation facility.

Exclusion criteria for numerator:

- Exclude participants whose pressure ulcer was acquired before they were enrolled in PACE, as determined by their initial assessment.
- Exclude participants who don't have pressure ulcers, even if they have other kinds of skin breakdown that developed during the quarter, such as diabetic ulcers or venous ulcers.

Specific data collection items and responses:

- Participant No.
- Age (at end of month):
 - Age in years if 55–89
 - Age greater >89 = 90+
 - Unknown = 99
- Gender:
 - Male = 1
 - Female = 2
 - Unknown = 99
- Pressure Injury No.
- Month
 - January = 1
 - February = 2
 - March = 3
 - April = 4
 - May = 5
 - June = 6
 - July = 7
 - August = 8
 - September = 9
 - October = 10
 - November = 11
 - December = 12

- Pressure Injury Stage

- Stage 1 = 1
- Stage 2 = 2
- Stage 3 = 3
- Stage 4 = 4
- Unstageable = 5
- Deep Tissue = 6
- Unknown = 99

Pressure Injury as defined by the National Pressure Ulcer Advisory Panel**:

A pressure injury is localized damage to the skin and/or underlying soft tissue usually over a bony prominence or related to a medical or other device. The injury can present as intact skin or an open ulcer and may be painful. The injury occurs as a result of intense and/or prolonged pressure or pressure in combination with shear. The tolerance of soft tissue for pressure and shear may also be affected by microclimate, nutrition, perfusion, co-morbidities and condition of the soft tissue.

Pressure ulcers/injuries are characterized by stage:

Stage 1 Pressure Injury: Non-blanchable erythema of intact skin

Intact skin with a localized area of non-blanchable erythema, which may appear differently in darkly pigmented skin. Presence of blanchable erythema or changes in sensation, temperature, or firmness may precede visual changes. Color changes do not include purple or maroon discoloration; these may indicate deep tissue pressure injury.

Stage 2 Pressure Injury: Partial-thickness skin loss with exposed dermis

Partial-thickness loss of skin with exposed dermis. The wound bed is viable, pink or red, moist, and may also present as an intact or ruptured serum-filled blister. Adipose (fat) is not visible and deeper tissues are not visible. Granulation tissue, slough and eschar are not present. These injuries commonly result from adverse microclimate and shear in the skin over the pelvis and shear in the heel. This stage should not be used to describe moisture associated skin damage (MASD) including incontinence associated dermatitis (IAD), intertriginous dermatitis (ITD), medical adhesive related skin injury (MARS), or traumatic wounds (skin tears, burns, abrasions).

Stage 3 Pressure Injury: Full-thickness skin loss

Full-thickness loss of skin, in which adipose (fat) is visible in the injury and granulation tissue and epibole (rolled wound edges) are often present. Slough and/or eschar may be visible. The depth of tissue damage varies by anatomical location; areas of significant adiposity can develop deep wounds. Undermining and tunneling may occur. Fascia, muscle, tendon, ligament, cartilage and/or bone are not exposed. If slough or eschar obscures the extent of tissue loss this is an Unstageable Pressure Injury.

Stage 4 Pressure Injury: Full-thickness skin and tissue loss

Full-thickness skin and tissue loss with exposed or directly palpable fascia, muscle, tendon, ligament, cartilage or bone in the injury. Slough and/or eschar may be visible. Epibole (rolled edges), undermining and/or tunneling often occur. Depth varies by anatomical location. If slough or eschar obscures the extent of tissue loss this is an Unstageable Pressure Injury.

Unstageable Pressure Injury: Obscured full-thickness skin and tissue loss

Full-thickness skin and tissue loss in which the extent of tissue damage within the injury cannot be confirmed because it is obscured by slough or eschar. If slough or eschar is removed, a Stage 3 or Stage 4 pressure injury will be revealed. Stable eschar (i.e. dry, adherent, intact without erythema or fluctuance) on an ischemic limb or the heel(s) should not be removed.

Deep Tissue Pressure Injury: Persistent non-blanchable deep red, maroon or purple discoloration

Intact or non-intact skin with localized area of persistent non-blanchable deep red, maroon, purple discoloration or epidermal separation revealing a dark wound bed or blood filled blister. Pain and temperature change often precede skin color changes. Discoloration may appear differently in darkly pigmented skin. This injury results from intense and/or prolonged pressure and shear forces at the bone-muscle interface. The wound may evolve rapidly to reveal the actual extent of tissue injury, or may resolve without tissue loss. If necrotic tissue, subcutaneous tissue, granulation tissue, fascia, muscle or other underlying structures are visible, this indicates a full thickness pressure injury (Unstageable, Stage 3 or Stage 4). Do not use DTPI to describe vascular,

traumatic, neuropathic, or dermatologic conditions.

* The numerator specified in the prevalence calculation will be limited to Stages 3 and above (i.e., Stages 3, 4, unstageable, and deep tissue injury). However, data will be collected on pressure ulcers/injuries of all stages using the definitions supplied.

** This PU/I data collection will follow the NPUAP pressure ulcer/injury definition and staging categories. More information can be found in this link: <http://www.npuap.org/national-pressure-ulcer-advisory-panel-npuap-announces-a-change-in-terminology-from-pressure-ulcer-to-pressure-injury-and-updates-the-stages-of-pressure-injury/>

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

Number of participants on a PACE organization's census during the quarter.

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).

Number of participants on the PACE site census at least one day during the quarter.

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

Exclude participants who lived outside their home/assisted living setting for every day of the quarter.

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.)

• Exclude participants who lived outside their home/assisted living setting for every day of the quarter. Exclude participants who spent the entire quarter living:

- In a nursing home facility
- In a hospice facility
- In hospice care at home
- In skilled nursing care, or
- In a rehabilitation setting

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.)

Risk stratification will be used rather than risk adjustment. Stratification will be based on PACE organization characteristics. Because PACE participants are frail elderly in each organization, they may be considered a single population, not requiring risk adjustment to account for different populations across PACE organizations.

Two demographic variables—age and gender—will be collected so that the potential for sociodemographic adjustment can be assessed.

- Age is defined as the participant age at the end of the reporting month. It is to be recorded in single years from 55 through 89. To comply with HIPAA requirements, all participants aged 90 and above will be top coded at 90.
- Gender is to be classified as male or female.

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

Stratification by risk category/subgroup

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.)

1. The target population is all included participants on a PACE organization's census for at least one day during a calendar quarter.
2. The numerator is the number of PACE participants whose clinical records documented the presence of one or more included pressure injuries during the quarter.
3. Count the number of included PACE participants on a PACE organization's census for at least one day during a calendar quarter.
4. Divide the quarterly number of participants with pressure injuries by the number of participants on the census during the quarter.

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.

No sampling. Data to be collected from all PACE participants, subject to the exclusions listed above.

S.16. Survey/Patient-reported data (If measure is based on a survey or instrument, provide instructions for data collection and guidance on minimum response rate.)

Specify calculation of response rates to be reported with performance measure results.

Not applicable.

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

If other, please describe in S.18.

Electronic Health Records, Management Data, Paper Medical Records

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.

Collection instrument is provided as an uploaded appendix.

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 in attached appendix at A.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)

Other

If other: PACE programs provide services to participants who live in their own homes (or in home-like settings) in the community. Participants attend PACE centers regularly (e.g., 3 days per week) for a variety of activities and support services. If a participant

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

Not applicable.

2. Validity – See attached Measure Testing Submission Form

PACE_PAPUI_NQF_Testing_Attachment_Revised.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.

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 or collected by and used by healthcare personnel during the provision of care (e.g., blood pressure, lab value, diagnosis, depression score), Abstracted from a record by someone other than person obtaining original information (e.g., chart abstraction for quality measure or registry)

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.

Some data elements are in defined fields in 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).

Some PACE Organizations do not use electronic medical records. All organizations will abstract data manually for this measure from either their electronic or paper charts.

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.

We conducted a survey with PACE organizations to collect information on their experiences with data collection. Overall, the data collection time was reasonable, around 4 hours with less than an hour for data submission. While the sites reported a fairly high data collection burden, this was balanced by the fact that 60% of the sites stated that the data were very easy to obtain. Almost all (91%) of the sites stated that PAPU/I rates are useful for quality improvement and over half felt that the rates would be a valid way to distinguish good from poor care quality. Thus, although there is a perceived data collection burden, this is outweighed by the usefulness of the data for quality improvement and distinguishing PACE sites based on their quality of care. Because of the high reported ease of obtaining the data, we anticipate that the perceived data collection burden will decrease as sites become more familiar with the data collection and submission process.

- 68% of PACE organizations participating in the study manually extracted pressure injury data from electronic health records. Just 2 of 22 PACE organizations collected pressure ulcer data from paper records.
- The median time required for pressure injury data collection was approximately four (4) hours. Data submission took less than one hour. 57% of PACE organizations categorized the data collection burden as high or very high.
- 60% of PACE organizations said that it was “very easy” to obtain the data elements for pressure injuries.
- 91% of PACE organizations in the study “agreed” or “strongly agreed” that pressure injury data was useful for quality improvement. 57% said that pressure injury rates would be a valid way to distinguish good from poor quality of care at PACE sites.
- Reporting for auxiliary data (risk assessment, prevention activities) related to pressure injuries was low. Most PACE organizations could not find such data elements in their systems

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).

None.

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	
Not in use	

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

Not applicable.

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 a new measure. CMS is evaluating its use in upcoming PACE quality programs.

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.)

CMS is considering the use of the PACE-Acquired Pressure Ulcer/Injury Prevalence Rate in accountability applications within the next two years.

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.

The measure has not been implemented yet so no results or data have been provided.

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 measure has not been implemented yet so no results or data have been provided.

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.

Not applicable.

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

Not applicable.

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

Not applicable.

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

Not applicable.

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.

Not applicable as this is a newly developed 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.

No negative unintended consequences have been identified.

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.

Yes

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

0201 : Pressure ulcer prevalence (hospital acquired)

0538 : Pressure Ulcer Prevention and Care

0678 : Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short-Stay)

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.

Not applicable.

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.

The measures being developed for the PACE program are not closely aligned with any of the four endorsed pressure ulcer/injury measures. It appears that they all use the same conceptual definition of a pressure ulcer/injury, although the data sources and methods differ enough from each other to result in concrete definitional differences. In addition to differences in data sources, none of the related measures collect data on pressure injuries acquired in the home setting or pressure ulcers/injuries in PACE participants. The proposed measure includes pressure injuries of any stage in PACE participants. Percent of High-Risk Residents With Pressure Ulcers (Long Stay) (NQF 0679) is limited to high risk long-stay patients in nursing facilities with pressure ulcers that are Stage II or greater, while Percent of Residents or Patients With Pressure Ulcers That Are New or Worsened (Short Stay) (NQF 0678) is limited to short-stay nursing facility patients with Stage II–IV pressure ulcers that are new or worsened since the prior assessment. Pressure Ulcer Prevalence (Hospital Acquired) (NQF 0201) is limited to pressure ulcers Stage II or greater acquired during a stay in an acute care hospital, and Pressure Ulcer Rate (NQF 0538) is limited to pediatric hospitals.

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.](#)

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:** [AppendixA1_PAPUI_Data_Collection_Sheet.docx](#)

Contact Information

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

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: [Econometrica, Inc.](#)

Co.4 Point of Contact: [Kristie, McNealy](#), kmcnealy@econometricainc.com, 301-657-9883-

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.

[The PACE-Acquired Pressure Ulcer/Injury Prevalence Rate measure was developed in partnership with CMS by a team lead by Econometrica, Inc. consisting of Econometrica \(prime contractor\); the University Of Kansas Medical Center Research Institute \(KUMCRI; subcontractor\); Drs. Rosemary Kennedy and Barbara Resnick, and Ms. Heidi Bossley \(consultants\).](#)

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released:

Ad.3 Month and Year of most recent revision:

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

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

Ad.6 Copyright statement:

Ad.7 Disclaimers:

Ad.8 Additional Information/Comments: