**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 0677

**Measure Title**: Percent of Residents Who Self-Report Moderate to Severe Pain (Long-Stay)

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Click here to enter composite measure #/ title

**Date of Submission**: 4/16/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.**   1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** Clinical care processes typically include multiple steps: assess → identify problem/potential problem → choose/plan intervention (with patient input) → provide intervention → evaluate impact on health status. If the measure focus is one step in such a multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1. This is a measure of**: *(should be consistent with type of measure entered in De.1)*

Outcome

Outcome:

Patient-reported outcome (PRO): Self-reported pain

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Click here to name what is being measured

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

Nursing home structural characteristics and care processes can impact the quality of care that facilities provide to residents (Castle & Anderson, 2011; Hyer, Thomas, Branch, Harman, Johnson, & Weech-Maldonado, 2011; Mukamel, Weimer, Spector, Ladd, & Zinn, 2008); therefore, they may impact residents’ health outcomes. Relevant structural characteristics that may impact nursing home care in pain management include available resources, such as staffing, finances, and infrastructure (Banaszak-Holl, Zinn, & Mor, 1996; Castle & Anderson, 2011; Pfeffer & Salancik, 2003). Nursing homes with better resource availability (e.g., higher staffing level) may be better equipped to identify and treat resident pain and, thus, have a lower percentage of residents self-reporting moderate to severe pain (Castle & Anderson, 2011). In addition, nursing home processes that are relevant to pain management among residents may include (1) staff training and education related to pain identification and treatment; and (2) standardized pain assessment and management procedures (Herr, 2011; Mukamel, Weimer, Spector, Ladd, & Zinn, 2008). These processes should promote earlier and better detection and management of pain, and nursing homes that engage in these processes may have a lower percentage of residents self-reporting moderate to severe pain.

***Figure 1*** below summarizes the relationship of nursing home structures and processes to this patient-reported health outcome.

**Figure 1. Role of Nursing Homes’ Structure and Process in Resident Self-Reported Pain Outcome**

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**1a.3** **Value and Meaningfulness:**  **IF** this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

Pain is highly prevalent among nursing home residents. Previous studies find that 40-85% of nursing home residents have persistent or chronic pain (Allcock, McGarry, & Elkan, 2002; Cadogan, Edelen, Lorenz, Jones, Yosef, Hascall, Simon, Harker, Ferrell, & Saliba, 2008; Ferrell, Ferrell, & Osterweil, 1990; Ferrell, 1995; Won, Lapane, Vallow, Schein, Morris, & Lipsitz, 2004). Pain is often associated with negative physical (Cadogan, Edelen, Lorenz, Jones, Yosef, Hascall, Simon, Harker, Ferrell, & Saliba, 2008) and behavioral health outcomes (Tse, & Ho, 2013), which may have a substantial impact on residents’ quality of life. However, pain in nursing home residents is often under-identified (Burfield, Wann, Sole, & Cooper, 2012; Sengstaken & King, 1993) and not sufficiently managed (Monroe, Misra, Habermann, Dietrich, Bruehl, Cowan, Newhouse, & Simmons, 2015; Won, Lapane, Gambassi, Bernabei, Mor, & Lipsitz, 1999). Thus, pain is an important outcome to measure and report for the nursing home population.

This measure, Percent of Residents Who Self-Report Moderate to Severe Pain (Long-Stay) (NQF #0677), is currently available to consumers and providers via public reporting on the Nursing Home Compare (NHC) website. Public reporting on nursing home quality may encourage quality improvement through two mechanisms (Berwick, James, & Coye, 2003; Werner, Konetzka, Stuart, Norton, Polsky, & Park, 2009): (1) public reporting improves consumers’ ability to identify and select higher quality nursing homes; and (2) due to increased consumer demand for higher quality care and improved provider awareness of quality performance, providers may invest resources in quality improvement, attempting to improve quality to compete for market share (Marshall, Shekelle, Leatherman, & Brook, 2000; Fung, Lim, Mattke, Damberg, & Shekelle, 2008).

With respect to this quality measure, public reporting may encourage consumers to select nursing homes with better performance (i.e., lower scores). Although the literature on consumer response to public reporting for nursing homes is mixed (Mukamel, Haeder, & Weimer, 2014; Castle, 2009; Shugarman & Brown, 2006), evidence suggests that residents value resident and family rating of experience with nursing home care (Hefele, Acevedo, Nsiah-Jefferson, Bishop, Abbas, Damien, & Ramos, 2016; Hefele, Li, Campbell, Barooah, & Wang, 2018). In addition, potential residents at a higher risk for pain chose nursing homes with lower scores on this quality measure after public reporting was implemented (Werner, Konetzka, Stuart, & Polsky, 2011). The results of this study indicate that this quality measure is meaningful to current and potential consumers of nursing home care.

In addition, this quality measure may encourage nursing homes to invest in quality improvement activities related to pain identification, assessment, and management, including staff training and standardized protocols. Mukamel and colleagues obtained input from 724 nursing home administrators via a survey distributed to a random national sample of 1,502 administrators regarding their use of NHC data, including self-reported pain measures (2007). This study found that 69% of the responding facilities consistently reviewed their quality scores and 63% investigated their scores; further, 42% changed quality-assurance priorities and 21% started new quality-assurance programs in response to the NHC data (which included self-reported pain; Mukamel, Spector, Zinn, Huang, Weimer, & Dozier, 2007). Overall, research suggests that the nursing home quality measures, and, specifically, self-reported moderate to severe pain, are a valuable source of information to providers and may help facilities assess and improve the quality of care provided in their facility (Mukamel, Weimer, Spector, Ladd, & Zinn, 2008).

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**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

Research suggests that a facility’s structural characteristics, such as staffing intensity, skill mix, and ratio of nurses to residents, are associated with the facility’s ability to provide higher quality of care to residents (Castle & Anderson, 2011; Hyer, Thomas, Branch, Harman, Johnson, & Weech-Maldonado, 2011). With respect to self-reported pain, research suggests that increasing levels of registered nurse (RN), licensed practical nurse (LPN), and nurse aide (NA) staffing, as well as increasing skill mix of nursing staff, are associated with significant (p<=0.05) improvements in pain management (Castle & Anderson, 2011).

Nursing homes’ processes may also be associated with the quality of care provided to residents. With respect to self-reported pain, evidence suggests that nursing homes can improve pain management by improving related processes, such as staff training and education. In addition, Mukamel and colleagues found that staff training that specifically targets self-reported pain was associated with significant (p<0.05) improvements in performance on the short-stay pain quality measure (2008). While this analysis did not examine the impact of facility processes on the long-stay pain measure specifically, it is reasonable to infer that facility response would not vary between the short and long stay populations served.

Furthermore, a study conducted in Hong Kong by Tse and Ho (2013) found that nursing home staff participating in staff lectures on pain assessment and management showed a significant improvement in their knowledge of and attitudes towards pain management (p<0.05), and residents reported significantly lower pain scores (p<0.05).

**References**

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# Tse, M., & Ho, S. (2013). Pain management for older persons living in nursing homes: a pilot study. *Pain Management Nursing*, 14(2), e10-e21.

**1a.3. SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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**1a.4** **OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.