



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 #: 2632

Corresponding Measures:

De.2. Measure Title: Long-Term Care Hospital (LTCH) Functional Outcome Measure: Change in Mobility Among Patients Requiring Ventilator Support

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

De.3. Brief Description of Measure: This measure estimates the risk-adjusted change in mobility score between admission and discharge among LTCH patients requiring ventilator support at admission.

1b.1. Developer Rationale: Patients in LTCHs present with clinically complex conditions. In addition to having complex medical care needs for an extended period of time, LTCH patients often have functional limitations due to the nature of their conditions, as well as deconditioning due to prolonged bed rest and treatment requirements (for example, ventilator use). These patients are therefore at high risk for functional decline during the LTCH stay that is both condition-related and iatrogenic (i.e., related to medical treatment).

According to the Centers for Disease Control and Prevention (CDC), more than 300,000 patients receive mechanical ventilation in the United States each year (CDC 2014). These patients are at increased risk for infections, such as pneumonia and sepsis, as well as other serious complications including pulmonary edema, pulmonary embolism, and death (Esteban et al 2002; Klompas et. al 2011). These complications can lead to longer stays in the intensive care unit and hospital, increased health care costs and increased risk of disability (or death) (CDC 2014). The estimated mortality rate in patients aged 85 years and older with acute lung injury on mechanical ventilation is 60 percent (Rubenfeld et al. 2005).

A Medicare Payment Advisory Commission analysis of Medicare data found that 16 percent of LTCH patients used at least one ventilator-related service in 2012 (MedPAC 2014). In fiscal year 2012, MS-LTC-DRG 207, a diagnosis-related group that refers to respiratory diagnosis with ventilator support for 96 or more hours, represented the most frequently occurring diagnosis among LTCH patients, at 11.3 percent of all LTCH discharges (MedPAC 2014) and MS-LTC-DRG-4, a diagnosis-related group that refers to tracheostomy with ventilator support for 96 or more hours or primary diagnosis except face, mouth, and neck without major OR procedure, represented an additional 1.3 percent of all LTCH discharges. Together, the two diagnosis-related groups account for a total of nearly 18,000 discharges. Furthermore, the number of ventilated patients in LTCHs has increased. The number of patients discharged with a respiratory diagnosis with ventilator support for 96 or more hours increased 7.4 percent between 2008 and 2011 (MedPAC 2014).

Functional improvement is particularly relevant for patients who require ventilator support because these patients have traditionally had limited mobility due to cardiovascular and pulmonary instability, delirium, sedation, lack of rehabilitation therapy staff, and lack of physician referral (Zanni et. al 2010).

In describing the importance of functional status, the National Committee on Vital and Health Statistics Subcommittee on Health (2001) noted, "Information on functional status is becoming increasingly essential for fostering healthy people and a health population. Achieving optimal health and well-being for Americans requires an understanding across the life space of the effects of people's health conditions on their ability to do basic activities and participate in life situations, in other words, their functional status."

This quality measure will inform LTCH providers about opportunities to improve care in the area of function and strengthen

incentives for quality improvement related to patient function.

Citations

Centers for Disease Control and Prevention (CDC). Ventilator-Associated Event (VAE). January 2014.

http://www.cdc.gov/nhsn/PDFs/pscManual/10-VAE_FINAL.pdf.

Esteban, A., A. Anzueto, et al. (2002). Characteristics and outcomes in adult patients receiving mechanical ventilation: a 28-day international study. JAMA 287(3): 345-355.

Klompas, M., Y. Khan, et al. (2011). Multicenter Evaluation of a Novel Surveillance Paradigm for Complications of Mechanical Ventilation. PLoS ONE 6(3): e18062.

MedPAC. Report to Congress: Medicare Payment Policy. Chapter 11: Long-term care hospital services. March 2014.

http://www.medpac.gov/chapters/Mar14_Ch11.pdf.

Rubenfeld, G. D., E. Caldwell, et al. (2005). Incidence and outcomes of acute lung injury. N Engl J Med 353(16): 1685-1693.

Zanni, J. M., Korupolu, R., Fan, E., Pradhan, P., Janjua, K., Palmer, J. B., Needham, D. M. (2010). Rehabilitation therapy and outcomes in acute respiratory failure: an observational pilot project. Journal of Critical Care, 25(2), 254-262. doi: 10.1016/j.jcrc.2009.10.010

National Committee on Vital and Health Statistics Subcommittee on Health. (2001). Classifying and Reporting Functional Status.

S.4. Numerator Statement: The measure does not have a simple form for the numerator and denominator. This measure estimates the risk-adjusted change in mobility score between admission and discharge among LTCH patients requiring ventilator support at admission. The change in mobility score is calculated as the difference between the discharge mobility score and the admission mobility score.

S.6. Denominator Statement: The target population (denominator) for this quality measure is the number of LTCH patients requiring ventilator support at the time of admission to the LTCH.

S.8. Denominator Exclusions: This quality measure has following patient-level exclusion criteria:

1) Patients with incomplete stays:

Rationale: When a patient has an incomplete stay, for example, the patients leave urgently due to a medical emergency, it can be challenging to gather accurate discharge functional status data. Patients with incomplete stays include patients who are unexpectedly discharged to an acute-care setting (Inpatient Prospective Payment System or Inpatient Psychiatric Hospital or unit) because of a medical emergency or psychiatric condition; patients transferred to another LTCH; patients who leave the LTCH against medical advice; patients who die; and patients with a length of stay less than 3 days.

2) Patients discharged to hospice:

Rationale: Patients discharged to hospice are excluded because functional improvement may not be a goal for these patients.

3) Patients with progressive neurological conditions, including amyotrophic lateral sclerosis, multiple sclerosis, Parkinson's disease, and Huntington's chorea:

Rationale: These patients are excluded because they may have functional decline or less predictable function trajectories.

4) Patients in coma, persistent vegetative state, complete tetraplegia, and locked-in syndrome:

Rationale: The patients are excluded because they may have limited or less predictable mobility recovery.

5) Patients younger than age 21:

Rationale: There is only limited evidence published about functional outcomes for individuals younger than 21.

6) Patients who are coded as independent on all the mobility items at admission:

Rationale: These patients are excluded because no improvement in mobility skills can be measured with the mobility items used in this quality measure.

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Facility-level quality measure exclusion: For LTCHs with fewer than 20 patient stays, data for this quality measure are not publicly reported.

De.1. Measure Type: Outcome

S.17. Data Source: Instrument-Based Data

S.20. Level of Analysis: Facility

IF Endorsement Maintenance – Original Endorsement Date: Jul 23, 2015 Most Recent Endorsement Date: Oct 25, 2019

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 applicable. This measure is not paired or grouped with another measure.

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

2632_NQF_evidence_4-22-19.docx

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

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

Yes

1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- Disparities in care across population groups.

1b.1. Briefly explain the rationale for this measure (e.g., how the measure will improve the quality of care, the benefits or improvements in quality envisioned by use of this measure)

If a COMPOSITE (e.g., combination of component measure scores, all-or-none, any-or-none), SKIP this question and answer the composite questions.

Patients in LTCHs present with clinically complex conditions. In addition to having complex medical care needs for an extended period of time, LTCH patients often have functional limitations due to the nature of their conditions, as well as deconditioning due to prolonged bed rest and treatment requirements (for example, ventilator use). These patients are therefore at high risk for functional decline during the LTCH stay that is both condition-related and iatrogenic (i.e., related to medical treatment).

According to the Centers for Disease Control and Prevention (CDC), more than 300,000 patients receive mechanical ventilation in the United States each year (CDC 2014). These patients are at increased risk for infections, such as pneumonia and sepsis, as well as other serious complications including pulmonary edema, pulmonary embolism, and death (Esteban et al 2002; Klompas et. al 2011). These complications can lead to longer stays in the intensive care unit and hospital, increased health care costs and increased risk of disability (or death) (CDC 2014). The estimated mortality rate in patients aged 85 years and older with acute lung injury on mechanical ventilation is 60 percent (Rubenfeld et al. 2005).

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procedure, represented an additional 1.3 percent of all LTCH discharges. Together, the two diagnosis-related groups account for a total of nearly 18,000 discharges. Furthermore, the number of ventilated patients in LTCHs has increased. The number of patients discharged with a respiratory diagnosis with ventilator support for 96 or more hours increased 7.4 percent between 2008 and 2011 (MedPAC 2014).

Functional improvement is particularly relevant for patients who require ventilator support because these patients have traditionally had limited mobility due to cardiovascular and pulmonary instability, delirium, sedation, lack of rehabilitation therapy staff, and lack of physician referral (Zanni et. al 2010).

In describing the importance of functional status, the National Committee on Vital and Health Statistics Subcommittee on Health (2001) noted, "Information on functional status is becoming increasingly essential for fostering healthy people and a health population. Achieving optimal health and well-being for Americans requires an understanding across the life space of the effects of people's health conditions on their ability to do basic activities and participate in life situations, in other words, their functional status."

This quality measure will inform LTCH providers about opportunities to improve care in the area of function and strengthen incentives for quality improvement related to patient function.

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MedPAC. Report to Congress: Medicare Payment Policy. Chapter 11: Long-term care hospital services. March 2014.
http://www.medpac.gov/chapters/Mar14_Ch11.pdf.

Rubinfeld, G. D., E. Caldwell, et al. (2005). Incidence and outcomes of acute lung injury. N Engl J Med 353(16): 1685-1693.

Zanni, J. M., Korupolu, R., Fan, E., Pradhan, P., Janjua, K., Palmer, J. B., Needham, D. M. (2010). Rehabilitation therapy and outcomes in acute respiratory failure: an observational pilot project. Journal of Critical Care, 25(2), 254-262. doi: 10.1016/j.jcrc.2009.10.010

National Committee on Vital and Health Statistics Subcommittee on Health. (2001). Classifying and Reporting Functional Status.

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.

We provide trend data starting with Quarter 3 of 2016 until Quarter 2 of 2018. Performance scores were calculated using rolling four quarters of data as well as scores by quarter that were conducted using the LTCH CARE Data Set data. Note that providers with < 20 stays during the four rolling quarter periods are excluded.

Quality measure score distributions over the following four rolling quarter periods (n=# of providers):

1. Quarter 3 2016 – Quarter 2 2017 (July 1, 2016 – June 30, 2017) (n=300)
2. Quarter 4 2016 – Quarter 3 2017 (October 1, 2016 – September 30, 2017) (n=297)
3. Quarter 1 2017 – Quarter 4 2017 (January 1, 2017 – December 31, 2017) (n=294)
4. Quarter 2 2017 – Quarter 1 2018 (April 1, 2017 – March 31, 2018) (n=292)
5. Quarter 3 2017 – Quarter 2 2018 (July 1, 2017 – June 30, 2018) (n=284)

Quality measure score distributions by quarter between July 1, 2016 – June 30, 2018 (8 quarters):

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1. Quarter 3 2016 (n=386)
2. Quarter 4 2016 (n=383)
3. Quarter 1 2017 (n=383)
4. Quarter 2 2017 (n=378)
5. Quarter 3 2017 (n=374)
6. Quarter 4 2017 (n=362)
7. Quarter 1 2018 (n=358)
8. Quarter 2 2018 (n=355)

Quality measure score distributions over time were stable across the 5 rolling four quarters. The mean national scores ranged from 9.0 to 9.2. Quality measure scores by decile show variations in quality measure scores across LTCHs. The interquartile range for the rolling four quarters data ranged from 4.1 to 4.5 mobility units. Across eight quarters (Q3 2016 – Q2 2018), quality measure score distributions showed variation in LTCH outcomes. Between Q3 2016 to Q2 2018, the overall mean decreased marginally from 9.2 to 9.1.

Rolling Four Quarters:

1) Quarter 3 2016 – Quarter 2 2017

Facilities: 300
Mean score: 9.2
Standard deviation: 3.1
Interquartile range: 4.1
Minimum: -0.2
1st decile: 5.3
2nd decile: 6.5
3rd decile: 7.5
4th decile: 8.3
5th decile: 9.1
6th decile: 9.8
7th decile: 10.7
8th decile: 11.5
9th decile: 13.3
Maximum: 20.3

2) Quarter 4 2016 – Quarter 3 2017

Facilities: 297
Mean score: 9.0
Standard deviation: 3.2
Interquartile range: 4.1
Minimum: 1.0
1st decile: 5.1
2nd decile: 6.5
3rd decile: 7.3
4th decile: 8.0
5th decile: 8.6
6th decile: 9.5
7th decile: 10.4
8th decile: 11.5
9th decile: 13.3
Maximum: 20.3

3) Quarter 1 2016 – Quarter 4 2017

Facilities: 294
Mean score: 9.0
Standard deviation: 3.3

Interquartile range: 4.1

Minimum: 2.1

1st decile: 5.2

2nd decile: 6.5

3rd decile: 7.1

4th decile: 7.9

5th decile: 8.7

6th decile: 9.5

7th decile: 10.4

8th decile: 11.6

9th decile: 13.3

Maximum: 22.9

4) Quarter 2 2017 – Quarter 1 2018

Facilities: 292

Mean score: 9.1

Standard deviation: 3.4

Interquartile range: 4.5

Minimum: 1.4

1st decile: 5.2

2nd decile: 6.4

3rd decile: 7.1

4th decile: 7.8

5th decile: 8.6

6th decile: 9.9

7th decile: 10.8

8th decile: 12.0

9th decile: 13.4

Maximum: 22.3

5) Quarter 3 2017 – Quarter 2 2018

Facilities: 284

Mean score: 9.0

Standard deviation: 3.2

Interquartile range: 4.3

Minimum: 1.5

1st decile: 5.0

2nd decile: 6.5

3rd decile: 7.3

4th decile: 7.7

5th decile: 8.7

6th decile: 9.7

7th decile: 10.4

8th decile: 11.9

9th decile: 13.0

Maximum: 23.6

Quality Measure Score Distributions by Quarter

1) Quarter 3 2016

Facilities: 386

Mean score: 9.4

Standard deviation: 6.1

Interquartile range: 6.5

Minimum: -6.1

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Maximum: 36.0

2) Quarter 4 2016

Facilities: 383

Mean score: 9.1

Standard deviation: 6.5

Interquartile range: 5.9

Minimum: -6.2

Maximum: 38.2

3) Quarter 1 2017

Facilities: 383

Mean score: 9.5

Standard deviation: 6.0

Interquartile range: 6.3

Minimum: -3.3

Maximum: 36.5

4) Quarter 2 2017

Facilities: 378

Mean score: 9.8

Standard deviation: 6.0

Interquartile range: 6.4

Minimum: -0.6

Maximum: 34.1

5) Quarter 3 2017

Facilities: 374

Mean score: 9.5

Standard deviation: 5.8

Interquartile range: 6.5

Minimum: -3.5

Maximum: 32.2

6) Quarter 4 2017

Facilities: 362

Mean score: 9.0

Standard deviation: 6.1

Interquartile range: 5.9

Minimum: -2.8

Maximum: 37.0

7) Quarter 1 2018

Facilities: 358

Mean score: 9.7

Standard deviation: 5.6

Interquartile range: 6.0

Minimum: -17.0

Maximum: 38.0

8) Quarter 2 2018

Facilities: 355

Mean score: 9.3

Standard deviation: 5.8

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Interquartile range: 6.0
Minimum: -3.5
Maximum: 32.6

Note: Scores are reported as units of change in mobility; Providers with < 20 stays during the four rolling quarter periods are excluded.

Source: RTI analysis of LTCH CARE Data Set July 2016 – June 2018 (Program reference: 2632_03).

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.

An increasing body of evidence has reported on the safety and feasibility of early mobilization and rehabilitation of critically ill but stable patients in LTCH and intensive care units with minimal adverse events and risk to the patient (Adler & Malone, 2012; Drolet et al., 2013; Kress, 2009 ; Schweickert & Kress, 2011; Schweickert et al., 2009 ; Zanni et al., 2010). Early mobility and rehabilitation in these settings have been associated with several improved patient outcomes, such as (1) improved strength (Dang, 2013; Li, Peng, Zhu, Zhang, & Xi, 2013; Schweickert & Kress, 2011) and functional status (Adler & Malone, 2012; Li et al., 2013; Schweickert & Kress, 2011); (2) earlier achievement of mobilization milestones, such as out-of-bed mobilization (Adler & Malone, 2012; Morris, 2007); (3) improvement in mobility and self-care function scores from admission to discharge (Li et al., 2013; Scheinhorn et al., 2007); (4) greater incidence of return to functional baseline in mobility and self-care, greater unassisted walking and walking distances, and improved self-reported physical function scores at hospital discharge compared with persons not participating in early mobility and rehabilitation (Adler & Malone, 2012); (5) enhanced recovery of functional exercise capacity (Dang, 2013); (6) improved self-perceived functional status (Dang, 2013); (7) reduced physiological and cognitive complications (Dang, 2013); and (8) improved cognitive function (Li et al., 2013). Early mobility and rehabilitation have also been associated with (1) reduced ICU and hospital length of stay (Adler & Malone, 2012; Dang, 2013; Engel, Needham, Morris, & Gropper, 2013; Kress, 2009; Li et al., 2013; Schweickert & Kress, 2011), (2) reduced incidence of delirium and improved patient awareness (Adler & Malone, 2012; Schweickert & Kress, 2011), (3) increased ventilator-free days and improved weaning outcomes (Adler & Malone, 2012; Dang, 2013; Li et al., 2013), (4) greater incidence of discharge home directly after hospitalization compared with patients not receiving early mobilization (Engel et al., 2013; Schweickert et al., 2009), and (5) reduced hospital readmission or death in the year after hospitalization (Adler & Malone, 2012; Li et al., 2013).

Mobility activities that are feasible to assess in LTCH and intensive care units include bed mobility, sitting at the edge of the bed, transferring from bed to chair, sitting in a chair, out-of-bed mobility, standing, and ambulation (Adler & Malone, 2012; Bailey et al., 2007; Morris, 2007; Schweickert et al., 2009). In a sample of 103 patients with respiratory failure undergoing 1,449 activity events in a respiratory intensive care unit, more than one-half of the activity events were reported to be ambulation, and 40% of the activity events occurred in intubated, mechanically ventilated patients at the end of the respiratory intensive care unit stay. Moreover, 69.4% of survivors ambulated more than 100 feet, 8.2% ambulated less than 100 feet, 15.3% could sit in a chair, 4.7% could sit on the edge of the bed, and 2.4% did not accomplish any of these activities (Bailey et al., 2007).

As noted in our summary of evidence that links rehabilitation therapy services and functional outcomes, LTCHs and intensive care units are testing new approaches to mobilize patients who require ventilator support. However, many patients are not mobilized early. The American Thoracic Society/American College of Chest Physicians' Clinical Practice Guideline focused on liberation from mechanical ventilation in critically ill adults recommends early mobilization for these patients (Girard et al., 2017).

Citations

Adler, J., & Malone, D. (2012). Early mobilization in the intensive care unit: A systematic review. *Cardiopulmonary Physical Therapy Journal*, 23(1), 5–13.

Bailey, P., Thomsen, G. E., Spuhler, V. J., Blair, R., Jewkes, J., Bezdjian, L., ... Hopkins, R. O. (2007). Early activity is feasible and safe in respiratory failure patients. *Critical Care Medicine*, 35, 139–145.

Dang, S. L. (2013). ABCDEs of ICU: Early mobility. *Critical Care Nursing Quarterly*, 36, 163–168.

Drolet, A., DeJulio, P., Harkless, S., Henricks, S., Kamin, E., Leddy, E. A., & Williams, S. (2013). Move to improve: The feasibility of

using an early mobility protocol to increase ambulation in the intensive and intermediate care settings. *Physical Therapy*, 93, 197–207.

Engel, H. J., Needham, D. M., Morris, P. E., & Gropper, M. A. (2013). ICU early mobilization: From recommendation to implementation at three medical centers. *Critical Care Medicine*, 41(Suppl. 9), S69–S80. doi:10.1097/CCM.0b013e3182a240d5

Girard TD, Alhazzani W, Kress JP, Ouellette DR, Schmidt GA, Truwit JD, Burns SM, Epstein SK, Esteban A, Fan E, Ferrer M, Fraser GL, Gong MN, Hough CL, Mehta S, Nanchal R, Patel S, Pawlik AJ, Schweickert WD, Sessler CN, Strøm T, Wilson KC, Morris PE; ATS/CHEST Ad Hoc Committee on Liberation from Mechanical Ventilation in Adults. An Official American Thoracic Society/American College of Chest Physicians Clinical Practice Guideline: Liberation from Mechanical Ventilation in Critically Ill Adults. Rehabilitation Protocols, Ventilator Liberation Protocols, and Cuff Leak Tests. *Am J Respir Crit Care Med*. 2017 Jan 1;195(1):120-133. doi: 10.1164/rccm.201610-2075ST.

Kress, J. P. (2009). Clinical trials of early mobilization of critically ill patients. *Critical Care Medicine*, 37, S442–S447.

Li, Z., Peng, X., Zhu, B., Zhang, Y., & Xi, X. (2013). Active mobilization for mechanically ventilated patients: A systematic review. *Archives of Physical Medicine and Rehabilitation*, 94, 551–561.

Morris, P. E. (2007). Moving our critically ill patients: Mobility barriers and benefits. *Critical Care Clinics*, 23, 1–20.

Scheinhorn, D. J., Hassenpflug, M. S., Votto, J. J., Chao, D. C., Epstein, S. K., Doig, G. S., ... Petrak, R. A. (2007). Post-ICU mechanical ventilation at 23 long-term care hospitals: A multicenter outcomes study. *Chest*, 131, 85–93. doi:10.1378/chest.06-1081

Schweickert, W. D., Pohlman, M. C., Pohlman, A. S., Nigos, C., Pawlik, A. J., Esbrook, C. L., ... Kress, J. P. (2009). Early physical and occupational therapy in mechanically ventilated, critically ill patients: A randomised controlled trial. *Lancet*, 373(9678), 1874–1882. doi:10.1016/s0140-6736(09)60658-9

Schweickert, W. D., & Kress, J. P. (2011). Implementing early mobilization interventions in mechanically ventilated patients in the ICU. *Chest*, 140, 1612–1617. doi:10.1378/chest.10-2829

Zanni, J. M., Korupolu, R., Fan, E., Pradhan, P., Janjua, K., Palmer, J. B., Needham, D. M. (2010). Rehabilitation therapy and outcomes in acute respiratory failure: An observational pilot project. *Journal of Critical Care*, 25, 254–262. doi:10.1016/j.jcrc.2009.10.010

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.*

We used the LTCH CARE Data Set to examine whether there may be disparities in care for population groups related to this measure. Disparities for certain population groups would indicate gaps in care and opportunities for improvement. The LTCH CARE Data Set included 411 LTCHs who discharged 39,338 patients requiring ventilator support from July 1, 2016 to June 30, 2018.

We address the issue of disparities for this measure by examining whether there are differences in functional outcomes for population groups that may reflect experience disparities in care, such as for population groups with social risk factors.

We examined whether 4 social risk factors affected performance measure scores. The social risk factors are: 1) payer source (patient-level variable); 2) marriage status (patient-level variable); 3) race (patient-level variable); and 4) ethnicity (patient-level variable). Details about how we obtained and calculated this disparities data is available in Sections 1.2 and 1.8 of the Testing form.

We conducted the following analyses to examine the effect of the 4 social risk factors:

- 1) We calculated the percentage of stays for each social risk factor population group;
- 2) We calculated the observed change in mobility score for each social risk factor population group;
- 3) We added indicators for each social risk factor group to our risk adjustment model and estimated the coefficients for each group (relative to the reference group) in the model;

4) We examined the indicators for each social risk factor over time by quarter in our risk adjustment model to examine whether there may be trends for population groups.

Below is a summary of these analyses and results. For more information on disparities in change in mobility related to race/ethnicity, marriage status, and payer source, please refer to the risk adjustment analyses in the Testing form. Tables and graphics are able to be inserted into the NQF Testing form, unlike this Measure Information form, so we direct readers to Section 2b3.4b of the Testing form for the results presented below in a more readable format (Tables 13, 14, and 15 specifically).

1) The Distribution of Social Risk Factor Patient Population Groups:

We found that 31.2% of patients were Medicaid beneficiaries, 66.0% of patients were white, and 39.7% were not currently married.

2) Observed Change in Mobility Score by Social Risk Factor:

The unadjusted mean change in mobility score varied by race/ethnicity and payer source. Black (6.6) and Asian (6.3) patients had lower unadjusted change in mobility scores than White (9.5) patients. Medicaid (8.0) patients, who were likely dual-eligible, had lower unadjusted change scores than both patients with Medicare (8.4) and private insurance (9.5). Patients not currently married (8.4) also had lower unadjusted changes scores than patients who are married (9.1). Mean change in mobility scores were similar when examining ethnicity (8.7 for non-Hispanic and 8.5 for Hispanic).

3) Estimated Effect (Coefficient Values) for Each Social Risk Factor (24 Months: July 1, 2016 through June 30, 2018)

Each social risk factor was then added to our Generalized Linear regression model to get estimated regression coefficients which represent the effect of each individual factor on change in mobility relative to the reference group. The dependent variable was the change in mobility score for each patient, calculated as the difference between the discharge mobility score and admission mobility score. For example, a coefficient value (β) of -0.5 for Black patients would be interpreted to mean that, on average, these patients had a change in mobility score that was 0.5 mobility units less than White patients (the reference group).

Compared to patients who were White, Black ($\beta = -1.6300$; $p < 0.0001$) and Asian ($\beta = -0.4419$; $p = 0.2763$) patients had lower change in mobility scores though this was not significant for Asian patients. American Indian/Alaskan Native ($\beta = 2.6362$; $p < 0.0001$) and Hispanic ($\beta = 1.3576$; $p < 0.0001$) patients had on average higher mobility changes than White patients, while patients not currently married ($\beta = -0.1537$; $p = 0.1540$) had slightly lower changes, on average compared to patients who were not currently married. Compared to patients with private insurance, patients on Medicaid ($\beta = -0.7405$; $p = 0.0021$ for managed care and $\beta = -0.3996$; $p = 0.0497$ for fee-for-service) had on average lower change in mobility scores.

4) Estimated Coefficient Values for Each Social Risk Factor (by rolling four quarters)

The analysis described above examining each social risk factor's effect on change in mobility for patients requiring ventilator support was then performed by rolling four quarters within the 24-month period to examine possible trends over time. The patients included in each rolling four quarter period and detailed results are provided below.

We observed some coefficient differences across this 24-month period for one social risk factor. Specifically, patients on Medicaid managed care went from having significantly lower mobility scores ($\beta = -1.1333$; $p = 0.0016$) than patients on private insurance to not being significantly different ($\beta = -0.2979$; $p = 0.3854$) towards the end of the 24-month period. On average, Black patients (coeff. range = -1.3418 to -1.9278) consistently had significantly lower mobility change scores than White patients. Hispanic patients and patients not married had consistent change in mobility scores throughout the 24-month period.

Our testing of social risk factors and their relationships to patients' change in mobility scores indicate that some factors (Medicaid payer, Black race) were tied to lower mobility change scores while others (Hispanic ethnicity, American Indian or Alaska Native race) were tied to higher mobility change scores. We believe that continued monitoring of potential disparities in functional outcomes is critical.

Breakdown of patients discharged within each rolling four quarter period:

Q3 2016 – Q2 2017 (July 1, 2016 – June 30, 2017) = 18,835

Q4 2016 – Q3 2017 (October 1, 2016 – September 30, 2017) = 18,772

Q1 2017 – Q4 2017 (January 1, 2017 – December 31, 2017) = 18,747

Q2 2017 – Q1 2018 (April 1, 2017 – March 31, 2018) = 18,853

Q3 2017 – Q2 2018 (July 1, 2017 – June 30, 2018) = 18,709

Race/Ethnicity (reference = White)

Black

- Q3 2016 – Q2 2017: estimate = -1.3418; SE = 0.20; p-value < 0.0001
- Q4 2016 – Q3 2017: estimate = -1.5346; SE = 0.20; p-value < 0.0001
- Q1 2017 – Q4 2017: estimate = -1.4825; SE = 0.19; p-value < 0.0001
- Q2 2017 – Q1 2018: estimate = -1.5629; SE = 0.20; p-value < 0.0001
- Q3 2017 – Q2 2018: estimate = -1.9278; SE = 0.19; p-value < 0.0001

Asian

- Q3 2016 – Q2 2017: estimate = -0.4226; SE = 0.62; p-value = 0.4968
- Q4 2016 – Q3 2017: estimate = -0.3829; SE = 0.62; p-value = 0.5396
- Q1 2017 – Q4 2017: estimate = -0.1250; SE = 0.61; p-value = 0.8374
- Q2 2017 – Q1 2018: estimate = -0.6720; SE = 0.60; p-value = 0.2620
- Q3 2017 – Q2 2018: estimate = -0.6864; SE = 0.57; p-value = 0.2297

American Indian or Alaska Native

- Q3 2016 – Q2 2017: estimate = 2.1083; SE = 0.91; p-value = 0.0203
- Q4 2016 – Q3 2017: estimate = 1.6474; SE = 0.96; p-value = 0.0858
- Q1 2017 – Q4 2017: estimate = 1.7886; SE = 0.93; p-value = 0.0551
- Q2 2017 – Q1 2018: estimate = 2.2172; SE = 0.90; p-value = 0.0134
- Q3 2017 – Q2 2018: estimate = 3.1504; SE = 0.90; p-value = 0.0004

Native Hawaiian or Pacific Islander

- Q3 2016 – Q2 2017: estimate = 1.4959; SE = 1.59; p-value = 0.3477
- Q4 2016 – Q3 2017: estimate = 1.6814; SE = 1.62; p-value = 0.2986
- Q1 2017 – Q4 2017: estimate = 2.8303; SE = 1.63; p-value = 0.0823
- Q2 2017 – Q1 2018: estimate = 0.7693; SE = 1.52; p-value = 0.6120
- Q3 2017 – Q2 2018: estimate = 0.0375; SE = 1.59; p-value = 0.9812

Other

- Q3 2016 – Q2 2017: estimate = -1.2128; SE = 0.28; p-value < 0.0001
- Q4 2016 – Q3 2017: estimate = -0.9606; SE = 0.27; p-value = 0.0003
- Q1 2017 – Q4 2017: estimate = -1.1116; SE = 0.26; p-value < 0.0001
- Q2 2017 – Q1 2018: estimate = -1.2595; SE = 0.26; p-value < 0.0001
- Q3 2017 – Q2 2018: estimate = -1.1814; SE = 0.25; p-value < 0.0001

Hispanic Ethnicity

- Q3 2016 – Q2 2017: estimate = 1.3465; SE = 0.42; p-value = 0.0012
- Q4 2016 – Q3 2017: estimate = 1.0871; SE = 0.41; p-value = 0.0081
- Q1 2017 – Q4 2017: estimate = 1.1657; SE = 0.40; p-value = 0.0036
- Q2 2017 – Q1 2018: estimate = 1.4814; SE = 0.40; p-value = 0.0002
- Q3 2017 – Q2 2018: estimate = 1.3907; SE = 0.38; p-value = 0.0003

Not Currently Married*

- Q3 2016 – Q2 2017: estimate = -0.2334; SE = 0.16; p-value = 0.1364
- Q4 2016 – Q3 2017: estimate = -0.2876; SE = 0.16; p-value = 0.0675
- Q1 2017 – Q4 2017: estimate = -0.1637; SE = 0.16; p-value = 0.2958
- Q2 2017 – Q1 2018: estimate = -0.2451; SE = 0.16; p-value = 0.1192
- Q3 2017 – Q2 2018: estimate = -0.1457; SE = 0.16; p-value = 0.3492

Payer Source (reference = Private Insurance)

Medicare Fee-For-Service

- Q3 2016 – Q2 2017: estimate = 0.0496; SE = 0.31; p-value = 0.8741
- Q4 2016 – Q3 2017: estimate = 0.3564; SE = 0.32; p-value = 0.2635
- Q1 2017 – Q4 2017: estimate = 0.2137; SE = 0.32; p-value = 0.4993
- Q2 2017 – Q1 2018: estimate = 0.3727; SE = 0.31; p-value = 0.2348
- Q3 2017 – Q2 2018: estimate = 0.5508; SE = 0.31; p-value = 0.0750

Medicare Managed Care

- Q3 2016 – Q2 2017: estimate = 0.3015; SE = 0.34; p-value = 0.3708
- Q4 2016 – Q3 2017: estimate = 0.6158; SE = 0.34; p-value = 0.0723
- Q1 2017 – Q4 2017: estimate = 0.1771; SE = 0.34; p-value = 0.5985
- Q2 2017 – Q1 2018: estimate = -0.0315; SE = 0.33; p-value = 0.9248
- Q3 2017 – Q2 2018: estimate = 0.0233; SE = 0.32; p-value = 0.9429

Medicaid Fee-For-Service

- Q3 2016 – Q2 2017: estimate = -0.4975; SE = 0.30; p-value = 0.0972
- Q4 2016 – Q3 2017: estimate = -0.1749; SE = 0.30; p-value = 0.5649
- Q1 2017 – Q4 2017: estimate = -0.2253; SE = 0.30; p-value = 0.4525
- Q2 2017 – Q1 2018: estimate = -0.2186; SE = 0.30; p-value = 0.4626
- Q3 2017 – Q2 2018: estimate = -0.2220; SE = 0.29; p-value = 0.4473

Medicaid Managed Care

- Q3 2016 – Q2 2017: estimate = -1.1333; SE = 0.36; p-value = 0.0016
- Q4 2016 – Q3 2017: estimate = -0.8581; SE = 0.36; p-value = 0.0182
- Q1 2017 – Q4 2017: estimate = -0.8984; SE = 0.36; p-value = 0.0123
- Q2 2017 – Q1 2018: estimate = -0.4993; SE = 0.35; p-value = 0.1556
- Q3 2017 – Q2 2018: estimate = -0.2979; SE = 0.34; p-value = 0.3854

Other Payer Source**

- Q3 2016 – Q2 2017: estimate = 0.3060; SE = 0.28; p-value = 0.2775
- Q4 2016 – Q3 2017: estimate = 0.5650; SE = 0.29; p-value = 0.0489
- Q1 2017 – Q4 2017: estimate = 0.4783; SE = 0.28; p-value = 0.0922
- Q2 2017 – Q1 2018: estimate = 0.2834; SE = 0.28; p-value = 0.3120
- Q3 2017 – Q2 2018: estimate = 0.3872; SE = 0.28; p-value = 0.1593

Unknown

- Q3 2016 – Q2 2017: estimate = -0.6519; SE = 1.10; p-value = 0.5522
- Q4 2016 – Q3 2017: estimate = -0.3878; SE = 1.04; p-value = 0.7079
- Q1 2017 – Q4 2017: estimate = -0.4957; SE = 1.06; p-value = 0.6393
- Q2 2017 – Q1 2018: estimate = -0.7632; SE = 1.03; p-value = 0.4571
- Q3 2017 – Q2 2018: estimate = -1.2370; SE = 0.97; p-value = 0.2016

* Includes never married, widowed, separated, divorced, and not assessed/no information.

** Includes Private insurance/Medigap, Workers' compensation, title programs, other government sources, self-pay, or no payor source.

Note: SE=Standard error; Patient-level exclusion criteria applied.

Source: RTI analysis of LTCH CARE Data Set, July 2016 – June 2018. (Program reference: 2632_03)

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

We were unable to identify literature that reported disparities data (race/ethnicity, gender, age, insurance status, socioeconomic status or disability status) related to functional improvement among LTCH patients.

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):

Cardiovascular, Cardiovascular : Congestive Heart Failure, Critical Care, Respiratory : Pneumonia

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

Health and Functional Status : Change

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

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.)

<https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/Functional-Measures-.html>

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: [Change_in_Mobility_NQF_2632_Risk_Adj_Model_01-07-2019-636824735650484277.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.

Attachment Attachment: [LTCH_CARE_Data_Set_Version_4.00_-_Admission_and_Planned_Discharge_combined.pdf](#)

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

Clinician

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

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.

We have made updates to the risk adjustors since last endorsement:

(1) Risk-Adjustors: We have updated the risk adjustment model by removing several comorbidities. Rationale: When examining the risk adjustment model using the national LTCH data, we found some comorbidities were no longer significant predictors of change in mobility or the association between the comorbidity and functional outcomes was no longer consistent with the evidence from the literature or clinical expectations.

(2) Measure Calculation: The risk-adjustment procedure for this measure involves comparing patients' observed change in mobility scores with their expected change in mobility scores. We are revising this part of the measure calculation. The prior approach used the ratio of the observed to expected values and the ratio was multiplied by the national mean. The new approach uses the difference between the observed and expected values, and the difference value is added to the national mean. Rationale: We have developed a change in mobility performance measure for skilled nursing facilities (SNFs) and use the difference approach for the SNF measure given the potential for more variation in the observed and expected values due to a more heterogeneous SNF population. We examined the LTCH change in mobility performance measure data and noted some LTCHs had low expected change in mobility scores, which can lead to large ratio values. We are now updating this LTCH functional outcome measure to use the difference approach.

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 measure does not have a simple form for the numerator and denominator. This measure estimates the risk-adjusted change in mobility score between admission and discharge among LTCH patients requiring ventilator support at admission. The change in mobility score is calculated as the difference between the discharge mobility score and the admission mobility score.

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).

Eight mobility activities (listed below) are each scored by a clinician based on a patient's ability to complete the activity. The scores for the 8 mobility activities are summed to obtain a mobility score at the time of admission and discharge. The change in mobility is the difference between the discharge mobility score and the admission mobility score.

The 8 mobility items are:

GG0170A. Roll left and right

GG0170B. Sit to lying

GG0170C. Lying to sitting on side of bed

GG0170D. Sit to stand

GG0170E. Chair/bed-to-chair transfer

GG0170F. Toilet transfer

GG0170J. Walk 50 feet with two turns

GG0170K. Walk 150 feet

Each patient's ability to complete each mobility activity (item) is rated by a clinician using the following 6-level rating scale:

level 06 - Independent

level 05 - Setup or clean up assistance

level 04 - Supervision or touching assistance

level 03 - Partial/moderate assistance

level 02 - Substantial/maximal assistance

level 01 - Dependent

If the patient did not attempt the activity, the reason that the activity did not occur is reported as:

07 = Patient refused

09 = Not applicable

10 = Not attempted due to environmental limitations

88 = Not attempted due to medical condition or safety concerns.

The performance period is 24 months for reporting on CMS's LTCH Compare website.

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

The target population (denominator) for this quality measure is the number of LTCH patients requiring ventilator support at the time of admission to the LTCH.

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).

The denominator includes all LTCH patients requiring ventilator support on admission who are discharged during the performance period, including patients age 21 and older with all payer sources. Patients are selected based on submitted LTCH Care Data Set Admission and Discharge assessment forms.

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

This quality measure has following patient-level exclusion criteria:

1) Patients with incomplete stays:

Rationale: When a patient has an incomplete stay, for example, the patients leave urgently due to a medical emergency, it can be challenging to gather accurate discharge functional status data. Patients with incomplete stays include patients who are unexpectedly discharged to an acute-care setting (Inpatient Prospective Payment System or Inpatient Psychiatric Hospital or unit) because of a medical emergency or psychiatric condition; patients transferred to another LTCH; patients who leave the LTCH against medical advice; patients who die; and patients with a length of stay less than 3 days.

2) Patients discharged to hospice:

Rationale: Patients discharged to hospice are excluded because functional improvement may not be a goal for these patients.

3) Patients with progressive neurological conditions, including amyotrophic lateral sclerosis, multiple sclerosis, Parkinson's disease, and Huntington's chorea:

Rationale: These patients are excluded because they may have functional decline or less predictable function trajectories.

4) Patients in coma, persistent vegetative state, complete tetraplegia, and locked-in syndrome:

Rationale: The patients are excluded because they may have limited or less predictable mobility recovery.

5) Patients younger than age 21:

Rationale: There is only limited evidence published about functional outcomes for individuals younger than 21.

6) Patients who are coded as independent on all the mobility items at admission:

Rationale: These patients are excluded because no improvement in mobility skills can be measured with the mobility items used in this quality measure.

Facility-level quality measure exclusion: For LTCHs with fewer than 20 patient stays, data for this quality measure are not publicly reported.

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.)*

For each of the following exclusion criteria, we provide the data collection items used to identify patient records to be excluded. These items are on the LTCH CARE Data Set Version 4.00.

1) Patients with incomplete stays include patients who are unexpectedly discharged to an acute-care setting (Inpatient Prospective Payment System or Inpatient Psychiatric Hospital or unit) because of a medical emergency or psychiatric condition; patients transferred to another LTCH; patients who leave the LTCH against medical advice; patients who die; and patients with a length of stay less than 3 days.

Items used to identify these patient records:

A2110. Discharge Location

04 = Hospital emergency department

05 = Short-stay acute hospital (IPPS)

06 = Long-term care hospital (LTCH)

08 = Psychiatric hospital or unit

12 = Discharged Against Medical Advice

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A0250. Reason for Assessment

- 11 = Unplanned discharge
- 12 = Expired

Patients with a length of stay less than 3 days:

We calculate length of stay using the following items on the LTCH CARE Data Set.

A0220. Admission Date

A0270. Discharge Date

Length of stay is calculated as the Discharge Date minus the Admission Date (Discharge Date - Admission Date). Patient records with a length of stay less than 3 days are excluded.

2) Patients discharged to hospice

Items used to identify these patient records:

A2110. Discharge Location

- 10 = Hospice

3) Patients with progressive neurological conditions, including amyotrophic lateral sclerosis, multiple sclerosis, Parkinson's disease, and Huntington's chorea are excluded because these patients may have less predictable mobility recovery or functional decline may be expected.

Items used to identify these patient records:

I5450. Amyotrophic Lateral Sclerosis = 1

I5200. Multiple Sclerosis = 1, or

I5300. Parkinson's Disease = 1, or

I5250. Huntington's Disease = 1.

4) Patients in coma, persistent vegetative state, severe anoxic brain damage, cerebral edema, or compression of brain, complete tetraplegia, and locked-in syndrome are excluded, because they may have limited or less predictable mobility recovery.

Items used to identify these patient records:

B0100. Comatose = 1, or;

I5101. Complete Tetraplegia = 1, or;

I5460. Locked-In State = 1, or;

I5470. Severe Anoxic Brain Damage, Cerebral Edema, or Compression of Brain.

5) Patients younger than 21 at the time of admission

Items used to identify these patient records:

A0900. Birth Date

A0220. Admission Date

6) Patients who are coded as independent (score = 06) on all the mobility items at admission

Items used to identify these patient records at admission:

GG0170A. Roll left and right = 06, and;

GG0170B. Sit to lying = 06, and;

GG0170C. Lying to sitting on side of bed = 06, and;

GG0170D. Sit to stand, = 06 and,

GG0170E. Chair/bed-to-chair transfer, = 06, and;

GG0170F. Toilet transfer, = 06, and;

GG0170J. Walk 50 feet with two turns = 06, and;

GG0170K. Walk 150 feet = 06.

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

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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.)

Not applicable. This measure does not use stratification for risk-adjustment.

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:

Continuous variable, e.g. average

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 = Higher 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.)

We provide the detailed calculation algorithm in an attachment entitled “LTCH Detailed Function QM Specifications 2632 01-07-2019” included in the Appendix.

The detailed calculation algorithm is provided to the public in the document entitled LTCH Measure Calculations and Reporting User’s Manual. The current version of this document is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/LTCH-Quality-Reporting/LTCH-Quality-Reporting-Measures-Information.html>.

The following are the key steps used to calculate the measure:

- 1) Sum the scores of the admission mobility items to create an admission mobility score for each patient. Mobility items that contained ‘activity not attempted’ codes (07. Patient refused, 09. Not applicable, 10. Not attempted due to environmental limitations, and 88. Not attempted due to medical condition or safety concerns) or were skipped, dashed, or missing are recoded to 01. Dependent (range: 8 to 48).
- 2) Sum the scores of the discharge mobility items to create a discharge mobility score for each patient. Mobility items that contained ‘activity not attempted’ values (07. Patient refused, 09. Not applicable, 10. Not attempted due to environmental limitations, and 88. Not attempted due to medical condition or safety concerns) or were skipped, dashed, or missing are recoded to 01. Dependent (range: 8 to 48).
- 3) Identify the records of patients who meet the exclusion criteria and exclude these patient records from analyses.
- 4) Calculate the difference between the admission mobility score (from step 1) and the discharge mobility score (from step 2) for each patient to create a change in mobility score for each patient.
- 5) Calculate an expected change in mobility score for each patient using regression coefficients from national data and each patient’s admission characteristics (risk adjustors).
- 6) Calculate an average observed change in mobility score for each LTCH (using the patient data calculated in step 4). This is the facility-level observed change in mobility score.
- 7) Calculate an average expected change in mobility score for each LTCH (using the patient data calculated in step 5). This is the facility-level expected change in mobility score.
- 8) Subtract the facility-level expected change score from the facility-level observed change score to determine the difference in scores (difference value). A difference value that is 0 indicates the observed and expected scores are equal. An observed minus expected difference value that is higher than 0 (positive) indicates that the observed change score is greater (better) than the expected change score. An observed minus expected difference value that is less than 0 (negative) indicates that the observed change score is lower (worse) than the expected change score.
- 9) Add the national average change in mobility score to each LTCH’s difference value (from step 8). This is the risk-adjusted mean change in mobility score.

Each patient’s ability to complete each mobility activity (item) is rated by a clinician using the following 6-level rating scale:

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level 06 - Independent
 level 05 - Setup or clean up assistance
 level 04 - Supervision or touching assistance
 level 03 - Partial/moderate assistance
 level 02 - Substantial/maximal assistance
 level 01 - Dependent

The 8 mobility items are:

GG0170A. Roll left and right
 GG0170B. Sit to lying
 GG0170C. Lying to sitting on side of bed
 GG0170D. Sit to stand
 GG0170E. Chair/bed-to-chair transfer
 GG0170F. Toilet transfer
 GG0170J. Walk 50 feet with two turns
 GG0170K. Walk 150 feet

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.

Not applicable. This measure uses LTCH CARE Data Set data for all Medicare patients treated by LTCHs for the performance period. There is no sampling. This is an instrument-based measure that relies on clinician-reported data, therefore proxy responses are not relevant.

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. This measure uses clinician-reported data.

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

If other, please describe in S.18.

Instrument-Based Data

S.18. Data Source or Collection Instrument (Identify the specific data source/data collection instrument (e.g. name of database, clinical registry, collection instrument, etc., and describe how data are collected.)

IF instrument-based, identify the specific instrument(s) and standard methods, modes, and languages of administration.

LTCH CARE 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)

Available at measure-specific web page URL identified in S.1

S.20. Level of Analysis (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

Facility

S.21. Care Setting (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

Post-Acute Care

If other:

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

Not applicable. This is not a composite measure.

2. Validity – See attached Measure Testing Submission Form

NQF_LTCH_Mobility_Testing_Final.docx, 2632_nqf_testing_4-22-2019.docx

2.1 For maintenance of endorsement

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

Yes

2.2 For maintenance of endorsement

Has additional empirical validity testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

Yes

2.3 For maintenance of endorsement

Risk adjustment: For outcome, resource use, cost, and some process measures, risk-adjustment that includes social risk factors is not prohibited at present. Please update sections 1.8, 2a2, 2b1,2b4.3 and 2b5 in the Testing attachment and S.140 and S.11 in the online submission form. NOTE: These sections must be updated even if social risk factors are not included in the risk-adjustment strategy. You MUST use the most current version of the Testing Attachment (v7.1) -- older versions of the form will not have all required questions.

Yes - Updated information is included

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

3a.1. Data Elements Generated as Byproduct of Care Processes.

Generated or collected by and used by healthcare personnel during the provision of care (e.g., blood pressure, lab value, diagnosis, depression score), 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.

ALL data elements are in defined fields in electronic clinical data (e.g., clinical registry, nursing home MDS, home health OASIS)

3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources. For maintenance of endorsement, if this measure is not an eMeasure (eCQM), please describe any efforts to develop an eMeasure (eCQM).

Not applicable. This quality measure's data elements are collected solely from electronic sources.

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 NQF feasibility criterion requires measure developers to: 1) demonstrate that the data collection strategy can be implemented and 2) describe any difficulties regarding data collection.

Data Collection:

Data for this quality measure are currently collected and submitted to the Centers for Medicare and Medicaid Services using the Long-Term Care Hospital Continuity Assessment Record and Evaluation Data Set (LTCH CARE Data Set). These data have been collected by all LTCHs in the US since April 1, 2016 as part of the LTCH Quality Reporting Program (QRP).

The measure data are “generated” by qualified clinicians as they observe patients completing daily activities, such as moving around in bed and transferring out of bed at the time of admission and discharge. As shown in the testing form, missing data is minimal (less than 0.2% across all data elements). The LTCH CARE Data Set data are submitted to CMS via the QIES ASAP system. This data submission system is secure and encrypted with administrative, physical and technical safeguards in place.

Preventing and Addressing Potential Data Collection Challenges:

The Centers for Medicare and Medicaid Services finalized the implementation of this quality measure in August 2014 in the FY 2015 IPPS/LTCH PPS Final Rule, more than 1 year before implementation of data collection. This advance notice allowed providers, vendors and CMS to prepare for implementation. The Centers for Medicare and Medicaid has developed software that is free for LTCHs to use to submit LTCH CARE Data Set data. Also, given the Centers for Medicare and Medicaid’s many years of experience with data submission, implementation occurred with minimal difficulty.

To assist providers with the collection of accurate data, the Centers for Medicare and Medicaid Services has offered multiple in-person and on-line training opportunities since November 2015. In addition, a help desk is available to answer provider questions regarding data collection, and “Q & A” documents are posted on the CMS website for provider use. Training information is available on the following website: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/LTCH-Quality-Reporting/LTCH-Quality-Reporting-Training.html>.

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).

There no costs associated with fees, licensing or other requirements associated with the measure data elements or risk model.

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.

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Specific Plan for Use	Current Use (for current use provide URL)
	Public Reporting Measure data from calendar year 2019 (currently being collected) will be publicly reported on LTCH Compare in 2020 for the LTCH Quality Reporting Program (LTCH QRP) https://www.medicare.gov/longtermcarehospitalcompare/ Quality Improvement (external benchmarking to organizations) LTCH QRP: On confidential feedback reports and LTCH Compare, providers can view national-level performance measure scores for benchmarking quality efforts. LTCHs can also review and compare scores for local providers through LTCH Compare's web features. https://qtso.cms.gov/ Quality Improvement (Internal to the specific organization) LTCH QRP: LTCHs receive confidential feedback reports through the CMS designated data submission system, which includes the Review and Correct, Quality Measure, and Provider Preview Reports to review their data internally. https://qtso.cms.gov/

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

Name of Program and Sponsor and Purpose:

This quality measure has been implemented in the Center for Medicare and Medicaid's (CMS) Long-Term Care Hospital Quality Reported Program (LTCH QRP) and serves two purposes:

- 1) to share quality data with each LTCH that may be used to support quality improvement efforts; and
- 2) to share quality data about each LTCH with the public, which may assist consumers and family members in making decisions about where to receive LTCH care.

As part of the LTCH QRP, LTCHs have been able to view data for this quality measure in their confidential feedback reports, which may be used for quality improvement, since April 2017.

Quality measure data collected in calendar year 2018 and 2019 will be publicly reported in 2020 on CMS's LTCH Compare website at: <https://www.medicare.gov/longtermcarehospitalcompare>. Since 2016, CMS has publicly reported LTCH QRP quality measure data on the LTCH Compare website. This website reports quality data for each LTCH, and these data are also publicly available for download at: <https://data.medicare.gov/data/long-term-care-hospital-compare>.

This measure was implemented pursuant to two public laws that addressed the LTCH QRP and reporting of data submitted by providers:

- 1) The Patient Protection and Affordable Care Act ("ACA") of 2010 (Public Law No: 111-148)
 - Section 3004(a) of the ACA amended section 1886(m)(5)(E) of the Social Security Act (SSA) requiring the Secretary to establish quality reporting requirements for LTCH providers.
 - The ACA mandates LTCHs to submit data or be subject to a two-percent reduction in their annual payment update (APU) determination.
- 2) The Improving Medicare Post-Acute Care Transformation Act ("IMPACT Act") of 2014 (Public Law No: 113-185):
 - The IMPACT Act requires LTCHs to submit standardized patient assessment data on quality, resource use, and other measures.

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- The data submitted from providers are used to calculate measures that report healthcare processes and patient outcomes among LTCH providers under the QRP.
- Requires the establishment of procedures for making provider performance information available to the public.

CMS finalized in the FY 2018 IPPS/LTCH PPS final rule (82 FR 38458) that they plan to publicly report data for this performance measure on LTCH Compare in the fall of 2020. The first time the data will be publicly displayed will be for patients discharged on January 1, 2018 through December 31, 2019.

CMS provides an opportunity for LTCHs to review their own data before it is publicly reported through confidential feedback reports available in the CMS designated data submission system. Several reports are available that provide different snapshots of the measure data (described in more detail below in 4a2.1.1). As of April 2017, providers could view the observed change in mobility performance measure in their confidential Review and Correct reports. The risk-adjusted change in mobility performance measure became available in the Quality Measure reports October 2017.

Geographic Area, Accountable Entities and Patients Included:

The LTCH QRP measures are calculated for 100% of LTCH providers in the US (415 LTCHs in FY 2018). LTCHs submitted a total of 102,468 pairs (admission and discharge) of LTCH CARE Data Set assessments for patients discharged in FY 2018.

All providers receive their confidential feedback reports, which may be used for internal quality improvement efforts.

To ensure reliability of the performance measure scores, LTCHs with less than 20 patients during a reporting period would not have their data displayed publicly. Once an LTCH has more than 20 patients during the reporting period, their data would display on LTCH Compare.

Level of Measurement and Setting:

As mentioned, this quality measure has been implemented in the LTCH setting as part of the LTCH QRP. The measure score is reported at the facility-level.

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?)

Not applicable because public reporting is currently underway for this measure.

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.)

Not applicable because public reporting is currently underway for this measure.

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.

For Providers:

Dissemination of performance results and assistance with interpretations of the performance data for LTCHs have been addressed in four specific ways: confidential feedback reports, provider training seminars, manuals and materials, responses to questions submitted to the LTCH QRP Help Desk: LTCHQualityQuestions@cms.hhs.gov, and LTCH Public Reporting Help Desk: LTCHPRquestions@cms.hhs.gov, and on LTCH Compare.

1) Confidential Provider Feedback Reports:

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All LTCHs who submit LTCH CARE Data Set data to CMS receive three types of confidential reports with performance measure data and scores based on the data submitted. These reports support internal quality improvement efforts and include the Review and Correct, Quality Measure, and Provider Preview Reports. Details about each of these reports is provided below in 4a.2.1.2.

2) LTCH QRP Provider Training Seminars:

CMS conducted several in-person LTCH QRP provider training seminars to share information about coding the data elements used to calculate the performance measure, to share details about the measure specifications and to explain how the measure is calculated. Training sessions that focused on the confidential feedback reports were also conducted to support providers in reviewing and interpreting the data they receive in these reports. During training sessions, providers were encouraged to ask questions about coding the data elements and the change in mobility performance measure to ensure an accurate understanding of the measure. Training materials are posted on the CMS website after each training seminar is completed. To review provider training materials, see the following webpage:

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

3) LTCH QRP and LTCH Public Reporting Help Desk:

CMS also maintains a provider help desk for the LTCH QRP where LTCHs can submit questions about the data elements, the measure, including questions about performance data, interpretation of results, or instructions on coding (LTCHQualityQuestions@cms.hhs.gov). A help desk for questions about the data available on LTCH Compare (see below) is also available (LTCHPRquestions@cms.hhs.gov). A response is provided to address each question that is submitted.

4) LTCH Compare Website:

The performance measure data are publicly displayed on the LTCH Compare website and plain language is used to assist users in interpreting the data that are presented. The quality of care that LTCH providers deliver to patients can vary from facility to facility, and publicly displaying performance data on LTCH Compare supplies information for providers to use for improving the quality of care they provide to patients.

The LTCH QRP Measure Calculations and Reporting User's manual, which presents the measure specifications and how the measures are calculated for each measure in the LTCH QRP, is posted on the CMS website. Therefore, providers have detailed measure specifications available to them. To review the current LTCH QRP Measure Calculations and Reporting User's manual, see the following webpage:

<https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/LTCH-Quality-Reporting/Downloads/LTCH-Measure-Calculations-and-Reporting-Users-Manual-V30.pdf>

For Patients, Families, Caregivers and Other Stakeholders:

LTCH patients, family members, caregivers, and other stakeholders (researchers, journalists, policymakers) can view an LTCH's measure performance information on the publicly available LTCH Compare website. The LTCH Compare website is designed to help patients and caregivers make informed decisions about their health care and to compare long-term care hospitals based on important indicators of quality. Preparations to include the performance data for this measure on the LTCH Compare Website includes developing plain language to explain the measure and the results for the general public. Additionally, the LTCH Compare Website has gone through consumer testing to test functionality and usability. LTCH Compare is available in both English and Spanish.

Furthermore, the public can download the LTCH Compare datasets. The files contain general information about providers, provider level data on quality measures, and national data shown on the site. A data dictionary provides detailed information on the measures and file layouts.

Public access to the performance data on the LTCH Compare website has been widespread and increasing over time. In Quarter 4 of 2017, there were 5,686 sessions and 45% of those were returning visitors. Subsequently, the number of sessions increased by 22% a year later to 6,936 sessions in Quarter 4 of 2018 in which 47% of those were returning visitors.

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.

All LTCHs receive three types of confidential reports with performance measure data and scores based on the data submitted:

1) Quality Measure Reports:

The intent of this report is to enable LTCHs to track their own quality measure data at the facility- and patient-level. Data for this report is refreshed monthly and displays performance measure information at the facility- and patient-stay level for review. The facility-level report displays the measure denominator, average observed scores, average risk-adjusted score, and the national average for benchmarking the facility's performance. The patient-level report displays which patients are excluded from the measure as well as each patient's observed change in mobility score.

2) Review and Correct Reports:

The intent of this report is for LTCHs to view their data prior to the quarterly data submission deadline to ensure accuracy of the data submitted to CMS. Data for this report is refreshed weekly and displays data correction deadlines and whether the data correction period is open or closed. For most measures, only the last four quarters of data are available in this report; however, the performance data for the change in mobility score for patients requiring ventilator support displays the last eight quarters of data.

3) Provider Preview Reports:

The intent of this report is for LTCHs to preview what performance data will publicly displayed for their LTCH. The report displays facility-level performance measure data and shows risk-adjusted values and national rates as they will appear publicly on LTCH Compare. Data displayed in this report cannot be modified by the provider.

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.

In addition to the processes and information described above in 4a2.1.1 and 4a2.1.2, CMS solicited public comments about the measure change in mobility among patients requiring ventilator support performance measure via a 60-day public comment period during the fiscal year (FY) 2015 rulemaking process. CMS again solicited public comments during the FY 2018 rulemaking process before finalizing this measure for public display on LTCH Compare.

FY 2015: <https://www.federalregister.gov/documents/2014/08/22/2014-18545/medicare-program-hospital-inpatient-prospective-payment-systems-for-acute-care-hospitals-and-the>

FY 2018: <https://www.federalregister.gov/documents/2017/08/14/2017-16434/medicare-program-hospital-inpatient-prospective-payment-systems-for-acute-care-hospitals-and-the>

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

We received support for both implementation and public reporting of the change in mobility among patients requiring ventilator support performance measure for the LTCH QRP. Comments were received from various stakeholders, including providers, provider associations, researchers, government agencies, information system vendors, advocacy groups, and individuals/consumers.

In the FY 2015 rule proposal, most public commenters supported the change in mobility among patients requiring ventilator support performance measure being added to the LTCH QRP. Commenters stated that functional improvement is an important patient-centered outcome especially patients who require ventilator support. Commenters also noted that such improvements would improve quality of life and reduce the likelihood of infection, morbidity, and mortality. Additionally, commenters agreed with the MAP's recommendation to adopt functional status measures and supported this measure to address the measurement gap in ventilator care.

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

In March 2017, the measure developer convened groups of stakeholders and experts who contributed direction and thoughtful input for LTCH QRP measure development and maintenance. Some members of this technical expert panel expressed support for this measure and the importance of risk-adjustment due to the medical complexity of the LTCH population.

The LTCH QRP TEP Summary report is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/LTCH-Quality-Reporting/Downloads/LTCH-QRP-TEP-Summary-Report-December-2017.pdf>

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.

Part of our measure maintenance process includes incorporating stakeholder feedback as we continue examination and refinement of performance measures. CMS and RTI International reviewed and took into consideration all public comments received in the FY 2015 final rule as well as feedback from the March 2017 technical expert panel.

There was no feedback that suggested changes to the measure specifications.

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.

The change in mobility among patients requiring ventilator support performance measure was recently implemented on April 1, 2016 and will be publicly reported for the first time in the fall of 2020 using calendar year 2018 and 2019 data. Thus, there is no extensive data to evaluate trends in performance over time since this is a 24-month measure (eight quarters of data). In Section 1b, we provide analysis showing trends for rolling four quarters as well as data by quarter and show that the measure remained stable over this period. As more data becomes available, we will examine score distribution and change in provider performance scores.

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 unexpected findings have been identified during implementation and testing of this measure. To date, no unintended impacts on patients have been identified.

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

To date, no unexpected findings have been identified.

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)

0167 : Improvement in Ambulation/locomotion

0175 : Improvement in bed transferring

0422 : Functional status change for patients with Knee impairments

0423 : Functional status change for patients with Hip impairments

0424 : Functional status change for patients with Foot and Ankle impairments

0425 : Functional Status Change for Patients with Low Back Impairments

0428 : Functional status change for patients with General orthopaedic impairments

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0429 : Change in Basic Mobility as Measured by the AM-PAC:
0688 : Percent of Residents Whose Need for Help with Activities of Daily Living Has Increased (long stay)
2287 : Functional Change: Change in Motor Score
2321 : Functional Change: Change in Mobility Score
2612 : CARE: Improvement in Mobility
2634 : Inpatient Rehabilitation Facility (IRF) Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients
2636 : Inpatient Rehabilitation Facility (IRF) Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients
2643 : Average change in functional status following lumbar spine fusion surgery
2653 : Average change in functional status following total knee replacement surgery
2774 : : Functional Change: Change in Mobility Score for Skilled Nursing Facilities
2775 : Functional Change: Change in Motor Score for Skilled Nursing Facilities
2776 : Functional Change: Change in Motor Score in Long Term Acute Care Facilities
2778 : Functional Change: Change in Mobility Score for Long Term Acute Care Facilities

5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.
Change in Basic Mobility as Measured by the AM-PAC (CREcare)

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?

Yes

5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.

Quality measure NQF #0688 applies to long-stay nursing home residents, a different population. Quality measures NQF #0167, and NQF #0175 use a single function activity to indicate whether patients have made functional improvement. These measures apply to home health patients, which is a different target population. Quality measures NQF #2287 and NQF #2321 apply to inpatient rehabilitation facility patients, and quality measures NQF #2774, NQF #2775 apply to skilled nursing facility patients, which are different populations. NQF measures # 0422, #0423, #0424, #0425, #and #0428 apply to outpatients, which is a different population. Quality measures NQF #2776 and NQF #2778 apply to all LTCH patients, not just patients requiring ventilator support. Quality measures NQF #2612, NQF #2634 and NQF #2636 use some of the same data elements (Section GG) that are used for this quality measure (NQF #2632).

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

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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:** [LTCH_Detailed_Function_QM_Specifications_2632_01-07-2019.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: RTI International

Co.4 Point of Contact: Anne, Deutsch, adeutsch@rti.org

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.

This quality measure was developed with significant and ongoing input by several Technical Expert Panels (TEPs). Expert panel members provided input on status quality metrics, including the performance score, the target population, and exclusion criteria. Some expert panel meetings focused on measuring functional status across post-acute care settings, and other meetings focused on functional assessment and functional outcomes for LTCH patients.

Most recently, RTI International, on behalf of the Centers for Medicare & Medicaid Services (CMS), convened a Technical Expert Panel (TEP) to seek expert input on the Development and Maintenance of Quality Measures for the Long-Term Care Hospital Quality Reporting Program (LTCH QRP). This all-day, in-person TEP meeting was held on March 28, 2017 in Baltimore, MD. The objectives of the TEP meeting were to obtain input on current LTCH QRP quality and resource use measures implemented in the program and obtain guidance and recommendations for future measures. The following experts participated in this TEP:

Susan Bowen, RN, CCRN, CPHQ, CLNC, Director, Quality/Outcomes/Patient Safety Officer at Shepherd Center

Jean M. de Leon, MD, FAPWCA, Professor; Physical Medicine & Rehabilitation; Medical Director of Wound Care at University of Texas Southwestern Medical Center

Karen Finerty, RN, BSN, MBA, Chief Quality Officer at RML Specialty Hospital

Meg Hassenpflug, MS, RD, FCCM, Director of Outcomes and Value at Barlow Respiratory Hospital

James Jewell, MD, Medical Director, Medical Acute Care Unit at Hebrew Rehabilitation Center

Steven Lichtman, EdD, MAACVPR, Patient representative, Director, Cardiopulmonary Outpatient Services, Rehabilitation Research; Research Scientist at Helen Hayes Hospital

Sean Muldoon, MD, MPH, MS, Corporate Senior Vice President and Divisional Chief Medical Officer at Kindred Healthcare

William J. Reilly, MS OTR/L Director of Inpatient Rehabilitation at Spaulding Hospital for Continuing Care

Mary Van de Kamp, MS/CCC-SLP, Senior Vice President of Quality at Kindred Healthcare

John Votto, DO, FCCP, Executive Liaison at Hospital for Special Care and Professor of Clinical Medicine at University of Connecticut, School of Medicine and Yale University School of Medicine

Previous TEP meetings:

The first expert panel meeting, held as part of a project titled Analysis of Crosscutting Medicare Quality Metrics Using the Uniform Assessment Tool Developed and Tested as Part of the CMS Post-Acute Care Payment Reform Demonstration, was funded by the Assistant Secretary for Planning and Evaluation. The expert panel meeting was held on August 15, 2012, in Washington, DC, with the following expert panel members:

James Farrell, CNO, Healthsouth

David Gifford, MD, MPH, Senior Vice President for Quality & Regulatory Affairs at American Health Care Association

Eileen Bach, PT, MEd, DPT, Compliance Specialist, Director Quality and Patient Safety at Visiting Nurse Service of New York

Linda Resnik, PhD, PT, Associate Professor of Health Services, Policy and Practice at Brown University

Trudy Mallinson, PhD, OT, Assistant Professor at University of Southern California, Department of Occupational Science and Occupational Therapy

Margaret Stineman, MD, Professor of Physical Medicine and Rehabilitation, Vice Chair & Director, Research, Department of Physical Medicine & Rehabilitation at University of Pennsylvania

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Margaret Rogers, PhD, Chief Staff Officer for Science & Research at American Speech-Language-Hearing Association
Pam Roberts, PhD, OTR/L, CPHQ, FAOTA, Manager at Cedars-Sinai Medical Center
Bruce Gans, MD, Executive Vice President and Chief Medical Officer at Kessler Institute
William Pesce, DO, Chief of Physical Medicine & Rehabilitation at Hospital for Special Care
Roger Herr, PT, MPA, COS-C, Vice President Quality Management at Independence Care System

A second expert panel meeting was held on April 15, 2013, as part of a project entitled Symptom Management Measure Development. The following LTCH experts were included on this panel:

Alfred Chiplin, JD, Senior Policy Attorney at Center for Medicare Advocacy
Dexanne Clohan, MD, Senior Vice President and Chief Medical Officer at HealthSouth
Margaret Crane, RN, CEO at Barlow Respiratory Hospital
Jean M de Leon, MD, Medical Director Wound Care at Baylor Specialty Hospital
Thomas Durkin, MHA, CRRN, RN, Executive Vice President at Vibra Healthcare
Maura A. Hopkins, RN, MSN, NEA-BC, Vice President, Patient Care Services/Chief Nursing Officer at RML Specialty Hospital
Gary Kempf, RN, Chief Clinical Executive at Christus Dubuis Health System
Dana Mukamel, PhD, Professor in the Department of Medicine at the Health Policy Research Institute at the University of California, Irvine
Sean Muldoon, MD, MPH, Chief Medical Officer at Kindred Healthcare
Terrence O'Malley, MD, Medical Director, Non-Acute Care Services for Partners Healthcare
Lisa Snyder, MD, MPH, Chief Quality Officer at Select Medical Corporation
Sharon Sprenger, MPA, RHIA, CPHQ, Senior Advisor, Measurement Outreach, Division of Healthcare Quality Evaluation at The Joint Commission
Patricia M. Stimac, MS, RD, LDN, NHA, Director of Quality Management, Nursing Home Administrator Director of Nutrition at Spartanburg Hospital for Restorative Care
John J. Votto, DO, President and CEO at Hospital for Special Care

A third expert panel meeting was held in Baltimore, MD, on September 9, 2013, as part of a project titled Symptom Management Measures. The following experts served on this panel:

Lawrence Miller, MD, Clinical Professor of Medicine at the University of California, Los Angeles
Richard Black, MD, Corporate Rehabilitation Consultant at HCR Manor Care
Mary Van de Kamp, MS, CCC-SLP, Senior Vice President of Quality and Care Management at Kindred
Timothy Reistetter, PhD, OTR, Associate Professor at University of Texas Medical Branch
Ellen Strunk, PT, MS, GCS, Consultant at Rehab Resources & Consulting, Inc.
Saad Naaman, MD, MS, Clinician at Physiatry (Physical Medicine & Rehabilitation) Practice
Linda Ladesich, MD, Medical Director Sunflower State Health
Paulette Niewczyk, MPH, PhD, Director of Research at the Uniform Data System for Medical Rehabilitation
Camille Haycock, RN, MS, Vice President, Care Continuum at Catholic Health Initiatives
Elizabeth Newman, OTD, OT/L, Director of Occupational Therapy, Rehabilitation Engineering, and Clinical Informatics at Medstar National Rehabilitation Hospital
Karon Cook, PhD, Research Associate Professor at Northwestern University
Richard Riggs, MD, Chairman and Medical Director for Cedars-Sinai Medical Center
Michelle Camicia, MSN, RN, Director of Operations at Kaiser Foundation Rehabilitation Center
Jill Bolte Taylor, PhD, Author, My Stroke of Insight

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released: 2015

Ad.3 Month and Year of most recent revision: 10, 2017

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

Ad.5 When is the next scheduled review/update for this measure? 04, 2019

Ad.6 Copyright statement: Not applicable

Ad.7 Disclaimers: Not applicable

Ad.8 Additional Information/Comments: Not applicable